

## 5 MITIGATION STRATEGY **UPDATES for 2022**

Section 5 – Mitigation Strategy addresses Element C of the Local and Tribal Mitigation Plan Regulation Checklists.

| <b>Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans</b>   |  |
|---|--|
| <b>Element C: Mitigation Strategy</b>   |  |
| C1. Does the Plan document each jurisdiction’s existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement § 201.6(c)(3))  |  |
| C2. Does the Plan address each jurisdiction’s participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement § 201.6(c)(3)(i))   |  |
| C3. Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i))  |  |
| C4. Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement §201.6(c)(3)(ii))  |  |
| C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))   |  |
| C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii))   |  |
| <b>Regulation Checklist – 44 CFR 201.7 Tribal Mitigation Plans</b>  |  |
| <b>Element C: Mitigation Strategy</b>   |  |
| 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)] |  |

### 5.1 AUTHORITIES, POLICIES, PROGRAMS, AND RESOURCES

The City and Borough of Wrangell existing authorities, policies, programs and resources available for hazard mitigation are listed in Table 16 through Table 18.

**Table 16. Human and Technical Resources for Hazard Mitigation**

| Staff/Personnel   | Principal Activities Related to Hazard Mitigation   |
|---|---|
| <b>City and Borough of Wrangell</b>   |   |
| Planner or engineer with knowledge of land development and land management practices                  | The CBW has staff with this knowledge or works with planning and engineering consultants or contractors as needed |
| Engineer or professional trained in construction practices related to buildings and/or infrastructure | The CBW Director of Public Works and staff have this knowledge  |
| Planner or engineer with an understanding of natural and/or human-caused hazards                      | The CBW Director of Public Works and staff have this knowledge  |

**Table 16. Human and Technical Resources for Hazard Mitigation**

| Staff/Personnel  | Principal Activities Related to Hazard Mitigation  |
|--|--|
| <b>CBW</b>   |  |
| Floodplain Manager   | The CBW does not have a Floodplain Manager   |
| Surveyors  | The CBW works with planning and engineering staff, consultants, or contractors as needed   |
| Staff with education or expertise to assess the jurisdiction's vulnerability to hazards                    | The CBW has staff with this knowledge or works with planning and engineering staff and consultants or contractors as needed  |
| Personnel skilled in Geospatial Information System (GIS) and/or Hazards Us-Multi Hazard (Hazu-MH) software | The CBW contracts with a GIS professional to assist with map updates. Staff can prepare planning documents only.   |
| Scientists familiar with the hazards of the jurisdiction   | The CBW works with consultants or contractors as needed  |
| Emergency Manager  | The CBW's Fire Chief and Police Chief and their staff have this knowledge  |
| Finance (Grant writers)  | CBW's Economic Development Director fulfills this capacity   |
| Public Information Officer   | The Borough Manager  |
| <b>WCA and CCTHITA</b>   |  |
| Planner or engineer with knowledge of land development and land management practices                       | The WCA works with planning and engineering consultants or contractors as needed.<br>The CCTHITA has staff with this knowledge and works with planning and engineering consultants or contractors as needed. |
| Engineer or professional trained in construction practices related to buildings and/or infrastructure      | The WCA works with planning and engineering consultants or contractors as needed.<br>The CCTHITA has staff with this knowledge and works with planning and engineering consultants or contractors as needed. |
| Planner or engineer with an understanding of natural and/or human-caused hazards                           | The WCA works with planning and engineering consultants or contractors as needed.<br>The CCTHITA has staff with this knowledge and works with planning and engineering consultants or contractors as needed. |
| Floodplain Manager   | Neither tribe has this capability.   |
| Surveyors  | The WCA works with planning and engineering consultants or contractors as needed.<br>The CCTHITA works with planning and engineering consultants or contractors as needed.                                   |
| Staff with education or expertise to assess the jurisdiction's vulnerability to hazards                    | The WCA works with planning and engineering consultants or contractors as needed.<br>The CCTHITA works with planning and engineering consultants or contractors as needed.                                   |

