CITY OF CORDOVA, ALASKA
RESOLUTION 5-26-21

A RESOLUTION OF THE COUNCIL OF THE CITY OF CORDOVA, ALASKA, ADOPTING THE CITY OF CORDOVA 2026 LOCAL HAZARD MITIGATION PLAN

WHEREAS, the City of Cordova recognizes the threat that local natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation projects before disasters occur will reduce the potential for harm to people and property and will save taxpayers' dollars; and

WHEREAS, adoption of the plan is necessary for the City to be eligible for certain FEMA and other Federal funding; and

WHEREAS, the updated Cordova Local Hazard Mitigation Plan has been reviewed by the U.S. Department of Homeland Security's Federal Emergency Management Agency Region 10, who has committed to approve the plan upon adoption by the City of Cordova.

NOW, THEREFORE BE IT RESOLVED that the Council of the City of Cordova, Alaska does hereby adopt the updated 2026 Local Hazard Mitigation Plan.

PASSED AND APPROVED THIS 20th DAY OF MAY 2026.

CITY OF CORDOVA CORPORATE SEAL JULY 8, 1909 ALASKA

Kristin Smith, Mayor

ATTEST:

Susan Bourgeois, CMC, City Clerk

CITY OF CORDOVA
2026 LOCAL HAZARD MITIGATION PLAN

EXECUTIVE SUMMARY

Hazard mitigation planning is a process that helps communities reduce the impacts of disasters on people and places before a disaster occurs. It involves identifying hazards, understanding vulnerabilities, and developing long-term risk-reduction strategies. For nearly 25 years, hazard mitigation planning has been driven by a federal law, known as the Disaster Mitigation Act of 2000 (DMA 2000), which emphasizes the need for state, tribal, and local entities to closely coordinate hazard mitigation planning and implementation efforts. It also provides the legal basis for the Federal Emergency Management Agency (FEMA) to require state, tribal, and local entities to develop hazard mitigation plans to receive certain types of federal disaster assistance. These requirements are defined in FEMA's State and Local Mitigation Planning Policy Guides and the Tribal Mitigation Plan Review Guide.

To meet the requirements of the DMA 2000, the City of Cordova has updated its 2018 Local Hazard Mitigation Plan (LHMP). Hazards addressed in this plan include avalanche, climate change, drought, earthquake, erosion, flood, hazardous materials, landslide, severe weather, technological, tsunami, volcano, and wildfire.

The 2026 LHMP includes 41 mitigation actions that will help the City tackle the impacts from, and increase resilience to, natural and climate-related hazards. The actions and strategies identified in the plan were developed by members of the steering committee; were previously identified in other City plans, programs, and studies; or have been highlighted as success stories and best management practices elsewhere. They include Cordova Center backup generator; updating City emergency plans; Cordova's mapping system updates; public awareness; communications trailer; community resiliency hub(s); update and expand communications; heavy equipment for snow/debris removal, avalanche mapping; Debris Management Plan; avalanche events record-keeping; Sheridan Glacier and Sheridan River studies; Cordova Water and Sewer Master Plan Update; water system vulnerabilities; building inspectors; engineering assessment of earthquake vulnerability; assessment and retrofit building; encourage community partners in preparation activities; Stabilize Break Water Avenue, Power Creek Road slope stabilization and repairs; setbacks for new structures;; erosion study for Station 2; Six-Mile Subdivision drainage system; continue to comply with National Flood Insurance Program and facilitate Flood Insurance Rate Map updates; hospital flood proofing, complete watershed mapping; structure elevation and/or relocation; update and replace existing streamflow and rainfall gauges; funding for riverbank protection; conditional ownership and management of Eyak Lake Weir; Meals Lake Dam Repairs, identify and organize local resources, hazardous material and cyber security trainings, hazardous material drills and exercises; update fuel tanks; fire and emergency service vehicles, training, and equipment; water supply improvements; critical facility hardening; water use and filtration limits; and ash masks.

To ensure that the mitigation actions are implemented, and that the overall 2026 LHMP remains relevant, City of Cordova will administer a system to track disasters that have occurred; community assets that have been damaged; public outreach that has been conducted; mitigation actions that have been implemented and the goals that they address documented; new and/or updated studies, reports, and maps that have been published; and changes that have made and/or that need to be made to the current or future LHMP. This process, along with a multi-department approach to planning integration and ongoing community engagement, will enable the City to effectively implement priority mitigation actions that will improve the City's health and wellness, community, and education and environment.

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LIST OF ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
AECOM	AECOM Technical Services, Inc.
AVO	Alaska Volcano Observatory
BRIC	Building Resilient Infrastructure and Communities
CFR	Code of Federal Regulations
CO_2	carbon dioxide
COOP	Continuity of Operations Plan
COVID-19	Coronavirus Disease 2019
CTC	Cordova Telephone Coop
DCRA	Division of Community and Regional Affairs
DEM	Digital Elevation Model
DGGS	Alaska Division of Geological & Geophysical Survey
DMA 2000	Disaster Mitigation Act of 2000
DOT&PF	Alaska Department of Transportation & Public Facilities
EHS	Extremely Hazardous Substance
ENSO	El Niño Southern Oscillation
EOP	Emergency Operations Plan
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GIS	geographic information system
HMA	Hazard Mitigation Assistance
HMGP	Hazard Mitigation Grant Program
HUD	U.S. Department of Housing and Urban Development
IT	Information Technology
LHMP	Local Hazard Mitigation Plan
M	Magnitude
mph	miles per hour
MMI	Modified Mercalli Intensity
NASA	National Aeronautics and Space Administration
NCRF	National Coastal Resilience Fund
NRCS	National Resources Conservation Service
NFIP	National Flood Insurance Program
NOAA	National Oceanic and Atmospheric Administration
NVE	Native Village of Eyak
PDO	Pacific Decadal Oscillation
PGA	Peak Ground Acceleration
SFHA	Special Flood Hazard Area

SSP	Shared Socioeconomic Pathway
U.S.	United States
USACE	United States Army Corps of Engineers
USCGC	United States Coast Guard Cutter
USFS	United States Forest Service
USGS	United Stated Geological Survey
WRCC	Western Regional Climate Center

1.0 INTRODUCTION

1.1 HAZARD MITIGATION PLANNING

Hazard mitigation planning is a process that helps communities reduce the impacts of disasters on people and places before a disaster occurs. It involves identifying hazards, understanding vulnerabilities, and developing long-term risk-reduction strategies. For nearly 25 years, hazard mitigation planning has been driven by a federal law, known as the Disaster Mitigation Act of 2000 (DMA 2000), which emphasizes the need for state, tribal, and local entities to closely coordinate hazard mitigation planning and implementation efforts. It also provides the legal basis for the Federal Emergency Management Agency (FEMA) to require state, tribal, and local entities to develop hazard mitigation plans to receive certain types of federal disaster assistance. These requirements are defined in FEMA's State and Local Mitigation Planning Policy Guides and the Tribal Mitigation Plan Review Guide.

1.2 2026 LOCAL HAZARD MITIGATION PLAN SYNOPSIS

To meet the requirements of the DMA 2000, the City of Cordova is updating its 2018 Local Hazard Mitigation Plan (LHMP). Additional previous plans include the 2013 LHMP Update and the 2008 LHMP. Hazards addressed in this plan include avalanche, climate change, drought, earthquake, erosion, flood, hazardous materials, landslide, severe weather, technological, tsunami, volcano, and wildfire. The 2026 LHMP is organized to follow FEMA's 2023 Local Mitigation Plan Review Tool (Appendix A), which demonstrates how hazard mitigation plans meet the DMA 2000 regulations. As such, specific planning elements of this review tool are in their appropriate plan sections.

The 2026 LHMP structure has been updated to include the following sections:

- **Section 2 Planning Process** provides an overview of the planning process, starting with a timeline. It identifies planning team members and describes their involvement with the planning process. This section also details stakeholder outreach and public involvement. In addition, it provides an overview of the existing plans and reports, and how those documents were incorporated into the 2026 LHMP. Documentation that supports the planning process is provided in Appendix A.
- **Section 3 Community Description** provides information about Cordova's location, geography, history, demographics, economy, and critical facilities. Supporting figures are provided in Appendix B.
- **Section 4 Risk Assessment** describes each of the hazards addressed in this plan. Hazard figures are provided in Appendix B. This section also describes the City's vulnerability to each hazard and impacts.
- **Section 5 Mitigation Strategy** provides a hazard-mitigation-specific capability assessment. It also describes the mitigation goals, potential mitigation actions, and a finalized mitigation action plan. A detailed description of each mitigation action is provided in Appendix C.
- **Section 6 Plan Maintenance** describes continued public participation and outlines how the plan will be implemented, integrated into other documents, and updated in 5 years. An Annual Review Tracker is in Appendix D.

- **Section 7 Plan Update** describes the changes in development and priorities and provides an update on mitigation actions identified in the 2018 LHMP and how the 2018 LHMP was integrated into other planning documents.
- **Section 8 Plan Adoption** provides information about the formal adoption. The adoption resolution is provided in Appendix E.
- Appendices include Appendix A – Planning Process, Appendix B – Figures, Appendix C – Mitigation Strategy, Appendix D – Plan Maintenance, and Appendix E – Adoption Resolution.

2.0 PLANNING PROCESS

This section addresses Element A of the Local Mitigation Plan Regulation Checklist.

Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans
Element A: Planning Process
A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))
A1-a. Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan's development, as well as who was involved?
A1-b. Does the plan list the jurisdiction(s) participating in the plan that seek approval and describe how they participated in the planning process?
A2. Does the Plan document an opportunity for neighboring communities, local 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? (Requirement §201.6(b)(2))
A2-a. Does the plan identify all stakeholders involved or given an opportunity to be involved in the planning process and how each stakeholder was presented with this opportunity?
A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))
A3-a. Does the plan document how the public was given the opportunity to be involved in the planning process and how their feedback was included in the plan?
A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))
A4-a. Does the plan document what existing plans, studies, reports, and technical information were reviewed for the development of the plan, as well as how they were incorporated into the document?

2.1 OVERVIEW OF THE 2026 LHMP PLANNING PROCESS

The development of the 2026 LHMP was a collaborative effort between the City of Cordova, the consultant AECOM Technical Services, Inc. (AECOM), and a planning team. The planning process officially kicked off in November 2024 and ended in [month year]. A timeline of the major planning tasks and milestones by month is provided in Table 2-1. A list of the planning team members and how they contributed to the development of the plan is provided in Table 2-2.

Table 2-1: LHMP Timeline

Date	Tasks	People Involved
November 11, 2024	First LHMP planning team meeting; project overview Initial information collected: hazards to be profiled	LHMP project manager, consultant
December 19, 2024	Second planning team meeting; previous LHMP mitigation actions reviewed	LHMP project manager, consultant, planning team
January 6, 2025	Initial public outreach via Facebook and initial stakeholder involvement via email	LHMP project manager

Date	Tasks	People Involved
February 28, 2025	Third planning team meeting; continuation of review of previous LHMP mitigation actions discussed	LHMP project manager, consultant, planning team
March 2025	Hazard figures created; hazard impact assessments drafted Draft mitigation actions developed	consultant
May 2025	Internal Draft LHMP	LHMP project manager, consultant, planning team
October 2025	Public Draft LHMP Follow-up public outreach and stakeholder involvement	LHMP project manager, consultant, public
December 2025 through XX 2026	Final Draft LHMP	LHMP project manager, consultant, Alaska Division of Homeland Security and Emergency Management, FEMA Region 10
	Adoption of Final LHMP	LHMP project manager, City of Cordova City Council

Table 2-2: Planning Team

Name	Title and Affiliation[1]	Contribution
Kevin Johnson	Public Works Director, City of Cordova	Planning team lead; attended all meetings, provided updates on previous LHMP actions, reviewed draft mitigation actions.
Heather Brannon	Emergency Management Coordinator, City of Cordova	Former planning team member before position changed; provided detailed notes on current hazards and data sources and recommendations for mitigation actions. Later completed a review of the draft LHMP as a stakeholder.
Sam Greenwood	City Manager	Planning team member, reviewed the draft LHMP.
Aaron Sayles	Fire Department	Planning team member, reviewed the draft LHMP.
Kim Roeland	Planner, AECOM Technical Services	Consultant; prepared plan, including hazard figures, risk assessment tables, mitigation strategies, and Draft and Final LHMP.

2.2 OPPORTUNITIES FOR STAKEHOLDERS

On April 17, 2025, the LHMP project manager reached out to stakeholders via email (Appendix A) regarding the 2026 LHMP and invited them to participate in the planning process. Stakeholders included the Alaska Department of Transportation, Cordova Electric Cooperative, Cordova Telecom, Native Village of Eyak (NVE), Copper River Watershed Project, Cordova School District, U.S. Forest Service, Cordova Avalanche Center, Cordova Community Medical Center, and the Prince William Sound Science Center. No stakeholder comments were received.

The LHMP project manager reached out to the stakeholders again via email on Tuesday, October 28, 2025, inviting them to review and provide comments about the Public Draft LHMP (Appendix A). Comments were submitted by Cordova School District, Cordova Fire Department, the NVE, and Cordova Community Medical Center. A complete summary of comments and responses are provided in Appendix A.

2.3 PUBLIC INVOLVEMENT

On January 6, 2025, the City of Cordova posted information about the 2026 LHMP kickoff on the City's website and on the City's Facebook page. Also, on January 6, 2025, the City sent out a notice on the public notices email list to over 700 recipients. No public comments were received.

On October 28, 2025, the City of Cordova posted information about how to review the Draft 2026 LHMP on the City's website, on City's Facebook page, and on the public notices email list. Also, on October 28, 2025, the City posted notices at the City Hall, the Cordova Center, and the Post Office. Finally, on November 10, 2025, the City presented and received comments on the draft LHMP during the Planning Commission Meeting. Planning Commission member include Tania Harrison (chair), Mark Hall (vice chair), Chris Bolin, Sarah Trumblee, Kris Ranney, Gail Foode, and Sean Den Adel. Commissioner Ranney provided comments concerning language describing the community, corrections made to names of critical facilities, minor typographical errors, details provided on various existing programs and policies, recommendations for edits or clarifications on mitigation actions, and corrections on hazard profiles.

Screenshots of Cordova's public involvement are provided in Appendix A.

2.4 REVIEW AND INCORPORATION OF EXISTING PLANS AND REPORTS

A list of the major relevant plans and reports reviewed and incorporated into the 2026 LHMP is provided in Table 2-3.

Table 2-3: Existing Plans and Reports

Plans and Reports	Information to Be Incorporated into the 2026 LHMP
Alaska State Hazard Mitigation Plan Update (2023)	Information on statewide trends and the nature for all hazards are incorporated into the hazard profile and risk assessment sections
Alaska Baseline Erosion Assessment, Erosion Information Paper – Cordova, Alaska (United States Army Corps of Engineers [USACE 2007])	Background erosion information is incorporated into the hazard profile and impacts section
Alaska's Changing Environment (Thoman and Walsh 2019; Thoman and McFarland 2024; Grabinski and McFarland 2025)	Information on statewide climate change observed trends used in the climate change hazard profile and impacts section
Alaska Department of Environmental Conservation's Statewide Oil and Hazardous Substance Spills Database	Information for the hazardous materials hazard
Alaska Department of Fish and Game. Fishing in the Cordova Area	Information for community profile

Plans and Reports	Information to Be Incorporated into the 2026 LHMP
Alaska Department of Natural Resources Division of Geological & Geophysical Surveys. Quaternary faults and folds in Alaska (2013)	Information for the earthquake hazard profile
Alaska Department of Natural Resources Division of Geological & Geophysical Surveys. Updated tsunami inundation maps for Cordova, Alaska (2022); Tsunami inundation maps of Cordova and Tatitlek, Alaska (2014)	Information for tsunami hazard profile and risk assessment
Alaska Volcano Observatory	Information for volcano hazard profile
American Community Survey (2023)	Information for community profile
City of Cordova, Alaska Local Hazards Mitigation Plan Update (2018)	Information on community trends and the nature for all hazards are incorporated into the hazard profile and risk assessment sections
City of Cordova Comprehensive Plan (2008, 2019)	Economic information for community description
Climate Change Vulnerability Assessment for the Chugach National Forest and the Kenai Peninsula (United States Forest Service) (2017)	Information for climate change hazard profile
Cordova Chamber of Commerce Destination Strategy (2023)	Information for community description
Cordova Priority Climate Action Plan (2023)	Climate change information incorporated into hazard profile; climate change actions considered for mitigation strategies addressing climate change
Cordova, Alaska, Department of Community, Commerce, and Economic Development, Division of Community and Regional Affairs (DCRA 2021)	Information for community description
Copper River Highway Transportation Master Plan (October 2023)	Transportation information for community description
Detection and assessment of a large and potentially tsunamigenic periglacial landslide in Barry Arm, Alaska. Dai et al. (2020)	Information for tsunami hazard profile
Accelerated retreat of coastal glaciers in the Western Prince William Sound, Alaska. Maraldo (2020)	Information for climate change hazard profile
National Aeronautics and Space Administration (NASA) Sea Level Evaluation and Assessment Tool	Information for climate change hazard profile
National Oceanic and Atmospheric Administration (NOAA) Sea Level Rise Viewer	Information for climate change hazard profile
National Drought Mitigation Center	Information for drought hazard profile
Statewide Threat Assessment: Identification of Threats from Erosion, Flooding, and Thawing	Background erosion, flooding, and permafrost information is incorporated into the hazard profiles

Plans and Reports	Information to Be Incorporated into the 2026 LHMP
Permafrost in Remote Alaska Communities (Denali Commission 2019)	
Tectonics and Seismic Structure of Alaska and Northwestern Canada: Earthscope and Beyond. Chapter 10. An Alaska-Aleutian Subduction Zone Interface Earthquake Recurrence Model from Geology and Geodesy (2024)	Information for earthquake hazard profile
United States Geological Survey (USGS) Catalog of Intensities and Magnitudes for Earthquakes in Alaska in the Aleutian Islands 1786-1981 (1988)	Information for earthquake hazard profile
USGS Alaska Seismic Hazard Map (2023)	Information for earthquake hazard profile and risk assessment.
USGS Landslide inventories across the United States (2022)	Information for the ground failure – landslide hazard profile
University of Alaska Fairbanks Climate Adaptation Science Center	Information for climate change hazard profile
Western Regional Climate Center Station Viewer	Information for community description

3.0 COMMUNITY DESCRIPTION

"Residing in present-day Cordova, Alaska, we recognize these lands and waterways as the traditional territories of the dAXunhyuu (Eyak people) and the Chugachmiut (Prince William Sound Sugpiaq/Alutiiq). We give tribute to the original stewards of this region and the diverse cultural presence residing here today and since time immemorial. We honor their living culture and the land and sea that connects us all." – Native Village of Eyak

This section outlines the cultural landscape of the region, the geographical setting, local history, demographics, economy, and critical facilities that define the Cordova Community.

3.1 CULTURAL LANDSCAPE OF THE REGION

Cordova is the only existing town located on the traditional lands of the dAXunhyuu (Eyak People), whose ancestral territory stretched along the northern Gulf of Alaska from present-day Cordova to just southeast of Yakutat. Prior to external contact, this central location was a hub of trade routes where cultures met, exchanged knowledge and resources, and established enduring relationships. The Eyak maintained interwoven, unique relationships with their coastal neighbors including the Chugach Sugpiaq (Alutiiq) of Prince William Sound, the Yaakwdáat Lingít (Yakutat Tlingit), and the upper Copper River Ahtna Diné (Athabascan) communities. These exchanges were grounded in respect and reciprocity, with the Eyak often serving as translators, diplomats, and cultural intermediaries.

Like all Indigenous cultures, the Eyak people's traditional use areas shifted over time, shaped by climate, neighboring relations, and later influence by imposed contact with foreign groups. These intrusions brought violence, epidemics, cultural suppression, attempted erasure, and systemic abuse. Despite these forces, the Eyak, Chugach Sugpiaq, and other neighboring cultures remain strong, proud, and deeply connected to their homelands. The lands and waterways that sustain Cordovans today provided sustenance, medicine, and vital resources to their first stewards since time immemorial. Today, Cordova continues to exist on the unceded ancestral lands of the dAXunhyuu (Eyak People).

3.2 GEOGRAPHICAL SETTING

The City of Cordova is located on the northern coast of the Gulf of Alaska, nestled between the eastern shores of Prince William Sound and the Copper River Delta (Figure 1). The community sits just above sea level between Orca Inlet and Eyak Lake, at the base of Mount Eyak, and is surrounded by glacially carved mountains. It lies approximately 52 air miles southeast of Valdez and 150 miles southeast of Anchorage, at coordinates 60.5403° North Latitude and -145.7588° West Longitude (Sec. 28, TO15S, R003W, Copper River Meridian). The city encompasses 61.4 square miles of land and 14.3 square miles of water and is situated within the Cordova Recording District.

Cordova falls within the Gulf Coast maritime climate zone, characterized by high precipitation and relatively mild temperatures. Summers remain cool, while winters are generally moderate. Heavy rainfall and low mountain temperatures contribute to the presence of numerous glaciers in the surrounding region. Pacific weather systems are funneled into southcentral Alaska by the coastal mountains, producing frequent overcast skies and a humid climate. These conditions support robust salmon-bearing rivers and a diverse, thriving ecosystem.

According to the Western Regional Climate Center's (WRCC) dashboard showing the National Weather Service Cordova Airport weather station, the mean maximum temperature from 1991-2020 was 61.6, the mean minimum temperature for the same time period was 19.7, and mean total annual precipitation was 86 inches (Table 3-1).

Table 3-1. WRCC 1991-2020 Monthly Computed Averages

Measurement Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean Maximum Temperature (°F)	34.2	36.5	39.2	46.4	54.1	59.3	61.6	61.4	56.2	47.6	38.6	35.1	47.5
Mean Minimum Temperature (°F)	19.7	21.2	22.8	29.7	36.6	43.5	47.4	46	40.4	32.7	24.8	22	32.2
Mean Total Precipitation (in.)	6.66	5.78	4.76	4.77	5.24	4.59	5.68	9.75	13.04	10.84	7.65	7.63	86.44

3.3 HISTORY

By the late 1800s and early 1900s, Eyak villages, along with dozens of fish camps, harvesting locations, burial grounds, and other sacred sites, were displaced and destroyed to make way for expanding cannery and railroad operations. Railroad contractor Michael Heney secured the right-of-way up the Copper River in 1904, and in 1906, the city of Cordova was officially established. Between 1911 and 1938, the Copper River & Northwestern Railroad transported $200 million worth of copper ore over the 196 miles from Kennicott to Cordova. By the 1920s, Cordova was dubbed the "Razor Clam Capital of the World," and by the early 1940s, commercial fishing had become the town's primary economic base. The community continued to transform through major events, including the 1964 Great Alaska Earthquake, which reshaped shorelines and access points, and the 1989 Exxon Valdez Oil Spill, which caused long-lasting ecological and economic impacts. Collectively, these developments and defining events form the foundation of Cordova's contemporary character and remain integral to understanding its ongoing evolution.

3.4 DEMOGRAPHICS

The 2020 U.S. Census population was 2,609 residents. The most recent 2023 Department of Community, Commerce, and Economic Development–certified population is 2,540 with the median age of 37.8. The population is 72.73 percent white, 10.19 percent Asian, 12.27 percent two or more races, 3.83 percent American Indian or Alaskan Native, and less than 1 percent Black or African American, Native Hawaiian or Pacific Islander, or other. The male and female composition is approximately 49.69 percent and 50.31 percent, respectively. The 2023 American Community Survey reported 862 housing units occupied, and an additional 281 which are vacant (e.g. seasonal, rental or unoccupied), for a total of 1,143 units.

3.5 ECONOMY

The economy of the area is primarily based on commercial fishing with a large fishing fleet for Prince William Sound and several fish processing plants. Cordova's major commercial fishing focus is on salmon (Copper River red salmon and pink salmon). Mariculture and kelp farming is an emerging industry in Cordova. According to the Comprehensive Plan (2019), new wintertime fishery opportunities include cod, shrimp, herring, and halibut. According to the Alaska Department of Fish and Game, subsistence crab fishery in Prince William Sound is open to Alaska residents only during certain seasons. Additionally, commercial and recreational use activities in southeastern Prince William Sound have been increasing, bringing more sports fishers and visitors utilizing local charter boats and lodges. According to the 2019 Comprehensive Plan, Cordova's top industries are local government (24%), trade transportation and utilities (20%), and manufacturing (including seafood processing) (16%) The U.S. Coast Guard maintains an Air Support Facility 13 miles out of town adjacent to Mudhole Smith Airport. The U.S. Coast Guard Cutter *Fir* (USCGC Fir) services and maintains navigation aids around the Gulf of Alaska providing essential services to commercial vessel traffic in Prine William Sound including Cordova. The U.S. Forest Service also has personnel in Cordova. The Native Village of Eyak is also an important employer in the region.

Cordova is accessed by plane or boat. It has year-round barge service, and seasonal state ferry service which typically does not operate October through the winter. The State-owned Cordova Municipal Airport and Merle K. (Mudhole) Smith Airport have daily flights, and a State-maintained road across Copper River Delta provides access to the east, though it has been closed past mile 37 since 2011. In 2016, Cordova had 6,000 visitors, a number which dropped during the COVID-19 pandemic. Based on the 2023 Tourism Plan Destination Strategy, there is strong interest in increasing the number of visitors and promoting shoulder and off-season visitation.

According to the 2023 American Community Survey, the median family income is $88,538, and the unemployment rate is 10.9 percent.

3.6 CRITICAL FACILITIES

Critical facilities are essential for life, safety, and economic viability in Cordova. In Cordova, critical facilities include the Cordova Center, airports, harbor, ferry terminal, reservoir, power plants, schools, water treatment plant, lift and pump stations, landfill and refuse transfer station, communications facilities, medical center, offices, and shops (Table 3-1, Figure 2). These critical facilities focus on City-owned facilities and infrastructure.

Table 3-1: Critical Facilities

Type	Description
Communication	Cordova Telephone Cooperative (CTC) Main Building, Tripod Hill Cell Towers, CTC Earth Station, CTC Heney Ridge Microwave Site, and CTC Subsea Cable Landing
Government	Cordova Center (includes City Hall), City public works shop / equipment yard
Education	Mt. Eccles Elementary School, Cordova Junior / Senior High School, District Office, Innovative Learning Program, maintenance shop
Solid Waste	Refuse transfer station, landfill
Utilities	Water tanks, treatment plants, power plants, pump stations, lift stations, reservoir and weir, dam, settling ponds, treatment plant buildings and shops

Type	Description
Road/Air/Marine Transportation	Two airports (Cordova Municipal Airport and Mudhole Smith Airport), two docks (City T Dock and Ocean Dock) small boat harbor, ferry terminal
Medical and Public Safety	U.S. Coast Guard air and boat stations, public safety building (includes Cordova Police Department, Alaska State Troops, Fire and Emergency Medical Services), 5-Mile Public Safety Sub-Station, Cordova Community Medical Center, Ilanka Community Health Center

4.0 RISK ASSESSMENT

This section addresses Element B of the Local Mitigation Plan Regulation Checklist.

Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans
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 jurisdiction? Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events? (Requirement § 201.6(c)(2)(i))
B1-a. Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area?
B1-b. Does the plan include information on the location of each identified hazard?
B1-c. Does the plan describe the extent for each identified hazard?
B1-d. Does the plan include the history of previous hazard events for each identified hazard?
B1-e. Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature, and sea levels), on the type, location, and range of anticipated intensities of identified hazards?
B1-f. For participating jurisdictions in a multi-jurisdictional plan, does the plan describe any hazards that are unique to and/or vary from those affecting the overall planning area?
B2. Does the plan include a summary of the jurisdiction's vulnerability and the impacts on the community from the identified hazards? Does this summary also address NFIP-insured structures that have been repetitively damaged by floods? (Requirement 44 CFR § 201.6(c)(2)(ii))
B2-a. Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards?
B2-b. For each participating jurisdiction, does the plan describe the potential Impacts from each of the identified hazards on each participating jurisdiction?
B2-c. Does the plan address NFIP-insured structures within each jurisdiction that have been repetitively damaged by floods?

4.1 HAZARD IDENTIFICATION

Hazard identification consists of describing the nature of the hazard, disaster history, location, extent/severity, and probability of future events. Hazard identification profiles have been developed for each of the hazards addressed in Section 4.1.1 through Section 4.1.13: avalanche, climate change, drought, earthquake, erosion, flooding, hazardous materials, landslide, severe weather, technological/cyber threat, tsunami, volcano, and wildland fire. The hazards profiled for this LHMP are discussed in alphabetical order and not hazard classification. The order does not signify level of risk.

4.1.1 Avalanche

Table 4-1: Avalanche

Profile	Description
Nature	A snow avalanche is a downhill mass movement of snow. Their size, run-out distance, and impact pressure vary. Large avalanches have the potential to kill people and wildlife, destroy infrastructure, level forests, and bury entire communities. Snow avalanche formation is influenced by precipitation type and intensity, wind direction and speed, sensible heat, and radiation heating or cooling of snow. Significant avalanche cycles (multiple avalanches naturally releasing across an entire region) are generally caused by long periods of heavy snow, but avalanche cycles can also be triggered by rain-on-snow events, rapid warming in the spring, and earthquakes. An avalanche releases when gravity-induced shear stress on or within the snowpack becomes larger than its shear strength. The shear strength is reduced by the presence of weak layers or interfaces in the snowpack, such as buried faceted snow crystals or density differences between snow layers. Triggers can be natural (e.g., rapid weight accumulation during or just after a snowstorm or rain event, warming temperatures, and seismic shaking) or artificial (e.g., human weight or avalanche-control artillery). There are four distinct avalanche types in Alaska that occur under varying snowpack and weather conditions. Each avalanche type is named based on its snow release characteristics: • Cornice collapse • Loose snow avalanche • Slab avalanche • Slush avalanche/flow • Glide avalanche Cornice collapse occurs when an overhanging snow mass breaks, separates, or is released. Cornices form on ridge crests or shoulders adjacent to gullies due to wind blowing the snow. The cornice is an indicator of predominant wind directions, as the cornice is formed on the lee (i.e., downwind) side of topographic features. Over time, the cornice can develop weaknesses in its structure and its attachment to the slope may fail. A cornice collapse often triggers a loose snow or slab avalanche as it adds sudden and significant stress onto the snowpack below. Loose snow avalanches, also known as point releases, initiate with a small amount of non-cohesive (loose) snow and quickly grow larger as they move downhill and entrain more snow. This type of avalanche typically carries relatively small amounts of powder snow and virtually no other debris. However, a loose snow avalanche may trigger a larger slab avalanche on the same slope. A slab avalanche releases as a block of cohesive snow when snow particles have stuck together to form one or more resistant layers. There is a wide range of slab characteristics possible, from “soft” slab (weakly cohesive snow) to “hard” slab (very cohesive snow), and from “storm” slab (release of recently deposited storm snow), to “persistent” and “deep persistent” slab (release of a slab that failed on a weak layer deeper down in the snowpack). Due to their large release masses, and because more snow is picked up along the way (snow entrainment), slab avalanches are the most destructive avalanche type. Human encounters with even small-sized slab avalanches are often fatal. Slush avalanches are fast-moving mixtures of snow and water. They release in isothermal snowpacks (snow temperature throughout the snowpack is 32°F) when liquid water permeates the snowpack and dramatically weakens the intergranular bond. Slush avalanches therefore typically occur in northern Alaska during the spring when warm temperatures and strong solar radiation quickly warm up the snowpack. Slush avalanches

Profile	Description
	can release on slopes as gentle as 20 degrees. Their release is often slower than other avalanche types, but as the slushy snow runs downhill they can reach speeds over 40 miles per hour. Smaller, more fluid avalanches with higher water content are commonly referred to as slush flows. A glide avalanche is preceded by a full-depth crack in the snowpack due to the entire snowpack sliding on the ground. A glide avalanche can consist of either moist/wet or almost entirely dry snow but typically develops after some moisture is introduced to the snowpack. The avalanche release can occur seconds to months after the crack appears, though many glide cracks do not result in an avalanche at all. Glide cracks typically develop on convex slopes and rollovers. They are very difficult to forecast, and their release is triggered naturally and catastrophically. An avalanche path comprises three main parts: starting zone, track, and run-out zone. Local topography determines the shape and size of each part. Steep gullies that contain a stream or creek in the summer often function as avalanche paths in the winter, but avalanches also release and run on simple and complex open slopes.
Location	The areas of concern in Cordova for avalanche are shown in Figure 3. Additionally, based on historical occurrences of avalanches and notes from City staff, the following locations are concern areas: • Shepard Point • Copper River Highway • New England Cannery Road • Power Creek Road along Eyak lake • Whitshed Road
History	The following notable avalanches have occurred in Cordova since 1999: • April 1999: Avalanche resulted in fatality at Power Creek Road. • January 2000: Large avalanche near milepost 5.5 of Copper River Highway damaged five houses and two warehouses along with numerous outbuildings, cars, and boats, and resulted in one fatality and several injuries. The January 2000 avalanche resulted in a declaration of an avalanche disaster. • December 2001: Avalanche in a backcountry area that resulted in a fatality. • March 2008: Avalanche on Mount Eyak resulted in a fatality. • January and April 2012: Three separate avalanches closed the Copper River Highway with no reported damages or injuries.
Extent / Severity	The extent and severity of avalanches in Cordova are influenced by weather conditions, with heavy snowfall, rapid temperature changes, and rain-on-snow events increasing risk. Terrain (steep slopes), human activity (recreation, construction), and location of transportation assets and other built structures also influence the extent and severity of avalanches. Heavier snow can be more dangerous due to dense and heavy debris causing more damage than lighter or drier snow.
Recurrence Probability	Cordova is located in a region with steep slopes and significant snowfall, making it prone to avalanches especially during periods of heavy snow, rapid temperature changes, or rain-on-snow events. As described in 4.1.2, climate change is projected to increase average annual temperature, with winter temperatures transitioning to above freezing. Warmer snow conditions make the snowpack heavier and more unstable. It can be assumed that, at minimum, the same areas that are vulnerable to avalanche will likely remain vulnerable to avalanche, and there is a potential of increased risk of more dangerous conditions from heavier and more unstable snowpack.