**Table 16. Human and Technical Resources for Hazard Mitigation**

| Staff/Personnel   | Principal Activities Related to Hazard Mitigation  |
|---|--|
| Personnel skilled in Geospatial Information System (GIS) and/or Hazards Us-Multi Hazard (Hazus-MH) software | The WCA works with planning and engineering consultants or contractors as needed.<br>The CCTHITA has staff with this knowledge and works with planning and engineering consultants or contractors as needed.                                 |
| Scientists familiar with the hazards of the jurisdiction  | The WCA has staff with this knowledge or works with planning and engineering consultants or contractors as needed.<br>The CCTHITA has staff with this knowledge or works with planning and engineering consultants or contractors as needed. |
| Emergency Manager   | The WCA Executive Director fulfills this position as needed.<br>The CCTHITA President fulfills this position as needed.  |
| Finance (Grant writers)   | Tribal Bookkeeper as applicable.   |
| Public Information Officer  | The Borough Manager and Tribal Executive Director as jurisdictionally applicable.  |

**Table 17. Financial Resources for Hazard Mitigation**

| Type   | Administrator                              | Purpose   | Amount            |
|--|--|---|-------------------|
| General Fund   | Borough Assembly and Tribal Council        | Program operations and specific projects.   | Variable.         |
| General Obligation Bonds   | Borough Assembly and Tribal Council        | Used for the construction and/or acquisition of improvements to real property broadly available to residents and visitors. Such facilities include but are not limited to: libraries, hospitals, parks, public safety facilities, and cultural and educational facilities.  | Variable.         |
| Special Tax and Revenue Bonds  | Borough Assembly and Tribal Council        | Used finance capital projects that: 1) have an identified budgetary stream for repayment (e.g., specified fees, tax receipts); 2) generate project revenue but rely on a broader pledge of general fund revenues to reduce borrowing costs; or 3) finance the acquisition and installation of equipment for the local jurisdiction's general governmental purposes. | Variable.         |
| Indian Community Development Block Grants                                | HUD  | Provides operational funds for tribal management activities   | Project-specific. |
| Indian Environmental General Assistance Program                          | U.S. Environmental Protection Agency (EPA) | Provides funding for tribal environmental improvement activities  | Project-specific. |
| Indian Housing Block Grant   | HUD  | Assists IRA Tribes with obtaining adequate housing  | Variable.         |
| Employment and Training Administration, Disaster Unemployment Assistance | Department of Labor                        | Provides disaster related unemployment by supporting employment and training activities   | Variable.         |
| Hazard Mitigation Grant Program (HMPG)                                   | FEMA                                       | Supports pre- and post-disaster mitigation plans and projects. Available to Alaska communities after a presidentially declared disaster has occurred in Alaska, administered by Alaska DHS&EM.  | Project-specific. |
| Homeland Security Preparedness Technical Assistance Program              | FEMA/DHS                                   | Supports preparedness technical assistance activities in support of the four homeland security mission areas (i.e., prevention, protection, response, recovery) and homeland security program management.   | Project-specific. |
| Assistance to Firefighters Grant Program                                 | FEMA/U.S. Fire Administration              | Provides equipment, protective gear, emergency vehicles, training, and other resources needed to protect the public and emergency personnel from fire and related hazards. Available to fire departments and nonaffiliated emergency medical services providers.  | Project-specific. |

**Table 17. Financial Resources for Hazard Mitigation**

| Type   | Administrator  | Purpose   | Amount              |
|--|--|---|---------------------|
| Land and Water Conservation Funds            | U.S. Department of the Interior                          | Supports the protection of federal public lands and waters and voluntary conservation on private land.  | Project-specific.   |
| Community Action for a Renewed Environment   | U.S. EPA   | Offers financial and technical assistance offers an innovative way for a community to organize and take action to reduce toxic pollution (e.g., stormwater) in its local environment. Through this program, a community creates a partnership that implements solutions to reduce releases of toxic pollutants and minimize people's exposure to them.  | Project-specific.   |
| Clean Water State Revolving Fund             | U.S. EPA   | Provides low-cost financing to eligible entities on state and tribal lands for water quality projects, including all types of non-point source, watershed protection or restoration, estuary management projects, and more traditional municipal wastewater treatment projects.   | Variable.           |
| Flood Control and Coastal Emergencies        | USACE  | Authorizes the USACE under PL 84-99, Flood Control and Coastal Emergencies for emergency management activities. Under PL 84-99, the Chief of Engineers, acting for the Secretary of the Army, to undertake activities including disaster preparedness, advance measures, emergency operations (flood response and post flood response), rehabilitation of flood control works threatened or destroyed by flood, protection or repair of federally authorized shore protective works threatened or damaged by coastal storm, and provisions of emergency water due to drought or contaminated sources. | Project-specific.   |
| The Cooperative Watershed Management Program | U.S. Department of the Interior<br>Bureau of Reclamation | Supports WaterSMART strategy by providing funding to watershed groups to encourage diverse stakeholders to form local solutions to address their water management needs. Funding is provided on a competitive basis for watershed group development and watershed restoration planning and implementation of watershed management projects.   | Project-specific.   |
| Weatherization Assistance Program            | U.S. Department of Energy (DOE)                          | Reduces energy costs for low-income households by increasing the energy efficiency of their homes. It is the nation's single largest residential whole-house energy efficiency program. The program works through local weatherization agency. Once DOE awards the grants, states contract with more than 700 local agencies nationwide to deliver services. All work is energy-related, and does not include new roofing, siding, or similar structural improvements. The average expenditure is \$6,500 per home.   | \$6,500 per project |

**Table 17. Financial Resources for Hazard Mitigation**

| Type                        | Administrator                  | Purpose   | Amount            |
|-----------------------------|--------------------------------|---|-------------------|
| Renewable Energy Fund (REF) | Alaska Energy Authority        | Provides funding for the development of qualifying and competitively selected renewable energy projects in Alaska. The program is designed to produce cost-effective renewable energy for both heat and power For Fiscal Year (FY) 2019, \$11 million has been allocated by the governor to fund the REF. This program runs through 2023. | Project-specific. |
| Wood Innovation Program     | U.S. Department of Agriculture | Created to substantially expand and accelerate wood energy and wood products markets throughout the United States to support forest management needs. A minimum of a 50% of the total eligible costs must come from a non-federal source. In FY 2018, \$8 million in federal funding was awarded to fund 34 projects.                     | Project-specific. |

**Table 18. Legal and Regulatory Resources for Hazard Mitigation**

| Name                                       | Description   | Hazards Addressed   |
|--|---|---|
| Comprehensive Plan                         | Road map for community change   | Physical environment and community history include: severe weather, erosion/coastal storm surge, wildfire. Plan needs to be updated |
| Land Use Plan                              | Guides local permitting process   | All   |
| Emergency Response Plan                    | Guides emergency response   | All   |
| Building Code                              | Defines safe building practices ensuring long-term community goals are not threatened | All   |
| Zoning Ordinances                          | The CBW exercises this authority  |   |
| Subdivision and special purpose ordinances | The CBW exercises this authority  |   |

## 5.2 NFIP PARTICIPATION

The City and Borough of Wrangell no longer participates in the National Flood Insurance Program. The City and Borough of Wrangell does not have a repetitive flood property inventory that meets NFIP criteria as the loss thresholds are substantially below FEMA values.

## 5.3 MITIGATION GOALS

Mitigation goals are defined as general guidelines that explain what a community wants to achieve in terms of hazard and loss prevention. Goal statements are typically long-range, policy-oriented statements representing community-wide vision. For the 2020 MJHMP, the overarching goal is for Wrangell to be a disaster resilient community. A disaster resilient community is able to prepare for, respond to, and recover from adverse hazards and disasters. According to laresilience.org, “in the resilience framework, less emphasis is placed on traditional, individually focused preparedness efforts... building community resilience is really about making communities stronger.”

## 5.4 POTENTIAL MITIGATION ACTIONS AND PROJECTS

Mitigation actions and projects help achieve the goals of the Mitigation Plan. Potential mitigation actions to be considered are listed below in Table 19. This list addresses every hazard profiled in this plan and is based on the plan’s risk assessment as well as lessons learned from recent disasters. It was developed using: FEMA success stories and best management practices; FEMA job aids; local and regional plans and reports; and input from subject matter experts and guided by the Wrangell planning team.

The committee determined that high priority activities are essential to remedy or prevent a major health/safety hazard. They meet FEMA HMA grant criteria, including project eligibility, benefit-cost, and performance period. Medium activities are important in building a culture and practice of disaster resilience that will prevent new risks. They do not necessarily require and/or meet FEMA HMA grant criteria (but may qualify for other state and federal funds). Low priority projects still require further investigation toward developing a more comprehensive project idea. There are notes about project status from the legacy plan.