4.1.2 Climate Change

Table 4-2: Climate Change

Profile	Description
Nature	Climate is defined as the average statistics of weather, which includes temperature, precipitation, and seasonal patterns in a particular region. Climate change refers to the long-term and irrevocable shift in these weather-related patterns, either regionally or globally. The Earth and its natural ecosystem are very closely tied to the climate, and any permanent climate change will lead to an imbalance in the existing ecosystem, which impacts the way people live, the food they harvest, their health, the wildlife, the availability of water, and much more. Research indicates that much of this warming is due to human activities—primarily the burning of fossil fuels and the clearing of forests—that release carbon dioxide (CO_2) and other gases into the atmosphere, which trap heat that would otherwise escape into space. Once in the atmosphere, these heat-trapping emissions remain there for many years (for example, CO_2 lasts about 100 years). If left unchecked, by the end of the century CO_2 concentrations could reach levels three times higher than in pre-industrial times. According to most climatologists, the planet is starting to experience shifts in climate patterns and an increased frequency of extreme weather events at both the global level and the local level. Over the next century, increasing atmospheric greenhouse gas concentrations are expected to cause a variety of changes to local climate conditions, including sea level rise, increased precipitation and flooding including storm surge and stormwater inundation; and more frequent and prolonged higher temperatures (leading to extreme heat events and wildfires)—particularly inland—that decrease air quality and cause extended periods of drought. In addition, expected social and economic impacts as a result of climate change include energy shortages, ecosystem changes impacting fisheries and subsistence food practices, failing infrastructure, and water insecurity, to name a few.
Location	According to Alaska's Changing Environment, the effects from climate change in Alaska, and the region including Cordova, include rising temperatures and extreme heat, winter temperatures transitioning from below freezing to above freezing, severe moisture deficit/drought, sea level rise, coastal erosion, extreme precipitation and flooding, extreme precipitation and landslides, and wildfires, is already under way. Specific details regarding the locations of avalanche, drought, erosion, flood, and wildfire are shown in Figure 3, Figure 4, Figure 6, Figure 7, and Figure 13, respectively. The areas of concern in Cordova for avalanche are Shepard Point, Copper River Highway, New England Cannery Road and Power Creek Road along Eyak Lake. Drought occurrences are regional and impact large areas of Alaska. Therefore, all of the city of Cordova is vulnerable to drought. Coastal erosion and flooding from storm surge and king tides is mainly a problem on Breakwater Avenue and New England Cannery Road (also called Orca Road). Additional areas of flooding related to glacier melt and runoff include Copper River Highway, Eyak River, and Eyak Lake. Extreme precipitation may also result in more landslides, which is a concern in Cordova at Point Whitshed Road, New England Cannery Road, along the shore of Eyak Lake, and near Power Creek, among other locations. The wildfire exposure area, or the likelihood that wildfire will get to and impact a location, in Cordova ranges from very low for a majority of Cordova to high and extreme near the airport.
History	As noted previously, according to the Alaska's Changing Environment, NASA, and University of Alaska Fairbanks and Alaska Climate Adaptation Science Center's Northern

Profile	Description
	Climate Reports, climate change is already underway in Alaska, including Cordova. Recent impacts from climate change affecting Cordova include but are not limited to: • An increase in annual average temperature statewide by 3°F in less than 50 years (Alaska's Changing Environment 2.0) • A record high temperature of 90°F in July 2019 in Anchorage (Alaska's Changing Environment). • An annual increase of 0.81 millimeters per year of sea level rise from 1993 to 2019 in Cordova (NASA). • A marine heatwave in 2014-2016 in the Gulf of Alaska impacting marine ecosystems and disruption of fisheries (Alaska's Changing Environment). • Retreat of glaciers including the Saddlebag, Sheridan, Childs and Miles Glaciers, consistent with trends for glaciers in the Prince William Sound (Marlado 2020).
Extent / Severity	The Alaska Climate Adaptation Science Center's Northern Climate Reports indicated in Cordova, average annual temperatures may increase by about 11°F by the end of the century. Winter may transition from below freezing to above freezing in the future. Precipitation models show a likely increase in spring precipitation by 28%. The NASA Sea Level Rise Projection Tool which relies on data from the Intergovernmental Panel on Climate Change's Sixth Assessment Report indicates under a high scenario (Shared Socioeconomic Pathway [SSP]5-8.5) by 2050 sea level change will be an increase in Cordova by 0.7 feet. According to NASA, in the sea level projections, likely ranges are assessed based upon the combination of uncertainty in the temperature change associated with an emissions scenarios and uncertainty in the relationships between temperature and drivers of projected sea level change, such as thermal expansion, ocean dynamics, and glacier and ice sheet mass loss. As a global model this projection doesn't take into account local conditions
Recurrence Probability	Climate change is a significant and lasting change in the statistical distribution of weather patterns over periods of time ranging from decades to millions of years. It may be a change in average weather conditions or in the distribution of weather around the average conditions (i.e., more or fewer extreme weather events). According to NASA, "the current warming trend is of particular significance because most of it is extremely likely (i.e., greater than 95% probability) to be the result of human activity since the mid-twentieth century and proceeding at a rate that is unprecedented over decades to millennia." NASA also states that "scientists have high confidence that global temperatures will continue to rise for decades to come, largely due to greenhouse gases produced by human activities."

4.1.3 Drought

Table 4-3: Drought

Profile	Description
Nature	Drought is a normal, recurrent feature of virtually all climatic zones, including areas of both low and high rainfall. Drought is the result of a natural decline in the expected precipitation over an extended period, typically one or more seasons. Other climatic characteristics impact the severity of drought conditions, including high temperatures, high winds, and low relative humidities. A drought's severity depends on numerous factors, including duration, intensity, geographic extent, and regional water supply demands by humans and vegetation.
Location	Drought occurrences are regional and impact large areas of Alaska. Therefore, all of the city of Cordova is vulnerable to drought.
History	Since 2000, the Chugach Census Area has recorded droughts in 2004, 2009, 2015, and 2019.
Extent / Severity	The National Drought Mitigation Center produces drought monitor maps for the U.S. It classifies droughts into five categories from least severe to most severe as follows: • D0 (abnormally dry) • D1 (moderate drought) • D2 (severe drought) • D3 (extreme drought) • D4 (exceptional drought) Cordova has experienced moderate droughts in 2004, 2009, 2015, and 2019 and a severe drought in 2019 (Figure 4).
Recurrence Probability	Dry spells are not unusual in Alaska and will continue. While annual precipitation over the long-term in Alaska is showing increases, year-to-year variability is expected to continue, influencing the recurrence probability of droughts.

4.1.4 Earthquake

Table 4-4: Earthquake

Profile	Description
Nature	An earthquake is a sudden motion or trembling caused by a release of strain accumulated within or along the edge of Earth's tectonic plates. The effects of an earthquake can be felt far beyond the site of its occurrence. Earthquakes usually occur without warning and can cause massive damage and extensive casualties in a few seconds. Common effects of earthquakes are ground motion and shaking; surface fault ruptures; and ground failure. Ground motion is the vibration or shaking of the ground during an earthquake. When a fault ruptures, seismic waves radiate causing the ground to vibrate. The severity of the vibration increases with the amount of energy released and decreases with distance from the causative fault or epicenter. Soft soils can amplify ground motions. In addition to ground motion, several secondary hazards can occur from earthquakes, such as the following: • Surface faulting is the differential movement of two sides of a fault at the Earth's surface. Displacement along faults—in terms of both length and width—varies but can be significant (e.g., up to 20 feet), as can the length of the surface rupture (e.g., up to 200 miles). Surface faulting can cause severe damage to linear structures including railways, highways, pipelines, tunnels, and dams. • Liquefaction occurs when seismic waves pass through saturated granular soil, distorting its granular structure and causing some of the empty spaces between granules to collapse. Pore water pressure may also increase sufficiently to cause the soil to behave like a fluid for a brief period and cause deformations. Liquefaction causes lateral spreads (i.e., horizontal movements, typically 10 to 15 feet, but up to 100 feet), flow failures (i.e., massive flows of soil, typically hundreds of feet, but up to 12 miles), and loss of bearing strength (i.e., soil deformations causing structures to settle or tip). Liquefaction can cause severe damage to property. • Landslides/debris flows occur as a result of horizontal seismic inertia forces induced in the slopes by the ground shaking. The most common earthquake induced landslides include shallow, disrupted landslides such as rock falls, rockslides, and soil slides. Debris flows are created when surface soil on steep slopes becomes totally saturated with water. Once the soil liquefies, it loses the ability to hold together and can flow downhill at very high speeds, taking vegetation and/or structures with it. Slide risks increase after an earthquake during a wet winter. The two most common measures of earthquakes are the Modified Mercalli Intensity (MMI) scale and Magnitude (M). The MMI Scale measures felt intensity, peak ground acceleration (PGA), and instrumental intensity by quantifying how hard the earth shakes in each location. The scale ranges from an intensity of I to X, with the lower numbers of the intensity scale generally dealing with the "manner in which the earthquake is felt by people" while the higher numbers on the scale are based on "observed structural damage." Magnitude is a measure of the energy released during an earthquake. A scale of magnitude ranges from minor, (M 3.0-3.9) which may be felt by communities, to great (M 8.0 or greater) associated with significant damage expected.

Profile	Description
Location	The Alaska-Aleutian Megathrust Fault, one of the largest and most seismically active regions in the world, is located approximately 90 miles south of Cordova. Nearby faults (within 50 miles) include the Cordova Fault, Eyak Fault, Heney Fault, Rude River Fault, Bagley Fault, Etches Fault, and the Ragged Mountain Fault, along with several unnamed faults. Cordova is located west of the Yakutat Block, a tectonic microplate located near Yakutat Bay, but may be impacted by seismic activity in this region. The entire city of Cordova would be impacted by an earthquake impacting the region (Figure 5).
History	Alaska is one of the most seismically active regions in the world and is at risk of societal and economic losses due to damaging earthquakes. On average, Alaska has one "great" (i.e., M8 or higher) earthquake every 13 years, one M7 to M8 earthquake every year, and six M6 to M7 earthquakes every year. In addition, earthquakes that occur on tectonic plate boundary faults near the coast can generate tsunamis that impact coastal communities, including Cordova. According to the Alaska Earthquake Center, the Yakutat Block is the latest addition to the assemblage of accreted terranes that make up southern Alaska. The microplate was transported northward along margin-parallel transform faults, including the Queen Charlotte and Fairweather faults. Eventually, the microplate encountered the continental margin of southern Alaska, where the ongoing collision creates complex seismotectonic interactions resulting in a very active seismic belt. Two great earthquakes in 1899 (M8.1 and M8.2) re-arranged landforms in the Yakutat Bay area, resulting in up to 40 feet of uplift and 6 feet of land subsidence. Another notable event in this region was the 1958 M7.7 Lituya Bay Earthquake, which ruptured from the head of Yakutat Bay along the entire length of the Fairweather Fault. This earthquake caused a massive landslide that crashed into Lituya Bay, creating a tsunami wave 1,720 feet high. This region has a high level of background seismicity, with hundreds of earthquakes recorded each year, the majority of which are shallow and located within the 50-mile-wide coastal zone. Most recently, in December 6, 2025, a M3.0 earthquake occurred near Burwash Landing associated with this microplate. Significant events are defined by the Alaska Earthquake Center as ones that impacted the Alaskan people and include large magnitude earthquakes, earthquake swarms, large landslides, large glacial-calving events, and tsunami-generating (tsunamigenic) events. Below is a list of significant events in Alaska according to the Alaska Earthquake Center or strong earthquakes that may have been felt in Cordova, Alaska: • 1964: M9.2 Great Alaskan Earthquake • 2009: M5.4 Skwentna Earthquake • 2012: M5.8 Northern Cook Inlet Earthquake • 2012: M6.3 Gulf of Alaska Earthquake • 2014: M6.3 Skwentna Earthquake • 2014: M6.0 Seward Glacier Earthquake • 2014: M6.0 Palma Bay Earthquake • 2018: M7.1 Anchorage Earthquake • 2021: M8.2 Chignik Earthquake According to a 1988 report by the USGS, there were over 100 earthquakes that impacted Cordova (and Valdez) between 1781-1981, of which the following notable events include: • 1899: M 8.3 earthquake • 1911: M6.9 earthquake

Profile	Description
Extent / Severity	The USGS has developed probabilistic seismic hazard maps for ground shaking potential for Alaska. The 2023 maps refer to an estimate of the probability of exceeding a certain amount of ground shaking or ground motion in 50 years, which is the same as the level of ground shaking with about a 2,500-year average repeat time. The hazard depends on the magnitudes and locations of likely earthquakes, how often they occur, and the properties of the rocks and sediments that the earthquake waves travel through. Regions near major, active faults are shown in orange, red, and pink and experience stronger ground shaking more frequently. Regions that are distant from known, active faults are shown in blue, green, and yellow; these areas experience lower levels of ground shaking and do so less frequently. Figure 5 shows a probabilistic seismic hazard map depicting a 2 percent probability of exceedance in 50 years shows that all of Cordova is in a violent to extreme (MMI intensity value IX/X) ground shaking potential area.
Recurrence Probability	Research on the recurrence interval for the Alaska-Aleutian megathrust fault, and the portion of that fault that includes Cordova, the Prince William Sound segment, is ongoing. A researcher at USGS compared intervals based on geologic data (or long-term earthquake history) (594 years +/- 18 years) versus geodetic data (or current tectonic behavior) (133-266 years) for the Prince William Sound segment. This study notes that future work is necessary to explain the apparent mismatch between geodetic and geologic record along the Prince William Sound section. While research is ongoing for the faults near Cordova, the City still is still in one of the most seismically active regions in the world and has a high probability of slight (or greater) damaging earthquake shaking (equivalent to MMI VI) in the next 100 years, according to the USGS 2023 National Seismic Hazard Model.