**Table 19. Potential Mitigation Actions and Projects**

| Hazard   | Description  | Pros  | Cons   | Priority | Legacy HMP Status   |
|----------|--|---|--|----------|---|
| Multiple | Develop a public outreach and education programs regarding potential hazard impacts and personal planning preparations (annual health fair, educational fliers, school visits, high school senior project, hazard awareness week).   | Life/Safety issue<br>Risk reduction<br>Benefit to entire community<br>Inexpensive                         | Staff time   | High     | Not completed: Staff acquiring funding and resources.   |
| Multiple | Develop a list of internal and external suppliers of equipment, supplies (batteries, shovels etc.), medical supplies (i.e. voluntary registry of equipment such as earthmoving, generators, etc.).   | Life/Safety issue<br>Risk reduction<br>Benefit to entire community<br>Inexpensive                         | Staff time   | Medium   |   |
| Multiple | Develop or refine local emergency announcement procedures and back up plans.   | Life/Safety issue<br>Risk reduction<br>Benefit to entire community<br>Inexpensive                         | Staff time   | Medium   |   |
| Multiple | Obtain and install a Siren Warning system to alert for various emergencies or disasters  | Life/Safety issue/Risk reduction<br>Benefit to entire community<br>Federal and State assistance available | Staff time, >\$50,000  | High     | Not completed: Staff acquiring funding and resources.   |
| Multiple | Develop and install a signage program for hazards posted at key facilities or locations.   | Life/Safety issue<br>Risk reduction<br>Benefit to entire community  | Staff time, >\$5,000   | Medium   |   |
| Multiple | Develop alternative water sources: Investigate further feasibility of Sunrise Lake; Consider Desalination; Investigate SMB water supply and hooking into existing system; Explore water opportunities from Institute Creek, the 6.5 mile mill creek for emergency use and hooking into existing system | Risk and damage reduction.<br>Benefit to entire community.  | Staff time.<br>Research into feasibility necessary.<br>Potentially expensive | Medium   | As of 2022, partial funding for the By-pass line to upper reservoir has been obtained. Engineering design almost completed. |

|          |  |  |  |        |  |
|----------|--|--|--|--------|--|
| Multiple | Adoption of building codes, standards and policies that will protect the health safety and general welfare of the public, including for critical services and facilities | Risk and damage reduction. Benefit to entire community |  | Medium |  |
|----------|--|--|--|--------|--|

**Table 19. Potential Mitigation Actions and Projects**

| Hazard                 | Description  | Pros   | Cons   | Priority       | Legacy HMP Status  |
|------------------------|--|--|--|----------------|--|
| Earthquake<br>Multiple | Complete Dam stabilization and replacement<br><br>This should be also in Flood and Erosion, ground Failure, Severe Weather hazards   | Life/Safety Issue<br>Benefit to entire community<br><br>Federal funding may be available                     | Expensive, at least \$500,000                        | Medium<br>High | As of 2022, Lidar has been flown of the reservoir area, drilling of the dam for stabilization has been conducted, and a feasibility report prepared. |
| Earthquake             | Integrate hazard construction methodologies into newly constructed infrastructure and public buildings.  | Benefit to entire community<br>Risk reduction  | Staff time   | High           |  |
| Earthquake             | Identify buildings and facilities that must be able to remain operable during and following an earthquake event.   | Life/Safety issue/Risk reduction<br>Benefit to entire community<br>Inexpensive<br>State assistance available | Staff time   | High           | Not completed: Staff acquiring funding and resources.  |
| Earthquake             | Contract a structural engineering firm to assess the identified buildings and facilities to determine their structural integrity and devise a strategy to improve their earthquake resistance. | Benefit to entire community<br>Risk reduction  | Feasibility and need analysis needed.<br>1 – 5 years | Medium         | Not completed: Staff acquiring funding and resources. PSB has been completed.  |
| Flood and Erosion      | Provide public awareness and response education for residents within the potential flood impact zone of the reservoir dams   | Benefit to entire community<br>Risk reduction  | Staff time   | Medium         |  |
| Flood and Erosion      | Develop a storm Water management plan for sheet flood prone areas of town  | Life/Safety issue/Risk reduction<br>Benefit to entire community<br>Federal and State assistance available    | Staff time,<br>>\$50,000                             | Medium         |  |
| Ground Failure         | Continued public education.  | Life/Safety issue/Risk reduction<br>Benefit to entire community  | Mapped landslide zones do not exist at this time.    | High           | Not completed: Staff acquiring funding and resources.  |

**Table 19. Potential Mitigation Actions and Projects**

| Hazard         | Description   | Pros   | Cons   | Priority | Legacy HMP Status  |
|----------------|---|--|--|----------|--|
|                |   | Federal and State assistance available   |  |          |  |
| Ground Failure | Conduct studies of unstable soils   | Life/Safety issue/Risk reduction<br>Benefit to entire community<br>Federal and State assistance available                                  | Mapped landslide zones do not exist at this time.<br>5+ years to implement | High     | Not completed: Staff acquiring funding and resources.<br><br>Lidar became available in 2022 for reservoirs and Mt. Dewey. Need analysis surrounding Mt. Dewey,, Reservoirs, 2-4 Mile Zimovia Highway and in Wrangell West Subdivision past Pats Creek. |
| Tsunami        | Siren and lights at both ends of town for Tsunami and other hazardous warnings  | Life/Safety Project  | Staff time, >\$50,000  | High     |  |
| Tsunami        | Inundation Mapping  | Life/Safety Issue<br>Benefit to entire community<br>Federal funding may be available   | Expensive, at least \$100,000  | Medium   | Not completed: Staff acquiring funding and resources. Inundation mapping for dam breach is available.  |
| Tsunami        | Update Wrangell's Emergency Operations Plan, as needed  | Life/Safety issue/Risk reduction<br>Benefit to entire community<br>Inexpensive<br>State assistance available<br>1 – 5 years, or as needed. | Staff time   | Medium   | Not completed: Staff acquiring funding and resources.  |
| Volcanic Ash   | Provide adequate supplies of breathing apparatus for vulnerable populations, first responders, and critical facility crews. | Life/Safety issue/Risk reduction<br>Inexpensive  | Staff time, >\$50,000  | Medium   |  |
| Volcanic Ash   | Determine needs of equipment that may be needed during an event to assure its continued and safe operation                  | Life/Safety issue/Risk reduction<br>Inexpensive  | Staff time   | Medium   |  |

|                |   |  |            |      |   |
|----------------|---|--|------------|------|---|
| Severe Weather | Research and consider instituting the National Weather Service program of “ <i>Storm Ready</i> ”. | Life/Safety issue<br>Risk reduction<br>Benefit to entire community | Staff time | High | Not completed: Staff acquiring funding and resources. |
|----------------|---|--|------------|------|---|

**Table 19. Potential Mitigation Actions and Projects**

| Hazard         | Description  | Pros   | Cons  | Priority                  | Legacy HMP Status  |
|----------------|--|--|---|---------------------------|--|
|                |  | Inexpensive<br>State assistance available  |   |                           |  |
| Severe Weather | Increase water storage capacity: Dredge existing reservoirs and perform stump removal; Install a bypass line to the upper reservoir  | Life/Safety Issue<br>Benefit to entire community<br>Federal funding may be available | Expensive, at least \$100,000   | <del>Medium</del><br>High | As of 2022, partial funding for the By-pass line to upper reservoir has been obtained. Engineering design almost completed   |
| Severe Weather | Increase back up power generation: Purchase Generators to provide enough back up power to provide essential services and sustain community; Purchase portable generating units for needs for vulnerable populations (elders, medical); Purchase portable generating units for essential services (water plant, 5 mile fire substation); Explore alternative power sources such as wind and solar for emergency services; <del>Work with Alaska Dept. of Transportation to purchase back up generator for the airport</del> | Life/Safety Issue<br>Benefit to entire community<br>Federal funding may be available | Expensive, at least \$100,000   | Medium                    | Mobile generators have been purchased for use with Sewer Pump Stations Node 4 and Node 6 and the Airport. A new larger generator is being engineered for the Nolan Center for the Community Shelter. |
| Severe Weather | Encourage weather resistant building construction materials and practices.   | Risk and damage reduction.<br>Benefit to entire community.                           | May require ordinance change.<br>Potential for increased staff time.<br>Research into feasibility necessary.<br>Political and public support not determined.<br>1 – 5 year implementation | Medium                    | Not completed: Staff acquiring funding and resources.  |
| Wildland Fire  | Develop a local coordinated response and communication channel with the USFS.  | Life/Safety issue/Risk reduction<br>Inexpensive                                      | Staff time  | Low                       |  |