4.1.5 Erosion

Table 4-5: Erosion

Profile	Description
Nature	Erosion is the wearing and transportation of land. Erosion is typically gradual land loss through wind or water scour. In developed regions, erosion undermines buildings and infrastructure. Erosion can be experienced from coastal, riverine, or wind sources. Erosion forces are embodied in waves, currents, and winds; surface and ground water flow; and freeze-thaw cycles may also play a role. Not all of these forces may be present at any particular location. In the U.S., Alaska is unique because of how permafrost thaw interacts with flooding and erosion to exacerbate the impacts of these hazards. Frozen ground can disintegrate under the compounding influences of permafrost thaw, flooding, and erosion in an escalating feedback loop that can result in damage that is much greater than would be expected from the individual processes alone. Riverine erosion is often initiated by high sediment loads or heavy rainfall. This generates high volume and velocity runoff that concentrates in the lower drainages in the river's catchment area. Erosion occurs when the force of the flowing water exceeds the resistance of the riverbank material. The water continues to increase its sediment load as it flows downstream. Eventually, the river deposits its sediment in slower moving sections such as dams or reservoirs. The river may eventually change course or develop a new channel. In less stable braided channel reaches, erosion and deposition are constant issues. In more stable meandering channels, erosion episodes may infrequently occur. According to the U.S. Army Corps of Engineers, persistent flooding and erosion in Cordova is caused by recent inflows of Scott River into Eyak River. These inflows have raised the water surface above normal elevations of both Eyak River and Eyak Lake. Eyak River is a small, clear-water river that drains Eyak Lake and empties into Prince William Sound. Eyak River is along the western edge of the Scott River delta and the eastern edge of the Heney Range. The Scott River delta is a long, broad delta with considerable topographic relief extending from the Scott Glacier to Prince William Sound. The Scott River is a glacial outwash river that is characterized by a substantial sediment load and a multi-channeled, braided stream channel system extending across its previously glaciated valley. Flow paths are highly variable within the delta as stream channels move, are abandoned for lower grade channels, or are captured by larger flows. When the Scott River breaches the Eyak River, the result is increased stream flow volume in the Eyak River and increased silts and sands in the Eyak River channel which causes continuously high water surface elevations in the Eyak River and in Eyak Lake and associated flooding and erosion. Coastal erosion is a common term used to describe the retreat of the shoreline along the ocean. It describes the attrition of land resulting in loss of beach, shoreline, or dune material from natural activity or human influences and rarely causes death or injury. However, erosion can cause property destruction, prohibit development, and impact community infrastructure. Erosion can occur rapidly as the result of floods, storms, or other events; or slowly as the result of long-term environmental changes such as melting permafrost. Erosion is a natural process, but its effects can be easily exacerbated by human activity. Coastal erosion can occur from rapid short-term daily, seasonal, or annual natural events such as waves, storm surge, wind, coastal storms, and flooding; or from human activities including boat wakes and dredging. The most dramatic erosion often occurs during storms, particularly because the highest energy waves are generated under storm conditions.

Profile	Description
	Coastal erosion occurs over the area from roughly the top of the shore into the nearshore region to about 30 feet water depth. It is measured as the rate of change in the position or horizontal displacement of a shoreline over a period of time. Bluff recession is the most visible aspect of coastal erosion because of the dramatic change it causes to the landscape. As a result, this aspect of coastal erosion usually receives the most attention. Coastal erosion may also be due to multi-year impacts and long-term climatic change such as sea-level rise; lack of sediment supply; subsidence; or long-term human factors such as aquifer depletion or the construction of shore protection structures and dams. Attempts to control erosion using shoreline protective measures such as groins, jetties, seawalls, or revetments can lead to increased erosion.
Location	According to Figure 6, erosion hazard areas include Eyak Lake Road (also called Power Creek Road) from riverine erosion, Breakwater Avenue and New England Cannery Road (also called Orca Road) from coastal erosion. According to the planning team, there are additional areas of concern that are not included in this analysis including Forest Service Road 220 and along the Copper River Highway.
History	According to the Alaska Baseline Erosion Assessment which was completed in 2007, the Scott River has breached the Eyak River at two locations and caused flooding (with accompanying erosion) along the Eyak River and around Eyak Lake 3 times between 1995 and 2007. In 2006 there were two storm events that caused damage to city roads, the Copper River Highway, and other critical facilities. In 2023 the combination of King tides and strong northern winds caused a portion of New England Cannery Road to fail requiring emergency repairs to stabilize the bank of the road along Orca Inlet.
Extent / Severity	The U.S. Army Corps of Engineers listed Cordova as a Priority Action Community in 2009, indicating erosion is threatening the viability of the community or significant resources are being expended to minimize those threats. The Denali Commission (2019) lists Cordova in Erosion Group 2, defined by the threat of erosion not being expected to detrimentally impact critical infrastructure in the near term, but the community still being vulnerable to the threat. Damages from erosion could impact operability for a limited period but would not impact the community's sustainability.
Recurrence Probability	The City of Cordova is likely to continue to experience erosion (and associated flooding) at a recurrence probability similar to what it has experienced in the past. With climate change, sea level rise, and increasing variability in storms and potential for more precipitation falling as rain rather than snow, the recurrence probability for erosion in Cordova may increase into the future.

4.1.6 Flood

Table 4-6: Flood

Profile	Description
Nature	A flood occurs when the existing channel of a stream, river, or other water body cannot contain excess runoff from rainfall, snowmelt, glacier melt, or a combination of these inputs, resulting in overflow onto adjacent lands that are not normally submerged. As noted in Section 4.1.5, one source of flooding and erosion in Cordova is inflows of the Scott River into the Eyak River. These inflows raise the water surface above normal elevations of both Eyak River and Eyak Lake. In Cordova, flooding is also associated with storms such as those originating in the Gulf of Alaska, or from long and narrow regions of intense water vapor transport originating the mid-Pacific Ocean, known as atmospheric rivers. Both types of storms deliver large amounts of rainfall (or snow) in a short period of time. In Alaska, both the El Niño Southern Oscillation (ENSO) and the Pacific Decadal Oscillation (PDO) are important climate drivers influencing storm tracks as well as temperature and precipitation patterns which influences flooding. In Cordova the most common types of flooding as a result of storms include: • Riverine flood: a flood that occurs when rivers and creeks overflow their banks due to excessive rain or snow and glacier melt over the same area for an extended period of time, and flow into surrounding areas. Localized flooding can occur as a result of riverine flooding when logjams divert high velocity flows. • Coastal flood: a flood that inundates areas along the coast with seawater. There are several causes of coastal flooding, including high tide, storm surge, localized wave action (wave runup and wave overtopping), rising sea levels, and tsunami. Coastal flooding can cause extreme damage to coastlines, including the built environment along the coast, due to the direct force of storm surge waves.
Location	In Cordova, areas most vulnerable to riverine flooding include the Eyak Lake and Eyak River, when lake level is high and is not drained by the outflow of the Eyak River fast enough, or when inflow of the Scott River contributes to flooding. Outburst flooding from a small lake at the east flank of the Scott Glacier occasionally occurs and drains the majority of the volume of water down the Scott River valley. Areas most vulnerable to coastal flooding include Power Creek Road, New England Cannery Road, Breakwater Avenue, Cordova Boat Harbor, and Okiak Slough, and Copper River Highway (Figure 7).

Profile	Description
History	According to the NOAA's Storm Events Database, the following notable floods have occurred since 2000: • Flood in August 2001. A strong front, moving north and northwest from the Gulf of Alaska, was preceded by strong easterly winds and accompanied by heavy rains. Gusts reached a reported 92 mph around the Eyak Lake area of Cordova. • Flood in August 2006. Widespread heavy rain measured by a National Resources Conservation Service (NRCS) gauge near Cordova measuring over 13 inches in 48 hours caused flooding on Sheridan Creek, Copper River, Power Creek, the Eyak River and Eyak Lake. • Flood in September 2012. A series of strong, wet storm systems hit southcentral Alaska resulted in widespread flood damage over a large area. • Flood and erosion in September 2014. The remnants of an intense Bering Sea storm moved into the Gulf of Alaska bringing heavy rain (10.61 inches) to Cordova causing flooding and minor erosion along the Copper River Highway and Eyak Lake Road. • Flood in September 2022. heavy rainfall increased river levels causing areas of minor flooding and lowland overflows in the area. Eyak Lake showed a rapid rise to minor flood stage, however impacts were limited to flooding along low lying areas and along low roadways. The Eyak Lake river gage crested at 4.81 feet. Portions of the Copper River Highway, connecting Cordova to the airport, had been washed away. According to the City, this event also resulted in a blocked culvert which flooded the roadways, closure of Power Creek Road, and water level in Eyak River covering the weir threatening homes. • Flood and erosion in December 2022. Orca Road was washed out due to storm surge, snowfall, and king tide.
Extent / Severity	The magnitude of flooding that is used as the standard for floodplain management in the United States is a flood with a probability of occurrence of 1 percent in any given year. This flood is also known as the 100-year flood (i.e., the base flood). The 100-year flood (1 percent annual chance flood) is identified on FEMA's Flood Insurance Rate Maps (FIRMs) as the Special Flood Hazard Area (SFHA), specifically flood zones A and V. As shown in Figure 7, the 2015 FIRM for the City of Cordova identifies 880.8 acres (2.1 percent) within the SFHA. Floods in these areas are generally considered riverine floods or flash floods and are typically caused by prolonged and/or excessive rainfall from storm events or are coastal floods due to extreme tides, storm surge, and overland wave effects due to a storm event. It is important to note that FIRMs do not factor in future impacts such as increased precipitation or sea level rise caused by climate change. The Denali Commission (2019) lists Cordova in Flood Group 2, defined by the threat of flood not being expected to detrimentally impact critical infrastructure in the near term, but the community still being vulnerable to the threat. Damages from flood could impact operability for a limited period but would not impact the community's sustainability.
Recurrence Probability	Flooding can occur at any time. According to NOAA, in southcentral Alaska, storm events that can cause riverine and flash flooding as well as coastal flooding are more frequent and more severe during El Niño years, which currently occur irregularly, but approximately every 2–7 years. Climate modeling shows that these storm events will continue to become more potent in a warming climate and lead to more extreme precipitation events.

4.1.7 Hazardous Materials

Table 4-7: Hazardous Materials

Profile	Description
Nature	Hazardous materials are substances that may have negative effects on health or the environment. Exposure to hazardous materials may cause injury, illness, or death. Effects may be felt over seconds, minutes, or hours (short term); or not emerge until days, weeks, or even years after exposure (long term). In addition, some substances are harmful after single exposures of short duration, while others require long episodes of exposure or repeated exposure over time to create harm. In addition to accidental, human-caused hazardous material events, natural phenomena may cause the release of hazardous materials and complicate response activities. Earthquakes pose a particular risk because they can damage or destroy facilities containing hazardous substances. The threat of any hazardous material event may be amplified by restricted access; reduced fire suppression and spill containment capability; and even complete cutoff of response personnel and equipment. Hazardous materials events or releases can also cause a host of secondary effects, depending on the nature and size of the incident. Hazardous materials that pose the greatest risk for causing catastrophic emergencies, as identified by the U.S. Environmental Protection Agency (EPA), are classified as Extremely Hazardous Substances (EHSs). Releases of EHSs and other hazardous substances can occur at facilities or during transport. • Ammonia is used as a refrigerant at commercial fishery facilities in the city of Cordova and is listed as an EHS by the EPA. Ammonia is a toxic gas under ambient conditions. Other types of hazardous materials discussed in this LHMP update include: • Noncrude oil includes refined or processed petroleum products such as aviation fuel, bilge oil, diesel, engine lube or gear oil, gasoline, hydraulic oil, propane, and other types of oils. • Lead is a persistent, bioaccumulative toxic metal that poses risks to human health and ecosystems.
Location	According to the Alaska Department of Environmental Conservation's Statewide Oil and Hazardous Substance Spills Database, the following locations are of concern for ammonia (EHS) spills in Cordova (Figure 8): • In the vicinity of Ocean Beauty Seafoods • In the vicinity of Trident Seafoods South and North Plants Also, according to the Alaska Department of Environmental Conservation, instances of noncrude oil spills have been reported related to air transportation (at the Cordova Airport), bulk fuel terminal (Shore Side Petroleum), at cannery / seafood processing (e.g. Ocean Beauty Seafoods and Trident Seafoods South and North Plants), at hatcheries, associated with the harbor, associated with power generation (e.g. Cordova Electric), mobile sources such as vehicles and vessels, and other locations where fuel such as diesel is used (e.g. maintenance shops associated with construction site such as the Shepard Point Oil Spill Response Facility). According to current and ongoing work, contaminated sites in Cordova related to former military facilities include at Miles 7, 13 (across from the Mudhole Smith Airport), and 14.

Profile	Description
History	The Exxon-Valdez Oil Spill in 1989 was the worst human-caused disaster in Alaska's history. According to the Alaska Department of Environmental Conservation's Statewide Oil and Hazardous Substance Spills Database, between 1995 and September 2025, there have been 196 instances of non-crude oil spills including motor oils, hydraulic oil, diesel, and other types of non-crude oil, with diesel spills constituting over 100 of those reported spills. According to the Alaska Department of Environmental Conservation, the following ammonia (EHS) spills have been recorded from 1995 to 2024. • June 2008: Ammonia spill at Trident Seafoods Cordova North • October 2009: Ammonia spill at Trident Seafoods Cordova South • June 2014: Ammonia spill at Ocean Beauty Seafoods • July 2014: Ammonia spill at Trident Seafoods North • August 2015: Ammonia spill at Trident Seafoods North • February 2018: Ammonia spill at Trident Seafoods South • October 2018: Ammonia spill at Trident Seafoods South • July 2020: Ammonia spill at Trident Seafoods South • July 2021: Three ammonia spills at Trident Seafoods South • July 2023: Ammonia spill at Trident Seafoods Corporation • August 2023: Ammonia leak at Ocean Beauty Seafoods
Extent / Severity	The Exxon Valdez spilled more than 11 million gallons of heavy crude oil. Response efforts did not arrive onsite until 14 hours after the spill, and it took another 21 hours to place booms around the oil. Ammonia spills from 2008 to 2023 range from less than 1 pound to 40 pounds. Spills of non-crude oil from 1995 to 2025 range from less than 1 gallon to nearly 3,000 pounds. According to an Initial investigation of contaminated sites in Cordova through the Native American Lands Environmental Mitigation Program, at least one identified location identified a buried vault and over 100 abandoned barrels. Further assessment is needed to assess the scope of contamination, which could be released in the event of a major flood.
Recurrence Probability	In the absence of major changes to operations, the City of Cordova may continue to experience a similar number of spills annually to recent patterns e.g. 0 to 2 ammonia spills and 6 to 16 non-crude oil spills occur annually, based on records from 2008 to 2023)

4.1.8 Landslide

Table 4-8: Landslide

Profile	Description
Nature	Landslide is a general term for the dislodging and fall of a mass of soil or rocks along a sloped surface or for the dislodged mass itself. The term is used for varying phenomena, including mudflows, mudslides, debris flows, rockfalls, rockslides, debris avalanches, debris slides, and slump-earth flows. Landslides may result from a wide range of combinations of natural rock, soil, or artificial fill. The susceptibility of hilly areas to landslides depends on variations in geology, topography, vegetation, and weather. Landslides may also occur because of indiscriminate development of sloping ground or the creation of cut-and-fill slopes in areas of unstable or inadequately stabilized geologic conditions. In southcentral Alaska, landslides range from small, shallow landslides that may mobilize into rapidly moving deadly debris flows to larger, deep-seated landslides that can move entire houses and infrastructure downslope. Cliff collapses and cliff erosion are also concerns along the coast and, more recently, debris flows from burned areas after wildfires.
Location	In 2024, the USGS prepared a Slope-Relief Threshold Landslide Susceptibility Model to show landslide-prone areas by analyzing large landslide inventories and digital elevation models (DEM) to identify susceptible terrain. Specifically, the USGS used 1/3 arc-second DEM to calculate slope and 100-m relief and landslides from the national landslide inventory compilation to compute aggregated susceptibility information. The nonlinear model shows the values of susceptibility from the number of susceptible 10-m cells within each 90-m cell after down-sampling from 0 (very low) to 81 (very high). As shown in Figure 9, areas of very high susceptibility for landslide hazard occur throughout Cordova, with the exception of facilities in the vicinity of the boat harbor. According to the community, there is a large, slow-moving landslide over Sheridan Lake.
History	Figure 10 shows documented landslides in Cordova based on the 2022 USGS landslide inventory including along Point Whitshed Road, New England Cannery Road, along the shore of Eyak Lake, and near Power Creek. While numerous landslides have occurred in Cordova, some notable landslides (causing damage or fatalities) include: • 1985: A landslide destroyed water lines between Heney Creek catchment basin and the city. • 2000: A series of landslides accompanied by severe winter storms and avalanches caused widespread damage. • 2001: A landslide in Cordova resulted in one fatality and property damage
Extent / Severity	The Slope-Relief Threshold Landslide Susceptibility Model shows that approximately 16,500 acres (39%) of Cordova are in a high and very high landslide susceptibility hazard area. Shallow landslides are generally less than 10–15 feet deep. When shallow landslides are sufficiently wet, they may move rapidly and can be highly mobile over long distances. Deep-seated landslides are hundreds to thousands of feet long or wide and only move fractions of an inch per year.
Recurrence Probability	Shallow landslides can occur at any time but are more likely to happen when the ground is nearly saturated, which typically occurs after the first few storms of the season. However, deep-seated landslides are generally triggered by deep infiltration of rainfall (which can take weeks or months to occur) and therefore tend to occur toward the end of the winter. Because shallow landslides, which are most frequent in Cordova, generally follow rain events, it is assumed that the probability of a future landslide event will be

Profile	Description
	highly tied to these events. Climate modeling shows that storm events will continue to become more potent in a warming climate and lead to more extreme precipitation events. NASA researchers have found that landslides move on average faster and farther downhill during these rainy periods compared to drought years. It can be assumed that, at minimum, the same areas that are vulnerable to landslides will likely remain vulnerable to landslides and potentially vulnerable to increased risk from faster and larger deep-seated landslide events. Landslides triggered by earthquakes are tied to the recurrence probability of the faults located in the vicinity of Cordova, as detailed in Section 4.1.4.

4.1.9 Severe Weather

Table 4-9: Severe Weather

Profile	Description
Nature	NOAA defines severe or hazardous weather as "conditions produced by thunderstorms, including damaging winds, tornadoes, large hail, flooding and flash flooding, and winter storms associated with freezing rain, sleet, snow and strong winds." Specifically, according to NOAA: • Thunderstorms become severe when they include hail one inch or greater, winds gusting in excess of 57.5 mph, and/or a tornado. • Damaging winds are classified as those exceeding 50-60 mph. • Flash floods occurs within 6 hours, and often within 3 hours, of the heavy rainfall. • Severe winter storms, also referred to as blizzards, contain large amounts of snow from snowfall or blowing snow, have winds in excess of 35 mph, and visibilities of less than ¼-mile for at least three hours. • Atmospheric rivers are long and narrow regions of intense water vapor transport
Location	Severe weather can affect all of the city of Cordova. The low lying and exposed shoreline is most vulnerable to storm surge caused by coastal storms.
History	According to NOAA's Storm Events Database, from January 1, 2000 to December 31, 2024, the following days of severe weather have been recorded in Cordova: • Winter Storm, Blizzard, High Winds: January, February, October and December 2000; January, February, August and November 2001; January 2005; February, August and September 2006; September 2009; November 2011; November 2021. • Atmospheric river event in September 2012 • Thunderstorm in June 2019
Extent / Severity	The majority of severe weather events in Cordova are winter storms, blizzards, and high wind events. These winter storm warnings are generally issued for heavy snow (1 to 2 inches per hour) and gale force winds (gust of up to 100 miles per hour). Severity of these events is compounded when storms are concurrent with one another, such as between November 2011 and January 2012 when Cordova received over 18 feet of snow.
Recurrence Probability	Based on historical occurrences, Cordova can expect to experience winter storm event days each year. However, climate models project that as temperatures increase, more rain will fall than snow and these extreme precipitation events are projected to increase in southcentral Alaska, including Cordova, by the end of the century.

4.1.10 Technological / Cyber Threat

Table 4-10: Technological/Cyber Threat

Profile	Description
Nature	FEMA defines technological hazards as those originating from technological or industrial accidents, infrastructure failures, or other human activities. Some examples include communications and/or computer database failure or power failure. Cybersecurity is the practice of protecting networks, devices, and data from unauthorized access or criminal use, ensuring confidentiality, integrity, and availability of information. This involves safeguarding critical infrastructure and key resources from cyber threats, which can include malicious attacks, human error, equipment failure, and natural hazards. Alaska's cybersecurity efforts are primarily managed by the Office of Information Technology and the Alaska Department of Commerce, Community, and Economic Development.
Location	Technological hazards may impact the entire city, such as disruptions to the internet or critical infrastructure, or could be more localized, such as public works facilities, utilities, oil and gas facilities, and transportation facilities.
History	The Alaska Division of Insurance requires entities to report cybersecurity events, but there are no public records available. According to Alaska Public Media, there have been two known incidents of cyberattacks in Alaska in the past decade: • 2018: A cyber attack of the Matanuska-Susitna Borough and Valdez brought down servers, phone systems, and computers. • 2021: Multiple incidents of cyber attacks were reported to the Alaska Court System and Department of Health and Social Services. • 2025: Data breach of Anchorage Neighborhood Health Center
Extent / Severity	Models are available for estimating the effects of a technological hazard or cybersecurity threat, including the area affected and consequences to population, resources, and infrastructure. However, due to the large number of factors involved, including the various causes of failure from malicious to accidental, the extent of a future technological hazard is unknown.
Recurrence Probability	Based on the National Planning Scenarios (2006) which included cyber attack as one of 15 "credible" scenarios, it is anticipated that technology hazards and associated cyber attacks will remain a high threat in the city for the foreseeable future.

4.1.11 Tsunami

Table 4-11: Tsunami

Profile	Description
Nature	A tsunami is a series of traveling ocean waves of extremely long length, generated by disturbances associated primarily with earthquakes occurring below or near the ocean floor. Subduction zone earthquakes at plate boundaries often cause tsunamis. However, tsunamis can also be generated by underwater landslides or volcanic eruptions, the collapse of volcanic edifices, and—in very rare instances—large meteorite impacts in the ocean. In the deep ocean, a tsunami may have a length from wave crest to wave crest of 100 miles or more, but a wave height of only a few feet or less. Therefore, the wave period can be up to several hours and wavelengths can exceed several hundred miles. Tsunamis are unlike typical wind-generated swells on the ocean, which might have about 10 seconds and a wavelength of up to 300 feet. Tsunamis cannot be felt aboard ships, and they cannot be seen from the air or the open ocean. In deep water, the waves may reach speeds exceeding 700 miles per hour. Tsunamis arrive as a series of successive crests (high water levels) and troughs (low water levels). These successive crests and troughs can occur anywhere from 5 to 90 minutes apart; however, they usually occur 10 to 45 minutes apart. Tsunamis not only affect beaches that are open to the ocean, but also bay mouths, tidal flats, and the shores of large coastal rivers. Tsunami waves can also diffract around land masses. Because tsunamis are asymmetrical, the waves may be much stronger in one direction than another, depending on the nature of the source and the surrounding geography. However, tsunamis propagate outward from their source, so coasts in the shadow of affected land masses are safer. In Alaska, tsunami waves are usually generated by nearby landslides or tectonic events, but can also be generated from distant sources. Most tsunami damage and destruction are caused by flooding, wave impacts, erosion, strong currents, and floating debris.
Location	The Alaska Division of Geological & Geophysical Surveys (DGGS) prepared a tsunami inundation map for Cordova in 2014 which was updated in 2022. The tsunami inundation zone for all tectonic and landslide scenarios modeled for Cordova is shown on Figure 11 including along Orca Inlet as well as near the outlet of Eyak Lake close to the Copper River Highway. According to the DGGS (2014), the closest possible submarine landslide source to Cordova is the delta of the Rude River at the head of Nelson Bay; however, little is known about its potential volume and geometry. The water body connecting Nelson Bay to the city of Cordova is rather shallow, from which researchers at DGGS speculated that most of the wave energy would be directed through the deep channel (the Narrows) toward Orca Bay. However, some dissipated waves might reach Cordova. Modeling of tsunamis generated by rockfall, avalanche, and/or landslides has not been completed in Cordova due to insufficient data on the locations and volumes of these potential hazards (DGGS 2014). In Prince William Sound, a tsunami simulation of the possible Barry Arm landslide simulating the propagation of energy throughout Prince William Sound indicates most of the energy dissipating out of the Wells Passage with the potential for dangerous currents in Cordova (Dai et al. 2020).
History	The Global Historical Tsunami Database shows that from 1800-2025 there have been 85 tsunami events in Alaska. The largest tsunami event to originate in Alaska occurred on

Profile	Description
	March 28, 1964. This event was caused by a M 9.2 earthquake and landslide with an unknown maximum water height. More locally, the Global Historically Tsunami Database (1800-2025) notes one event that originated in southcentral Alaska including: • February 23, 1925 event, which was caused by a M6 earthquake with a tsunami runup recorded at Valdez attributed to a quake-induced landslide.
Extent / Severity	According to DGGS (2022), modeled scenarios from tectonic and landslide tsunami areas are most concentrated around the harbor breakwaters, and more widespread inundation across the low-lying areas of the Copper River Delta. A total of 1,942 acres (5%) of Cordova is in a maximum tsunami inundation area.
Recurrence Probability	While the likelihood of a large tsunami to occur in and/or strike southcentral Alaska, including Cordova, would be hard to predict, recent geological studies led by a USGS scientist indicate that indicate that the recurrence interval for large tsunamis generated in the eastern Aleutians ranges from 164 to 257 years. The earthquakes originating in this area are generated by megathrust earthquakes and have historically had devastating consequences for coastal communities around the Pacific Ocean, including Cordova.

4.1.12 Volcano

Table 4-12: Volcano

Profile	Description
Nature	A volcano is a vent or opening in the earth's crust from which molten lava (magma), pyroclastic materials, and volcanic gases are expelled onto the surface. The vent may be visible as a small bowl-shaped depression at the summit of a cone or shield-shaped mountain. Through a series of cracks within and beneath the volcano, the vent connects to one or more linked storage areas of molten or partially molten rock. There are four general volcano types: • Lava domes, which are formed when lava erupts and accumulates near the vent. • Cinder cones, which are shaped and formed by cinders, ash, and other fragmented material accumulations that originate from an eruption. • Shield volcanoes, which are broad, gently sloping volcanic cones with a flat dome shape that usually encompass several tens or hundreds of square miles, built from overlapping and inter-fingering basaltic lava flows. • Composite or stratovolcanoes, which are typically steep-sided large dimensional symmetrical cones built from alternating lava, volcanic ash, cinder, and block layers; most composite volcanoes have a crater at the summit containing a central vent or a clustered group of vents. There are three types of volcanic eruptions, described below. Some volcanoes may exhibit only one type of eruption during an event, while others may display an entire sequence of all three types in one event. • Magmatic eruptions are the most well-observed eruptions. Magmatic eruptions produce juvenile clasts (composed fragments) during explosive decompression from gas releases. Magnetic eruption subtypes include: Hawaiian, Strombolian, Vulcanian, Peléan, and Plinian. • Phreatomagmatic eruptions are volcanic eruptions resulting from the interaction between magma and water. Grain deposits from phreatomagmatic explosion involving high water to magma ratios are extremely fine-grained and distinctly poorly sorted, while deposits resulting from low water to magma ratios are commonly coarse and relatively well-sorted. Phreatomagmatic eruption subtypes include: Surtseyan, Submarine, and Subglacial. • Phreatic eruptions are steam-blast eruptions. These eruptions occur when cold ground or surface water come into contact with hot rock or magma. Phreatic eruptions blast out steam, water, ash, volcanic bombs, and volcanic blocks, but no new magma. The term tephra defines all pieces of all fragments of rock ejected into the air by an erupting volcano. Most tephra falls back onto the slopes of the volcano, enlarging it. Smaller and lighter pieces less than 2 millimeter diameter (less than one tenth of an inch), termed ash, are carried by winds for thousands of miles. Other hazards potentially caused by a volcanic eruption include: • Volcanic ashfall • Lava flows • Lahars (debris flows) • Volcanic gas • Pyroclastic surges or flows • Volcanic landslides

Profile	Description
Location	According to the Alaska Volcano Observatory, the closest active volcanoes to Cordova include the following: • Mount Wrangell, 116 miles north and east of Cordova • Mount Spurr, 225 miles west and north of Cordova. Mount Spurr is the northernmost volcano in the Aleutian Arc, with a 200-mile region of no active volcanos known as the Denali Volcanic Gap between it and volcanic features near Buzzard Creek. This region lies over the subduction zone between the Pacific and North American plates. • Mount Redoubt, 238 miles west of Cordova • Novarupta, 367 miles south and east of Cordova • Mount Edgecumbe, 432 miles south and east of Cordova
History	Alaska Volcano Observatory lists the most recent volcanic eruptions or activity for the closest volcanoes to Cordova: • 1912: Novarupta (eruption), followed by remobilized ash from strong winds in 1949, 2014, 2015, 2017, 2020, and 2021 • 2009: Mount Redoubt (eruption), followed by remobilized ash in 2019 • 1930: Mount Wrangell (eruption) • 1992: Mount Spurr (eruption) • 2022: Mount Edgecumbe (earthquake swarm)
Extent / Severity	Volcanic eruptions vary in extent and severity based on the location, duration, and strength of the volcanic activity. The 1912 eruption of Novarupta lasted 60 hours and nearby communities experienced darkness and suffocating conditions, while ash was carried by winds eastward across the continent. In 1992, the Mount Spurr eruptions released pyroclastic flow which mixed with snow and ice to become debris flows that temporarily dammed the Chakachatna River. Ash plume from this eruption fell in neighboring communities. Volcanic eruptions in Alaska have created fragmented rock flows, lava flows, landslides, and mudflows; falling ash and drifting clouds of fine volcanic ash that has caused severe damage to both the built and natural environment hundreds of miles from the eruption location; and volcanic deposits which have created new landforms. Eruptions can last weeks or longer. Cordova lies in a low-moderate volcanic ash hazard area (Figure 12).
Recurrence Probability	The probability of trace amounts of ashfall (1/32 inch) coming from a distant eruption that could impact the Cordova either directly (from damages and health issues of the ash) or indirectly (from disruptions in air travel and supply delivery) is approximately once per year (or, equal to the overall probability of a volcanic eruption occurring in Alaska).

4.1.13 Wildfire

Table 4-13: Wildfire

Profile	Description
Nature	A wildfire, forest fire, wildland fire, or a bushfire is an unplanned and uncontrolled fire in an area of flammable vegetation. type of fire often begins unnoticed, spreads quickly, and is usually signaled by dense smoke that may be visible from miles away. Wildfires can be caused by human activities (e.g., unattended burns, campfires, or off-road vehicles without spark-arresting mufflers) or by natural events such as lightning. Wildfires often occur in forests or other highly vegetated areas. In addition, wildfires can be classified as forest, urban, interface or intermix, and prescribed burns. Topography, fuel, and weather contribute significantly to wildfire behavior and can be used to identify wildfire hazard areas: • Topography describes slope increases, which influence wildfire spread rate increases. South facing slopes are subject to more solar radiation than slopes facing other directions, so south-facing slopes tend to be drier and thereby intensify wildfire behavior. However, ridge tops may mark the end of wildfire spread because fire spreads more slowly (or may even be unable to spread) downhill. • Fuel refers to the type and condition of vegetation; fuel plays a significant role in wildfire spread. Certain plant types are more susceptible to burning or will burn with greater intensity. Dense or overgrown vegetation increases the amount of combustible material available as fire fuel (referred to as the "fuel load"). The living-to-dead plant matter ratio is also important. Certain climate changes may increase wildfire risk significantly during prolonged drought periods because the moisture content of both living and dead plant matter decreases. Both the horizontal and vertical fuel load continuity are also important factors. • Weather is the most variable factor affecting wildfire behavior. Temperature, humidity, wind, and lightning can affect ignition opportunities and fire spread rate. Extreme weather (such as high temperatures, offshore "Diablo wind" events, and low humidity) can lead to extreme wildfire activity. Climate change increases the susceptibility of vegetation to ignition due to longer dry seasons. By contrast, cooling temperatures and higher humidities often signal reduced wildfire occurrence and easier containment. Wildfire frequency and severity sometimes result from other hazard impacts such as drought and infestations. If not promptly controlled, wildfires may grow into an emergency or disaster. Even small fires can threaten lives and resources and destroy improved properties. In addition to affecting people, wildfires may severely affect livestock and pets. Such events may require emergency water/food, evacuation, and shelter. Indirect wildfire effects can be catastrophic. In addition to stripping the land of vegetation and destroying forest resources, large, intense fires can harm the soil, waterways, and the land itself. Soil exposed to intense heat may lose its capability to absorb moisture and support life. Exposed soils erode quickly and exacerbate river and stream siltation, thereby increasing flood potential, harming aquatic life, and degrading water quality. Vegetation-stripped lands are also more susceptible to increased debris flow hazards.