**Table 19. Potential Mitigation Actions and Projects**

| <b>Hazard</b> | <b>Description</b>   | <b>Pros</b>   | <b>Cons</b> | <b>Priority</b> | <b>Legacy HMP Status</b> |
|---------------|--|---|-------------|-----------------|--------------------------|
| Wildland Fire | Develop a local Smokey Bear awareness campaign with the USFS to educate against fires and mitigate fire threats  | Life/Safety issue/Risk reduction<br>Inexpensive<br>Benefit to entire community    | Staff time  | Medium          |                          |
| Wildland Fire | Develop, adopt, and enforce burn ordinances that control outdoor burning, require burn permits and restricts open campfires during identified weather periods (wind, dry etc.) | Life/Safety issue<br>Risk reduction<br>Benefit to entire community<br>Inexpensive | Staff time  | High            |                          |

## 5.5 MITIGATION ACTION PLANS

A mitigation action plan is a prioritized list of proposed mitigation projects and actions that a community hopes to implement to reduce its' risks and vulnerabilities. The 2020 mitigation action plan is shown in Table 20. Based on the prioritization criteria developed for Table 19, medium and high priority projects were selected for the mitigation action plan. These prioritized projects are to be pursued by CBW, WCA, and the CCTHITA over the next five years.

**Table 20. Mitigation Action Plan**

| Description  | Jurisdiction                     | Potential Funding                                      | Timeframe | Priority       |
|--|----------------------------------|--|-----------|----------------|
| Develop a public outreach and education programs regarding potential hazard impacts and personal planning preparations (annual health fair, educational fliers, school visits, high school senior project, hazard awareness week).   | Borough, Tribe<br>DCRA<br>DHS&EM | Borough<br>DCRA<br>DHS&EM                              | <1 year   | High           |
| Develop a list of internal and external suppliers of equipment, supplies (batteries, shovels etc.), medical supplies (i.e. voluntary registry of equipment such as earthmoving, generators, etc.).   | Borough, Tribe                   | Borough and Tribal<br>Budget                           | Ongoing   | Medium         |
| Develop or refine local emergency announcement procedures and back up plans.   | Borough, Tribe<br>DCRA<br>DHS&EM | Borough and Tribal<br>Budget                           | Ongoing   | Medium         |
| Obtain and install a Siren Warning system to alert for various emergencies or disasters  | Borough<br>DCRA<br>DHS&EM        | HMGP grant   | 2-3 years | High           |
| Develop and install a signage program for hazards posted at key facilities or locations.   | Borough                          | Borough and Tribal<br>Budget                           | >1 year   | Medium         |
| Develop alternative water sources: Investigate further feasibility of Sunrise Lake; Consider Desalination; Investigate SMB water supply and hooking into existing system; Explore water opportunities from Institute Creek, the 6.5 mile mill creek for emergency use and hooking into existing system | Borough<br>DCRA<br>DHS&EM        | HMGP grant   | 3-5 years | Medium         |
| Complete Dam stabilization and replacement   | Borough                          | Flood Control and<br>Coastal<br>Emergencies<br>funding | 3-5 years | Medium<br>High |
| Integrate hazard construction methodologies into newly constructed infrastructure and public buildings.  | Borough                          | Borough and Tribal<br>Budget                           | >1 year   | High           |
| Identify buildings and facilities that must be able to remain operable during and following an earthquake or other high hazard event.  | Borough<br>DHS&EM<br>FEMA        | State Grants   | >1 year   | High           |



**Table 20. Mitigation Action Plan**

| Description  | Jurisdiction               | Potential Funding  | Timeframe  | Priority                         |
|--|----------------------------|--|--|----------------------------------|
| Contract a structural engineering firm to assess the identified buildings and facilities to determine their structural integrity and devise a strategy to improve their earthquake resistance. | Borough<br>DHS&EM          | State Grants<br>PDM  | 1-2 years  | Medium                           |
| Provide public awareness and response education for residents within the potential flood impact zone of the reservoir dams   | Borough                    | Borough and Tribal<br>Budget   | >1 year  | Medium                           |
| Continued public education <b>for hazard mitigation, storm ready, fire prevention and other hazards.</b>   | Borough, Tribe             | Borough and Tribal<br>Budget   | Ongoing  | High                             |
| Conduct studies of unstable soils, <b>key areas include Mt. Dewey, reservoirs, 3 mile Zimovia area, Wrangell Island West area, 6 mile bluffs.</b>  | Borough<br>DHS&EM          | State Grants<br>PDM  | >1 year  | High                             |
| Siren and lights at both ends of town for Tsunami and other hazardous warnings   | Borough<br>DHS&EM          | PDM or HMGP<br>State DHS&EM/<br>NOAA (NTHMP),<br>State DHS&EM /<br>Homeland Security<br>Grants | >1 year  | High                             |
| Inundation Mapping <b>(see attached for the Dam failure inundation map)</b>  | State DHS&EM<br>NOAA/NTHMP | NOAA/NTHMP   | >5 years   | Medium                           |
| Update Wrangell's Emergency Operations Plan, as needed   | Borough                    | DHS&EM/local<br>funds  | As needed  | Medium                           |
| Provide adequate supplies of breathing apparatus for vulnerable populations, first responders, and critical facility crews.  | Borough                    | Borough and Tribal<br>Budget   | >1 year  | Medium                           |
| Determine needs of equipment, <b>ie high vis equipment</b> , that may be needed during an event to assure its continued and safe operation   | Borough                    | Borough and Tribal<br>Budget   | <del>&gt;1 year</del><br><b>As needed</b>                            | Medium                           |
| <b>Provide hazardous materials operation training for first responders and provide necessary equipment to carry out response</b>   | <b>Borough</b>             |  | <b>&gt;1 year</b>  | <b>Medium</b>                    |
| Research and consider instituting the National Weather Service program of "Storm Ready".   | Borough<br>NWS             | Borough and Tribal<br>Budget   | <1 year  | High                             |
| Increase water storage capacity: Dredge existing reservoirs and perform stump removal; Install a bypass line to the upper reservoir  | Borough<br>DHS&EM          | Flood Control and<br>Coastal<br>Emergencies<br>funding   | 2-3 years<br><b>Partial<br/>funding<br/>obtained for<br/>by-pass</b> | <del>Medium</del><br><b>High</b> |

|  |                   |   |                   |               |
|--|-------------------|---|-------------------|---------------|
| Increase back up power generation:<br>Purchase Generators to provide enough back up power to provide essential services and sustain community; Purchase portable generating units for needs for vulnerable populations (elders, medical); Purchase portable generating units for essential services ( <b>completed for Sewer pump stations Node 4 and Node 6</b> ); Explore alternative power sources such as wind and solar for emergency services; <del>Work with Alaska Dept. of Transportation to purchase back up generator for the airport</del> | Borough<br>DHS&EM | HMGP<br>grant/Assistance to<br>Firefighters Grant<br>Program grants | 2-3 years         | Medium        |
| Encourage weather resistant building construction materials and practices.   | Borough           | Borough and Tribal<br>Budget  | <1 year           | Medium        |
| <b>Adoption of building codes, standards and policies that will protect the health safety and general welfare of the public, including for critical services and facilities</b>  | <b>Borough</b>    |   | <b>&lt;1 year</b> | <b>Medium</b> |

**Table 20. Mitigation Action Plan**

| <b>Description</b>   | <b>Jurisdiction</b>  | <b>Potential Funding</b>     | <b>Timeframe</b> | <b>Priority</b> |
|--|----------------------|------------------------------|------------------|-----------------|
| Develop a local Smokey Bear awareness campaign with the USFS to educate against fires and mitigate fire threats  | Borough<br>USFS      | Borough and Tribal<br>Budget | <1 year          | Medium          |
| Develop, adopt, and enforce burn ordinances that control outdoor burning, require burn permits and restricts open campfires during identified weather periods (wind, dry etc.) | Borough              | Borough and Tribal<br>Budget | Ongoing          | High            |
| Identify potential impacts of climate change to infrastructure and essential services  | Borough and<br>Tribe |                              | Ongoing          | Medium          |
| Map critical infrastructure  | Borough              |                              | < 1 year         | Medium          |
| Complete a community wide readdressing project with a link to the 911 system for emergency responders  | Borough              |                              | 2-4 years        | High            |
| Encourage staff and responder online training opportunities  |                      |                              |                  |                 |
| Elevate Sewer Pump Stations where near shoreline   |                      |                              |                  |                 |
| Complete the connection between the Spur road and Pats Creek Road and provide road upgrades for an alternative safety route to town for services and medical needs.            |                      |                              |                  |                 |
| Include Hazard mitigation planning and action plan in all plan updates including the Comprehensive Plan, transportation plan, tourism plan, harbor plan.                       |                      |                              |                  |                 |
| Develop a comprehensive Storm Water management plan; Develop subarea plans for areas of new development  | Borough              |                              | 2-5 years        | High            |