Profile	Description
Location	A Wildfire Exposure Assessment tool was created by the University of Alberta and in 2024 was modified by the University of Alaska for Alaska. This tool identifies the likelihood for potential wildfire activity to get to and impact a particular location. The tool calculates wildfire exposure through a flammability hazard rating and focal statistics (structure buffer) based on a scale of 0-100. Figure 13 shows the wildfire exposure area in Cordova ranging from low and very low to high and extreme near the airport.
History	According to the Alaska Wildland Fire Information Map, the following fires occurred within 100 miles of Cordova: • 1948: near the Crystalline Hills, approximately 100 miles east of Cordova • 1999: near Valdez, approximately 45 miles northwest of Cordova • 2009: approximately 100 miles east of Cordova • 2016: approximately 100 miles east of Cordova • 2016: near Copper River, approximately 50 miles north of Cordova
Extent / Severity	According to the Wildfire Exposure Assessment tool, 1,584 acres (4%) of Cordova is at risk to high/extreme wildfire exposure. The United States Forest Service (USFS) notes that the majority of these fires in Cordova Alaska are low-intensity ground fires that while severe, are typically small.
Recurrence Probability	As noted in the USFS's 2017 Fire Regime Synthesis, "fire regimes in coastal Alaska are strongly climate-driven and are therefore potentially susceptible to climate changes" including increasing temperatures, changing moisture relationships, and changing storm patterns. The synthesis goes onto state that Canadian wildfire modeling forecasts the number of days with active fire spread to likely increase by 35% to 400% by 2050, with the largest proportional increase occurring in coastal and temperate forests, such as those that exists in Southcentral Alaska. In addition, similar modeling projects that southeast Alaska will transition from low to high probability of fire by 2040.

4.2 OVERALL SUMMARY OF VULNERABILITY

A vulnerability analysis evaluates the potential vulnerability of person or a "place" against a broad range of identified hazards, helping identify what is at risk and why. For the 2026 LHMP, a hazard overlay analysis was conducted to show people and places within a hazard area.

Hazards included in this analysis are identified in Section 4.1 and include the highest hazard areas for each of these hazards, as follows in Table 4-15.

Table 4-15: Highest Hazard Areas

Hazard	Hazard Area
Avalanche	Areas that are near potential snow release areas
Climate Change	Areas that may experience climate change
Drought	Areas that may experience drought
Earthquake	Areas that may experience severe / violent ground shaking
Erosion	Areas within 100 feet of shoreline where erosion currently occurs
Flood	Areas within the SFHA
Hazardous Materials	Areas within 200 feet of source for immediate isolation and within 0.3 miles for evacuation
Landslide	Areas with high - very high landslide susceptibility
Severe Weather	Areas that may experience severe weather
Technological / Cyber Threat	Areas that may be impacted by technological / cyber threats
Tsunami	Areas within the maximum inundation extent
Volcano	Areas that may be impacted by low to moderate volcanic ash and tephra fall
Wildfire	Areas with high to extreme wildfire exposure

People and places considered in this analysis are identified in Sections 3 and include land area, population center, and critical facilities, and summarized in Table 4-16. The overall results of this vulnerability analysis are shown in Tables 4-17 through 4-19.

Table 4-16: Total Land Area, Population Center and Critical Facilities

Category	Number
Land Area	41,833.39 acres
Population Center	1,227.50 acres
Critical Facilities	59 facilities

Table 4-17: Total Acres of Land in a Hazard Area

Hazard Area	Acres	Percent of Total Acres
Avalanche	884.87	2.12
Climate Change	41,833.39	100
Drought -Severe/Extreme	41,833.39	100
Earthquake -Severe/Violent	41,833.39	100
Erosion	81.85	0.20
Flood - SFHA	880.84	2.11
Hazardous Materials		
Immediate Isolation Distance (200 feet)	8.12	0.02
Recommended Evacuation Distance (0.3 miles)	226.11	0.54
Landslide Susceptibility - High/Very High	16,478.76	39.39
Severe Weather	41,833.39	100
Technological/Cyber Threat	41,833.39	100
Tsunami	1,942.66	4.64
Volcanic Ash and Tephra Fall- Low-Moderate/Moderate	41,833.39	100
Wildfire Exposure – High-Extreme	1,584.56	3.79

Table 4-18: Total Number of Acres of Population Center in a Hazard Area

Hazard Area	Acres	Percent of Total Acres
Avalanche	0	0
Climate Change	1,227.50	100
Drought - Severe/Extreme	1,227.50	100
Earthquake -Severe/Violent	1,227.50	100
Erosion	8.76	0.71
Flood - SFHA	183.49	14.95
Hazardous Materials		
Immediate Isolation Distance (200 ft)	8.12	0.66
Recommended Evacuation Distance (0.3 mi)	196.15	15.98
Landslide Susceptibility -High to Very High	430.20	35.05
Severe Weather	1,227.50	100
Technological/Cyber Threat	1,227.50	100
Tsunami	344.75	28.09

Hazard Area	Acres	Percent of Total Acres
Volcanic Ash and Tephra Fall - Low-Moderate and Moderate	1,227.50	100
Wildfire Exposure – High to Extreme	77.00	6.27

Table 4-19: Total Number of Critical Facilities in a Hazard Area

Hazard Area	Number	Percent of Total Facilities
Avalanche	0	0
Climate Change	59	100
Drought - Severe/Extreme	59	100
Earthquake - Severe/Violent Ground Shaking	59	100
Erosion	2	3
Flood - SFHA	8	14
Hazardous Materials -Recommended Evacuation Distance	14	24
Landslide Susceptibility - High -Very High	21	36
Severe Weather	59	100
Technological/Cyber Threat	59	100
Tsunami – Maximum Inundation Extent	18	31
Volcanic Ash and Tephra Fall - Low-Moderate	59	100
Wildfire Exposure -High/Extreme Exposure	43	73

4.3 HAZARD IMPACT

A list of the key issues, or overall summary of hazard impact, for each hazard profiled in the 2026 LHMP is provided in Table 4-20.

Table 4-20: Overall Summary of Hazard Impact

Hazard	Assets	Impact Summary
Avalanche	Land Area	Avalanches are a serious threat in Cordova localized in certain areas of steep slopes outside the main population center. Avalanches can have significant impacts, including human fatalities, property damage, and disruption of transportation, utilities, and communication. Avalanches can block the Copper River Highway, the only road to the airport and landfill. In 2000, large avalanches resulted in one fatality, $1 million in damage, and declaration of a disaster emergency.
	Population Center	While the main population center is not at risk from avalanches, the impacts to the population center are associated with blocked transportation routes, including access to critical facilities, or damages to communications facilities that are in areas of steep slopes. One area of concern is Shepard Point, the future location of an oil spill response center, where there are six known avalanche chutes.

Hazard	Assets	Impact Summary
	Critical Facilities	While no critical facilities are located in snow release areas, avalanches may damage critical facilities related to communications facilities and access to critical facilities such as the Humpback Creek Power Plant, Power Creek Power Plant, airport and landfill.
Climate Change	Land Area	All of Cordova is vulnerable to the effects of climate change, including rising temperatures and extreme heat, severe moisture deficit/drought, sea level rise, coastal erosion, extreme precipitation and flooding, warmer temperatures resulting in rain-on-snow events triggering avalanches, and wildfires. Climate change impacts to the natural environment include: changes to surface water temperatures which could impact the fishing industry, shifts in species abundance and distribution impacting subsistence food gathering and potential for invasive species, early peak streamflow / early snowmelt pack that could cause severe ecological changes to the coastal temperate coastal rainforest ecosystems; flooding that could cause land loss, landscape and watercourse alteration, soil erosion and sediment deposition, saltwater intrusion, and contamination of sensitive habitats; higher temperatures that could cause habitat loss and fragmentation to species that inhabit those areas; and wildfires that could cause disturbances such as forest degradation and destruction.
	Population Center	All of Cordova population is vulnerable to the effects climate change. The population is expected to be impacted by climate change through impacts to the economy, including fishing and tourism industries, as well as through reliability of services such as water and utilities. More variability in precipitation might increase extreme precipitation resulting in stress and potentially exceeding capacity of the City's stormwater system. Drier, hotter conditions will also make wildfires more frequent and intense. Wildfires can burn the built environment; interrupt transportation and utilities; reduce air quality; and cause death to people and animals. The population center along the coast will likely be impacted by increased and more intense coastal storm flooding and sea level rise. Flooding may result in property damage and property loss; reduced property values; reduced recreational areas and open space; loss of access/disrupted transportation; displacement; secondary hazards such as landslides, mudslides, and chemical spills; and water-related health impacts. Effects from climate change can even result in trauma, injuries, or even death.
	Critical Facilities	All of Cordova's critical facilities are vulnerable to the effects of climate change. Of particular concern to the city of Cordova's critical facilities is the impact of climate change influenced temperature increases and melting glacier water from the Sheridan Glacier, which would exacerbate Sheridan River flooding and erosion, potentially restricting the city's access to the landfill.

Hazard	Assets	Impact Summary
Drought	Land Area	All of Cordova is vulnerable to drought, despite its location in a region known for wet and rainy conditions. Droughts can have significant impacts including water supply for drinking water and for fishing industry, forest health impacts and associated wildfire risk and reduction in subsistence food items, reduction in tourism and recreation, and salmon mortality or stress during spawning from low flow and corresponding high water temperature. According to the U.S. Drought Monitor, in 2019 the drought impacted salmon abundance and mushroom collecting near Cordova, including cancellation of some events of the 2019 Fungus Festival. Drought conditions may coincide with warmer temperatures, creating conditions of both lower humidity and high temperatures which increase the risk of wildfires. Long-term drought impacts forest and ecosystem health and may make them more vulnerable to invasive plant species and forest pest species.
	Population Center	Of particular concern to the population center are the impacts of drought to the water supply related to both drinking water and water used for seafood processing. Drought also impacts hydroelectric power generation due to lower lake levels. The population center may experience outages or water use restrictions, as well as increased air quality concerns from use of generators as back-up power sources.
	Critical Facilities	All current and future critical facilities and infrastructure are vulnerable to drought. During periods of drought, the City may have to prioritize water usage for critical facilities over commerce and parks and recreation. Also, critical facilities linked to the water systems and hydroelectric power generation may not be operational during periods of low water levels.
Earthquake	Land Area	All of Cordova is vulnerable to violent to extreme ground shaking. Earthquakes may cause ground movement and ground displacement, changes to water courses, and additional impacts from secondary hazards including ground rupture, landslides, tsunamis, liquefaction, fire, and chemical spills.
	Population Center	All of Cordova's population center is vulnerable to severe ground shaking, particularly older buildings and of lower physical quality as well as well-built ordinary buildings. In addition to property damage and property loss reduced property values, loss of access/disrupted transportation, and displacement from severe ground shaking, the population center may also be impacted by secondary hazards such as landslides, chemical spills, and fires. Violent to extreme ground shaking can even result in trauma, injuries, or even death.
	Critical Facilities	All of Cordova's critical facilities are vulnerable to violent to extreme perceived shaking. Violent to extreme shaking may cause considerable damage to specially designed critical facilities and well-built ordinary buildings. In addition, these stronger earthquakes could trigger landslides, chemical spills, and fires that may cause damage or loss of access to critical facilities.

Hazard	Assets	Impact Summary
Erosion	Land Area	Riverine erosion along the Eyak River and coastal erosion along the shoreline are both concerns for the city of Cordova. Impacts from the 2006 storm events in Cordova represent the potential impacts of a major storm event with erosion damage. According to the U.S. Army Corps of Engineers, estimated damage from the 2006 events totaled $100,000 for water lines, $100,000 for city roads, and $10 million for hydroelectric facilities. Another concern is the risk associated with eroded salmon habitat, though the potential impact has not been quantified.
	Population Center	Erosion may impact the fishing and tourism industries with damages to the boat harbor and other coastal facilities.
	Critical Facilities	Critical facilities in Cordova vulnerable to erosion include the Meals Water Treatment Plant and the Science Center Lift Station. Coastal erosion may also impact the harbor and other critical facilities located along the shoreline. Both coastal and riverine erosion can undermine roads and restrict access to critical facilities.
Flood	Land Area	The FIRM for the Cordova identifies 880 acres (2 %) within the SFHA. This hazard area is vulnerable to flooding causing by flooding caused by intense or prolonged rainfall, storm surge, localized wave action, and/or high tide. Flooding may cause land loss, landscape and watercourse alteration, soil erosion and sediment deposition, saltwater intrusion, contamination of sensitive habitats, and lead to closure of public lands. In addition, floods can cause secondary hazards including landslides and mudslides.
	Population Center	The FIRM for Cordova identifies 183 acres (15%) of the population center within the SFHA. Flood impacts to the population center may include utility disruption, property damage and property loss, reduced property values, reduced recreational areas and open space, loss of access/disrupted transportation, and displacement. Floods can result in trauma, injuries, or even death.
	Critical Facilities	Critical facilities located in the SFHA include the Coast Guard Boat Station, Eyak Lake weir, Ferry Terminal, the harbor, the City T Dock, Ocean Dock, and two lift stations (Eyak and Murcheson). Floods may cause loss of utilities, overwhelm wastewater systems and stormwater systems, damage water equipment and structures, cause significant erosion and wash out roads and culverts, and lead to secondary hazards including landslides and mudslides. In addition, damage or limited access from floods to and from these facilities and infrastructure as well as throughout the City may impede public services and public safety

Hazard	Assets	Impact Summary
Hazardous Materials	Land Area	Exposure to hazardous materials may cause injury, illness, or death. Effects may be felt over seconds, minutes, or hours (short term); or not emerge until days, weeks, or even years after exposure (long term). In addition, some substances are harmful after single exposures of short duration, while others require long episodes of exposure or repeated exposure over time to create harm. Hazardous materials release of ammonia is a higher risk in localized areas around seafood processing centers and including people who work at those locations. Oil spills are also a concern around the shoreline and in the Prince William Sound.
	Population Center	The fishing and tourism industries would be impacted by ammonia or oil spills in Prince William Sound through disruption of operations, evacuations, and possible injury or illness. Legacy buried contaminated sites may impact human health and safety, or could impact fish or other food sources.
	Critical Facilities	Evacuation orders resulting from a major spill of ammonia may impact critical facilities located within 0.3 mile radius including the Cordova Center, Coast Guard Boat Station, School District Office, Illanka Community Health Center, Mt. Eccles Elementary School, Cordova Jr / Sr High School. Cordova Telephone Coop Main Building, Harbor, Innovative Learning Program, Maintenance Shop, Public Safety Building (Fire / EMS / Police / AST), SERVS Response Equipment (Mini Barges), SERVS Response Equipment (Other Equipment) and City T Dock. Ammonia has high toxicity and flammability can lead to severe safety hazards in critical facilities, particularly in confined spaces, in proximity to ignition sources, or when combined with a fuel leak. Of particular concern is the Shoreside Petroleum tank farm (privately owned) located within 300 feet of the Cordova Center, and the potential for the high flammability of ammonia potentially interacting with a fuel spill.
Landslide	Land Area	Nearly half (40%) of Cordova is in a high-very high landslide susceptibility area. Landslides can cause land loss, landscape and watercourse alteration, soil erosion and sediment deposition, and contamination of land use designations. These impacts can result in short-term and long-term closure of public lands.
	Population Center	Over a third (35%) of Cordova's population center is in a high-very high landslide susceptibility area. Landslides may cause loss of access to the critical facilities, loss of critical facilities or compromised critical facility performance, structural damage, economic loss, and secondary hazards including landslides and mudslides. In addition, damage or limited access to and from these facilities as well as throughout Cordova may impede public services and public safety.