## 5.6 PLAN INTEGRATION

After MJHMP adoption, each planning team member will strive to that the MJHMP, in particular each

mitigation action project, is incorporated into existing planning mechanisms such as their Comprehensive Plan, Economic Development or Business Plan, and Bureau of Indian Affairs Indian Reservation Roads Plan, as well as seeking other integration opportunities where appropriate. The MJHMP planning team will achieve this by undertaking the following activities.

- Review city and tribal regulatory tools to determine where to integrate the mitigation philosophy and implementable initiatives within current and future planning mechanisms.
- Work with pertinent community entities to implement MJHMP philosophies and mitigation strategy initiatives (including the MAP) into relevant current and future planning mechanisms (i.e. Comprehensive Plan, Economic Development Plan, Capital Improvement Project List, Transportation Improvement Plan, etc.).

## 5.7 PROGRESS IN LOCAL MITIGATION EFFORTS

The City and Borough of Wrangell's Capital Improvement Projects list (Table 21) contains data for Fiscal Year ~~2017-2018~~ 2022-2024 data. The Tribes did not participate in the legacy HMP or in this current plan because they did not adopt a resolution in support of the plan within 12 months of completion.

**Table 21. Proposed Wrangell Capital Budget Requests**

| CIP and Project Priority List for 2023-2024 |  |    |               |
|---|--|----|---------------|
| Priority                                    | Project Name   |    | Cost          |
| 1   | Upper Reservoir Bypass   | \$ | 3,540,000.00  |
| 2   | Public Safety Building Rehabilitation                                | \$ | 16,000,000.00 |
| 3   | Alder Top Village Subdivision, Ph I Development: Roads and Utilities | \$ | 2,200,000.00  |
| 4   | Wastewater Treatment Upgrades to Address 301(H) Waiver for Seco      |    | unknown       |
| 5   | Dams Stabilization and Improvements                                  | \$ | 10,500,000.00 |
| 6   | Wrangell Road Resurfacing Phase I (Downtown Corridors)               | \$ | 2,500,000.00  |
| 7   | Barge Ramp Replacement   | \$ | 20,000,000.00 |
| 8   | Meyers Chuck Harbor Replacement                                      | \$ | 2,566,000.00  |
| 9   | Diesel Generation Power Plant Replacement                            | \$ | 15,000,000.00 |
| 10  | Zimovia Highway and Shoemaker Loop Sewer System Upgrades             | \$ | 750,000.00    |
| 11  | Wrangell Harbor Basin Replacement                                    | \$ | 30,000,000.00 |
| 12  | 6-Mile (Former Mill) Property Development                            |    | unknown       |
| 13  | Wrangell Road Resurfacing Phase II (Residential Corridors)           | \$ | 2,500,000.00  |
| 14  | Non-Motorized Trail Expansion, Phase II                              | \$ | 1,000,000.00  |
| 15  | Second Avenue Sidewalk for Pedestrian Safety                         | \$ | 200,000.00    |
| 16  | Community Addressing   | \$ | 300,000.00    |
| 17  | Life Safety Alternative Transportation Access                        |    | unknown       |
| 18  | Low Pressure Water Main Replacement (Ash/Zimovia Ave/Lemeuix)        | \$ | 1,000,000.00  |
| 19  | Swimming Pool EPDM Flat Roof Replacement                             | \$ | 350,000.00    |
| 20  | Wrangell School Facilities Improvements                              | \$ | 10,000,000.00 |

**Table 21. Proposed Wrangell Capital Budget Requests**