Hazard	Assets	Impact Summary
	Critical Facilities	There are 21 critical facilities in high or very high landslide susceptibility areas including the 1.5 MG Tank and Booster Pump Station, Alphine Booster Pump Station, Cordova Center and nearby Shoreside Petroleum, CTC Subsea Cable Landing (future), Eyak Filter Settling pond, Murcheson Lift Station, Power Creek Power Plant, Ski Hill Booster Pump Station, WWTP Dewatering and Auxiliary Treatment building, WWTP Shop Building, CTC Heney Ridge Microwave Site. Heney Creek Catchment, Meals CT Water Tank, Meals Water Treatment Plant, Morpac Lift Station, Morpac Tank, Murcheson Catchment, Murcheson CT Water Tank, Orca Catchment, Orca Water Treatment Plant, and Tripod Hill Cell Towers. Landslide impacts to critical facilities may include critical facility disruption, critical facility damage and loss, and loss of access/disrupted transportation. In addition, damage or limited access from landslides to and from these critical facilities as well as throughout Cordova may impede public services and public safety.
Severe Weather	Land Area	The majority of severe weather events in Cordova are winter storms, blizzards, and high wind events, and all of Cordova is vulnerable to this hazard. Winter storm impacts on the natural environment may include damage to trees and vegetation from heavy accumulation of snow and/or ice and flooding due to heavy rainfall, rapid snowmelt, and log jams.
	Population Center	All of Cordova's population center is vulnerable to severe weather and particularly so to winter storms. Winter storm impacts on the built environment may include utility disruption, property damage and property loss (specifically roof damage due to heavy accumulation of snow and/or downed trees), loss of access/disrupted transportation, and displacement. People in winter storms may be more vulnerable to vehicular accidents, hypothermia, frostbite, carbon monoxide poisoning, and heart attacks from overexertion.
	Critical Facilities	All of Cordova's critical facilities are vulnerable to severe weather. As noted above, the greatest severe weather event in Cordova are winter storms, blizzards, and high wind events. Winter storm impacts to critical facilities may include critical facility disruption, critical facility damage and loss (specifically roof damage due to heavy accumulation of snow and/or downed trees), and loss of access/disrupted transportation. In addition, damage or limited access from winter storms and other severe weather to and from these critical facilities as well as throughout Cordova may impede public services and public safety.
Technological / Cyber Threat	Land Area	All of the city of Cordova is vulnerable to the effects of technological failure and cyber threat. The land area may experience communications disruptions, power outages, water and wastewater treatment disruptions, transportation impacts, and economic concerns, reduced access to emergency response, fire, or other services. Impacts may be minor, localized and temporary or more severe situations may be catastrophic. Injury, property damage, loss of lives, privacy issues, financial losses, emotional stress and other hardships may be caused by technological failure and cyber threat.

Hazard	Assets	Impact Summary
	Population Center	Technological disruptions can impact the population center by reducing or limiting communications; causing public health and safety issues for failures of emergency dispatch service and traffic signals; and disrupting electricity generation and distribution. These in turn can impact schools, hospitals, City operations, transportation facilities such as airports, and major economic centers such as seafood processing plants.
	Critical Facilities	Critical facilities that rely on computer systems or those that can be impacted by disruptions of communications are vulnerable to cyber threats and technological hazards. Cyber attacks on critical facilities that serve the community for medical and emergency response needs could pose significant impacts to the community if services are unavailable for a period of time. Critical facilities related to transportation also would have a significant impact with the potential to limit the community's ability to access critical services. Temporary disruptions to critical facilities providing commercial and public services (including food, utilities, water, government) could result in health impacts, emotional stress, and other hardships.
Tsunami	Land Area	Approximately 5% of Cordova is in a maximum tsunami inundation extent. Tsunami inundation may cause land loss, landscape and watercourse alteration, soil erosion and sediment deposition, saltwater intrusion, and contamination of land use designations. These impacts can result in short-term and long-term closure of public lands too.
	Population Center	In Cordova, less than a third of the population center is in a maximum tsunami inundation extent. Tsunami impacts may include utility disruption, property damage and property loss, reduced property values, reduced recreational areas and open space, loss of access/disrupted transportation, and displacement. Tsunamis can also cause water-related health issues and result in trauma, injuries, or even death.

Hazard	Assets	Impact Summary
	Critical Facilities	There are 18 critical facilities in Cordova that are in the maximum tsunami inundation extent including the Cordova Center and nearby Shoreside Petroleum, CTC Subsea Cable Landing (future), WWTP Dewatering and Auxiliary Treatment building, WWTP Shop Building, Public Works Streets Shop / Equipment Yard, Wastewater Treatment Plant, WWTP Office Building, Whiskey Ridge Lift Station, Morpac Lift Station, Ferry Dock Lift Station, Odiak Slough Lift Station, Orca Power Generation Plant, Public Safety Building (Fire / EMS / Police / AST), Science Center Lift Station, SERVS Response Equipment (Mini Barges), SERVS Response Equipment (Other Equipment), City T Dock, and Ocean Dock. Tsunamis may cause loss of access to the critical facilities, loss of critical facilities or compromised critical facility performance, structural damage, and economic loss. In addition, damage or limited access to and from these facilities and infrastructure as well as throughout the Cordova may impede public services and public safety. Damage to facilities that are essential for receiving goods and services, such as docks and other shipping-related infrastructure, would result in food shortages and other hardships. Additionally, and of particular concern is the Shoreside Petroleum tank farm (privately owned) located within the tsunami inundation area which could be damaged from flooding, with associated secondary hazard of chemical spill and contamination possible.
Volcano	Land Area	While volcanoes that are being tracked by scientists as active are generally located a considerable distance away (over 100 miles), impacts to the city of Cordova could still be significant due to even low-moderate/moderate ashfall from a distant volcanic event. Ashfall can cause respiratory problems, eye problems, and skin irritation. The area may experience transportation interruptions, impacts to commercial fishing and tourism, mass casualties of fish and sea birds, water supply contamination, and photovoltaic energy production disruptions.
	Population Center	In the population center, ashfall can cause respiratory problems, eye problems, and skin irritation. The population center could experience transportation interruptions, impacts to commercial fishing and tourism, mass casualties of fish and sea birds, water supply contamination, and photovoltaic energy production disruptions.
	Critical Facilities	Critical facilities of particular concern include those associated with Cordova's road, air, and maritime travel. Previous eruptions of volcanoes in Alaska, such as the 1992 eruption of Mount Spurr, resulted in flight cancellations. Ash can severely damage a vehicle's engine and exterior and can create hazardous conditions on roads. Another major concern is the impact of ash on the critical facilities associated with the city's water supply and water treatment operations with increased contamination and stress on treatment systems.

Hazard	Assets	Impact Summary
Wildfire	Land Area	In Cordova, 4% of the total land area is located within an area of high or extreme wildfire exposure. Without mitigation or preparation efforts, the impacts of a wildland fire in Cordova could grow into an emergency or disaster in certain conditions. Wildfire can cause subsistence food losses, alter habitat, transform landscapes, compromise water quality, introduce invasive species, and damage ecosystems. Secondary hazards can include erosion, flooding, and landslides. All of these impacts can result in short-term and long-term closure of public lands.
	Population Center	Though only a small portion of the area of the population center (6%) is in an area of high or extreme wildfire exposure. Wildfire impacts may include utility disruption, property damage and property loss, reduced property values, reduced recreational areas and open space, loss of access/disrupted transportation, displacement, and secondary hazards including landslides and mudslides. Wildfires can cause smoke-related health issues and result in trauma, injuries, or even death.
	Critical Facilities	Though the proportion of the land area in high or extreme wildfire exposure areas are relatively low (4%), there are many critical facilities in those high and extreme exposure areas (75% of critical facilities). Wildfires may cause loss of access, loss of utilities or compromised utility performance, structural damage, economic loss, and secondary hazards including landslides and mudslides. In addition, damage or limited access from wildfires to and from these facilities and infrastructure as well as throughout the city may impede public services and public safety. Wildfire ash and contaminants can threaten drinking water.

4.4 NATIONAL FLOOD INSURANCE PROGRAM INSURED STRUCTURES

The NFIP aims to reduce the impact of flooding on residential and nonresidential buildings by providing insurance to property owners and encouraging communities to adopt and enforce floodplain management regulations. Participation in the NFIP is based on an agreement between local communities and the Federal Government. According to FEMA Region X, there are seven NFIP-insured structures in Cordova. Of these, none are considered Repetitive Loss properties.

5.0 MITIGATION STRATEGY

This section addresses Element C of the Local Mitigation Plan Regulation Checklist.

Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans
Element C: Mitigation Strategy
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))
C1-a. Does the plan describe how the existing capabilities of each participant are available to support the mitigation strategy? Does this include a discussion of the existing building codes and land use and development ordinances or regulations?
C1-b. Does the plan describe each participant's ability to expand and improve the identified capabilities to achieve mitigation?
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)(ii))
C2-a. Does the plan contain a narrative description or a table/list of their participation activities?
C3. Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i))
C3.-a. Does the plan include goals to reduce the risk from the hazards identified in the plan?
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))
C4-a. Does the plan include an analysis of a comprehensive range of actions/projects that each jurisdiction considered to reduce the impacts of hazards identified in the risk assessment?
C4-b. Does the plan include one or more action(s) per jurisdiction for each of the hazards as identified within the plan's risk assessment?
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))
C5-a. Does the plan describe the criteria used for prioritizing actions?
C5-b. Does the plan provide the position, office, department, or agency responsible for implementing/administrating the identified mitigation actions, as well as potential funding sources and expected time frame?

5.1 AUTHORITIES, POLICIES, PROGRAMS, AND RESOURCES

Cordova's existing authorities, policies, programs, and resources available for hazard mitigation are provided in Table 5-1 (human and technical resources), Table 5-2 (financial resources), and Table 5-3 (planning and policy resources). The ways in which the City of Cordova is looking to expand and improve on its hazard mitigation authorities, policies, programs, and resources are provided in Table 5-4.

Table 5-1: Human and Technical Resources for Hazard Mitigation

Government or Department	Principal Activities Related to Hazard Mitigation
Public Works	The City of Cordova Public Works Department oversees maintenance operations and responds to emergencies and disasters that have the potential for adverse impacts to public health or the environment.
Planning	The City of Cordova's Planning and Zoning Commission provides guidance for land use development, long range planning, housing, and environmental policies. The commission is also responsible for processing permit and entitlement applications to ensure conformance with applicable code and regulations and often oversees the implementation of historic preservation programs. Enforces its floodplain requirements through the floodplain management program.
City Manager	The City Manager Department is responsible for overseeing municipal departments, financial management resources, business license administration, payroll and personnel administration, risk management, records management, and overall coordination of municipal activities. City Manager is also responsible for following the guidelines set within the City of Cordova Emergency Operations Plan (EOP) and communicating with City Council transparently.
Volunteer Fire	The Cordova Volunteer Fire Department provides local response and relief activities and works closely with local, state, and federal partners to support planning and training and to provide information and coordinate assistance.
Harbor	The Cordova Harbor Department is responsible for setting policies and procedures that impact the City's small boat harbor, launch ramp, commercial loading facilities, fee schedule, and all tidelands and waterfront properties under lease. The harbormaster, who leads the department, oversees the day-to-day operations and enforcement of harbor rules and regulations.
Communications / Grants	The Public Information Offices and Grant Writer is responsible for press releases, media inquiries, and public information dissemination per the request of the Incident Commander. Public information may also be managed by the Mayor and/or the City Manager and/or a dedicated team for communication and information management.

Table 5-2: Financial Resources for Hazard Mitigation

Government Department / Agency	Resource Type	Principal Activities Related to Hazard Mitigation
City of Cordova	General Fund	The General Fund is the City's primary fund for resource inflows and outflows that are not associated with special purpose funds.
City of Cordova	Enterprise Fund	The Enterprise Fund manages services that are funded through user fees such as water and sewer, harbor operations, refuse, and camper parks.
Alaska Energy Authority	Renewable Energy Fund	The Renewable Energy Fund 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 2026, the Alaska Energy Authority has awarded 6 projects for over $6 million in total funding.
Alaska DOT&PF	Capital Budget	Alaska DOT&PF includes a Capital Budget for projects related to surface transportation, airport improvement program, marine highway annual overhauls, rural ferry grants, as well as state funded match for federal programs. In Cordova the DOT&PF was awarded funds from the U.S. Department of Transportation's Maritime Administration through the Port Infrastructure Development Program for upgrades to the ferry terminal.
FEMA	Emergency Management Performance Grant	The Emergency Management Performance Grant provides financial assistance for local, tribal, and state entities to develop and strengthen their emergency management capabilities and all-hazards preparedness activities. In 2024, national priorities for Emergency Management Performance Grant included equity, climate resilience, and readiness.
FEMA	Hazard Mitigation Assistance (HMA) Grants	The HMA grant program provides technical and financial assistance to help mitigate hazards through the following grants: Hazard Mitigation Grant Program (HMGP): HMGP is a pass-through grant program that supports pre- and post-disaster mitigation plans and projects for state and local agencies and federally recognized tribal governments. HMGP funding is authorized with a Presidential Major Disaster Declaration. A governor or tribal chief executive may request HMGP funding when submitting a disaster declaration. The amount of funding made available to the applicant is generally 15% of the total federal assistance amount provided for recovery from the Presidential Major Disaster Declaration. HMGP Post Fire: HMGP Post Fire is a pass-through grant program that provides funding for state and local agencies and federally recognized tribal governments to reduce wildfire risks. Funded projects include (but are not limited to) defensible space initiatives, ignition-resistant construction, hazardous fuels reduction, erosion control measures, slope failure prevention measures, and flash flooding prevention. HMGP Post Fire grants are available to eligible states and territories that receive Fire Management Assistance declarations

Government Department / Agency	Resource Type	Principal Activities Related to Hazard Mitigation
		and to federally recognized tribal governments that have land burned within a designated area. A Post Fire Presidential Disaster Declaration is not required to activate funding. Funding amounts are determined by FEMA and are based on a national aggregate calculation of historical Fire Management Assistance Grant declarations over the past 10 years.
Denali Commission	Village Infrastructure Protection Program	In partnership with the Alaska Native Tribal Health Consortium, the Denali Commission established the Center for Environmentally Threatened Communities, which supports rural Alaska communities experiencing infrastructure impacts resulting from flooding, erosion, and melting permafrost. Since 2017, staff have worked with 22 communities to address environmental threats and achieve their vision of a safe, healthy, and sustainable future. Their two areas of focus are to 1) secure funding by working closely with communities so they can replace damaged community infrastructure, move homes and community buildings, develop new subdivisions, gain a better understanding of risk, and advance long-term planning, and 2) help to build community capacity to respond to threats by providing grant training and technical assistance.
NOAA	Climate Resilience Regional Challenge	NOAA's Climate Resilience Regional Challenge is a competitive grant program focused on collaborative projects that "increase the resilience of coastal communities to extreme weather and other climate change impacts, including sea level rise and drought." Projects must consider risk reduction, regional collaboration, equity and inclusion, and enduring capacity.
NOAA	National Coastal Resilience Fund (NCRF)	The NCRF is a direct annual competitive grant program that supports the implementation of nature-based solutions to enhance the resilience of coastal communities and ecosystems by reducing the "threats from coastal hazards (such as rising sea- and lake-levels, more intense storms, increasing flooding and erosion, and melting permafrost) to property and key assets, such as hospitals and evacuation routes." The NCRF funds nature-based solutions including restoring coastal marshes, reconnecting floodplains, rebuilding dunes or other natural buffers, and installing living shorelines. NCRF grants are available to state and local agencies and federally recognized Tribal governments within the coastal areas of the U.S.
U.S. Department of Housing and Urban Development	Community Development Block Grant	Although limited, Community Development Block Grant funds may be used to advance certain adaptation projects or programs, particularly those within a neighborhood revitalization strategy area or serving disadvantaged residents. Following a federal disaster declaration, additional Community Development Block Grant funds generally become available for a wider variety of recovery projects.
U.S. Economic Development Administration	Economic Adjustment, Disaster	The U.S. Economic Development Administration provides funding through three primary funding programs. These are focused on overcoming economic changes, disaster recovery, and public works that advance economic development goals in the region's adopted comprehensive economic development strategy.

Government Department / Agency	Resource Type	Principal Activities Related to Hazard Mitigation
	Recovery, and Public Works Programs	
EPA	Water Infrastructure Finance and Innovation Act of 2014 (WIFIA) Loans	WIFIA established a federal credit program administered by the EPA for eligible water and wastewater infrastructure projects. Eligible projects include aquifer recharge; alternative water supply; and drought prevention, reduction, or mitigation, among others. Eligible borrowers include local, state, and tribal government entities; projects must be creditworthy and have a dedicated source of revenue; and the maximum portion of project costs that WIFIA can fund is 49%.
U.S. Fish and Wildlife Service	National Coastal Wetlands Conservation Grants Program	The National Coastal Wetlands Conservation Grants Program is an annual grant program that provides up to $1 million per project in coastal and Great Lakes states, as well as U.S. territories to "protect, restore and enhance coastal wetland ecosystems and associated uplands." Eligible projects include the acquisition of real property interest in coastal lands or waters and the restoration, enhancement, or management of coastal wetlands ecosystems.

Table 5-3: Planning, Policy, Program, Public Outreach, and Shelters for Hazard Mitigation

Type	Name	Principal Activities Related to Hazard Mitigation
Planning	City of Cordova Comprehensive Plan Update (2019)	This plan describes Cordova's hazards and lists goals and policies to reduce the potential risk of death, injuries, and economic damage resulting from natural and human-caused hazards
	City of Cordova Emergency Operations Plan (2024)	This plan describes the organizational structures, roles, and responsibilities; protocols for providing emergency response and short-term recovery; the purpose, situation, and assumptions; concept of operations, organization, assignment of responsibilities, and plan development and maintenance; authorities; and references. The Cordova Emergency Operations Plan includes Annex E. Evacuation and Shelter in Place to provide details regarding sheltering and evacuations.
	Cordova Priority Climate Action Plan (2024)	This plan focuses on reducing greenhouse gas emissions in the electricity generation, solid waste, and blue economy sectors by leveraging this planning phase to develop impactful community projects.

Type	Name	Principal Activities Related to Hazard Mitigation
	Cordova Airport Emergency Plan (2011)	This plan is intended to assist DOT&PF and mutual aid personnel in coordinating an effective response to an airport emergency.
Policy	City of Cordova Municipal Code	The municipal code establishes laws and rules that control land development; land use; and building type, size, material, and location within a designated area. Title 18 Zoning: Identifies permitted uses in certain zoning districts. Title 18.35 Avalanche District: Zoning overlay to identify areas where avalanche potential is found to exist and to minimize health and safety hazards. Chapter 16 Building Code: Regulates building standards to withstand hazard impacts. Title 19 Environment: Promotes the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed. Title 19.04 Floodplain Management: The City participates in the NFIP, which requires the City to enforce floodplain management regulations
Program	Capital Improvement Program	This program identifies, prioritizes, budgets, and coordinates major projects for a community over a specific timeframe.
	TsunamiReady Program	This program implements mitigation, preparedness, and response activities as outlined in the TsunamiReady guidelines to improve public safety before, during, and after tsunami emergencies.
	National Flood Insurance Program	The NFIP aims to reduce the impact of flooding on residential and non-residential buildings by providing insurance to property owners and encouraging communities to adopt and enforce floodplain management regulations. Participation in the NFIP is based on an agreement between local communities and the federal government.
Public Outreach	Public Communications	The City of Cordova uses an email list serve, the City website, and a Facebook page to provide outreach to the community on relevant events, activities, and planning processes happening in the city.
Shelter	Emergency Evacuation	The City of Cordova uses Mt. Eccles Elementary School as an emergency evacuation location.

Table 5-4: Ability to Expand Hazard Mitigation Resources

Name	Resource Type	Principal Activities Related to Hazard Mitigation
Mitigation Specialist	Human and Technical Resources	Appoint or assign someone with the City to oversee hazard mitigation grant opportunities, including notifying departments/agencies of upcoming grant cycles and spearheading Notice of Intent applications, grant applications, and grant management requirements.
HMA funding	Financial Resources	Apply for BRIC and HMGP funding as it becomes available. The focus should be on projects that mitigate critical infrastructure, provide protection for disadvantaged areas, and address climate change.
Comprehensive Climate Action Plan	Planning, Policy, Program, and Public Outreach	Collaborate with the NVE to expand on the 2024 Priority Climate Action Plan and develop a Comprehensive Climate Action Plan. This plan would target greenhouse gas reduction in a more comprehensive way including potentially risk reduction strategies.

5.2 NATIONAL FLOOD INSURANCE PROGRAM PARTICIPATION

The NFIP aims to reduce the impact of flooding on residential and nonresidential buildings by providing insurance to property owners and encouraging communities to adopt and enforce floodplain management regulations. Participation in the NFIP is based on an agreement between local communities and the federal government.

As noted previously, the City of Cordova joined the NFIP in August 1979. As a participant of the NFIP, the City enforces a floodplain management ordinance and participates in FEMA's Community Assisted Visits, which occur on a 3- to 5-year cycle. The City updated their floodplain regulations in 2015 and in 2023 to be in compliance with the NFIP and maintains regulations in Municipal Code 19.04 Floodplain Management.

5.3 MITIGATION GOALS

Mitigation goals are defined as general guidelines that explain what an agency wants to achieve in terms of hazard mitigation and loss prevention. Goal statements are typically long-range, policy-oriented statements representing a community-wide vision. FEMA's 2022 BRIC priorities are the basis for the goals for the 2026 LHMP.

1. Safety. Create a healthy and safe community.
2. Adaptation. Reduce the vulnerability of structures, critical infrastructure, and other values at risk to minimize losses and damage from hazard events and disasters.
3. Resilience. Increase the resilience of the environment to environmental shifts anticipated from climate change through innovative and long-term actions.
4. Collaboration. Provide an effective framework for partners and agencies to collaborate, leverage expertise, and prioritize projects on a regularly established schedule.
5. Action. Implement and track the 2026 LHMP to leverage successes for funding opportunities and resources.

5.4 DRAFT MITIGATION ACTIONS

Mitigation actions—also known as mitigation projects—are strategies that help achieve the goals of an LHMP. Mitigation actions can include structure and infrastructure projects, nature-based solutions, and community resiliency projects and programs. Table 5-5 lists the potential mitigation actions developed for the 2026 LHMP, which were developed using FEMA success stories and best management practices; FEMA job aids; local and regional plans and reports; and input from planning team members.

As shown in Table 5-5, at least one mitigation action has been developed to address each hazard profiled in this plan. The actions are not listed in any order. Detailed information about each action, including an overview of the project, the hazards and goals it addresses, the type of asset it protects, the associated benefits and costs, and project source(s) are provided in Table C-2.

Table 5-5: Summary of Draft Mitigation Actions

No.	Project Name	Hazard Mitigated
1	Cordova Center Backup Generator	All
2	Update City Emergency Plans	All
3	Cordova's Mapping System Updates	All
4	Public Awareness	All
5	Complete Communications Trailor	All
6	Community Resiliency Hubs	All
7	Update and Expand Communications	All
8	Heavy Equipment for Snow/Debris Removal	Avalanche, Earthquake, Flood, Landslide, Severe Weather, Tsunami
9	Debris Management Plan	Avalanche, Earthquake, Flood, Landslide, Severe Weather, Tsunami
10	Avalanche Mapping	Avalanche
11	Avalanche Events Record-Keeping	Avalanche
12	Sheridan Glacier and Sheridan River Studies	Climate Change. Erosion, Flood
13	Repair, Replace, and Maintain Storm Drain Systems	Climate Change, Erosion, Flood, Severe Weather
14	Cordova Water and Sewer Master Plan Update	Drought, Flood
15	Water System Vulnerabilities	Drought
16	Building Inspectors	Earthquake
17	Engineering Assessment of Earthquake Vulnerability	Earthquake
18	Assess and Retrofit Buildings	Earthquake, Climate Change, Severe Weather

No.	Project Name	Hazard Mitigated
19	Encourage Community Partners in Preparation Activities	Earthquake, Tsunami
20	Stabilize Break Water Avenue	Erosion, Severe Weather, Tsunami
21	Power Creek Road Slope Stabilization and Repairs	Erosion, Landslide
22	Setbacks for New Structures	Erosion, Flood
23	Erosion Study for Station 2	Erosion, Flood
24	Six-Mile Subdivision Drainage System	Flood
25	Continue to Comply with NFIP and Facilitate FIRM Updates	Flood
26	Hospital Flood Proofing	Flood
27	Complete Watershed Mapping	Flood
28	Structure Elevation and/or Relocation	Flood, Tsunami
29	Update and Replace Existing Streamflow and Rainfall Gauges	Flood
30	Funding for Riverbank Protection	Flood
31	Conditional Ownership and Management of Eyak Lake Weir	Flood
32	Meals Lake Dam Repairs	Flood, Drought
33	Identify and Organize Local Resources	Hazardous Materials, Technological / Cyber Threat, Tsunami
34	Hazardous Material and Cyber Security Trainings	Hazardous Materials, Technological / Cyber Threat
35	Hazardous Material Drills and Exercises	Hazardous Materials
36	Update Fuel Tanks	Severe Weather, Flood, Tsunami
37	Fire and Emergency Service Vehicles, Training, and Equipment	Wildfire
38	Water Supply Improvements	Wildfire
39	Critical Facility Hardening	Wildfire
40	Water Usage and Filtration Limits	Volcano
41	Ash Masks	Volcano

5.5 FINAL ACTION PLAN

A final action plan is an itemized list of draft mitigation actions that a community/agency hopes to put into practice to reduce its risks and vulnerabilities. Cost estimates were based on past experience and best judgment, including benefits of losses avoided and qualitative benefits such as quality of life and natural and beneficial functions of ecosystems.

For the 2026 LHMP, the planning team created a two-tier prioritization process based on the following:

- High priority mitigation actions are those that address multiple hazards or single hazards of immediate concern and are also cost-effective (positive cost-benefit ratio) and have an identified funding source.
- Medium mitigation actions are those that address single hazards that are not of immediate concern and/or those that are of immediate concern but are not cost effective or do not have an identified funding source.

The City of Cordova determined hazards of immediate concern include avalanche, climate change, drought, earthquake, erosion, flood, landslide, and severe weather.

The results of the above prioritization process are provided in Table 5-6. For each mitigation action listed, potential funding sources, responsible departments or agencies, and implementation timelines have been identified.

Table 5-6: Final Action Plan

No.	Project Name	Hazard	Priority	Potential Funding Source	Responsibility	Timing
1	Cordova Center Backup Generator	All	High	State/Federal Grants	Public Works	>1 year
2	Update City Emergency Plans	All	High	City General Fund	City Manager / City Planning	>1 year
3	Cordova's Mapping System Updates	All	High	City General Fund	Public Works / City Planning	Ongoing
4	Public Awareness	All	High	City General Fund	City Manager / Public Communications / Grants	Ongoing
5	Complete Communications Trailor	All	High	City General Fund	Public Works / Fire	Ongoing
6	Community Resiliency Hub(s)	All	Medium	City General Fund	City Manager	>5 years
7	Update and Expand Communications	All	High	State/Federal Grants	City Manager / Public Works / Fire	>1 year
8	Heavy Equipment for Snow/Debris Removal	Avalanche, Earthquake, Flood Landslide, Severe Weather, Tsunami	High	City General Fund	Public Works	>1 year
9	Debris Management Plan	Avalanche, Earthquake, Flood, Landslide, Severe Weather, Tsunami	High	City General Fund	Public Works	>1 year

No.	Project Name	Hazard	Priority	Potential Funding Source	Responsibility	Timing
10	Avalanche Mapping	Avalanche	Medium	State/Local Funding, Membership	Cordova Avalanche Center	Ongoing
11	Avalanche Events Record-Keeping	Avalanche	Medium	State/Local Funding, Membership	Cordova Avalanche Center	Ongoing
12	Sheridan Glacier and Sheridan River Studies	Climate Change	Medium	State/Federal Grants	Public Works	>5 years
13	Repair, Replace, and Maintain Storm Drain Systems	Climate Change, Erosion, Flood Severe Weather	High	City General Fund	Public Works	>1 year
14	Cordova Water and Sewer Master Plan Update	Drought, Flood	High	City Enterprise Fund	Public Works	>1 year
15	Water System Vulnerabilities	Drought	High	City Enterprise Fund	Public Works	>5 years
16	Building Inspectors	Earthquake	High	City General Fund	Public Works	>1 year
17	Engineering Assessment of Earthquake Vulnerability	Earthquake	Medium	State/Federal Grants	Public Works	>5 years
18	Assess and Retrofit Buildings	Earthquake, Climate Change, Severe Weather	Medium	State/Federal Grants	Public Works	>5 years
19	Encourage Community Partners in Preparation Activities	Earthquake, Tsunami	High	City General Fund	Emergency Manager, Public Works	Ongoing
20	Stabilize Break Water Avenue	Erosion	High	City Enterprise Fund	Public Works	>1 year
21	Power Creek Road Slope Stabilization and Repairs	Erosion, Landslide	High	State/Federal Grants	AK DOT&PF	>1 year

No.	Project Name	Hazard	Priority	Potential Funding Source	Responsibility	Timing
22	Setbacks for New Structures	Erosion, Flood	High	City General Fund	City Planning	>1 year
23	Erosion Study for Station 2	Erosion, Flood	High	City General Fund	City Planning	<1 year
24	Six-Mile Subdivision Drainage System	Flood	High	City General Fund	City Planning	>1 year
25	Continue to Comply with NFIP and Facilitate FIRM Updates	Flood	Medium	City General Fund	Public Works	Ongoing
26	Hospital Flood Proofing	Flood	High	State/Federal Grants	Public Works	>1 year
27	Complete Watershed Mapping	Flood	Medium	State/Federal Grants	Public Works	>5 years
28	Structure Elevation and/or Relocation	Flood, Tsunami	Medium	State/Federal Grants	City Planning	>1 year
29	Update and Replace Existing Streamflow and Rainfall Gauges	Flood	Medium	City Enterprise Funds	Public Works	Ongoing
30	Funding for Riverbank Protection	Flood	Medium	City General Fund	City Manager / Public Communications / Grants	>1 year
31	Conditional Ownership and Management of Eyak Lake Weir	Flood	Medium	City Enterprise Funds	Public Works	>5 years
32	Meals Lake Dam Repair	Flood, Drought	High	City Enterprise Funds	Public Works	>5 years
33	Identify and Organize Local Resources	Hazardous Materials, Technological / Cyber	Medium	City General Fund	Emergency Manager	Ongoing

No.	Project Name	Hazard	Priority	Potential Funding Source	Responsibility	Timing
		Threat, Tsunami				
34	Hazardous Material and Cyber Security Trainings	Hazardous Materials, Technological / Cyber Threat	Medium	City General Fund	Emergency Manager	Ongoing
35	Hazardous Material Drills and Exercises	Hazardous Materials	High	City General Fund	Emergency Manager	Ongoing
36	Update Fuel Tanks	Severe Weather, Flood, Tsunami	High	City General Fund	Public Works	>1 year
37	Fire and Emergency Service Vehicles, Training, and Equipment	Wildfire	High	City General Fund	Fire Chief	>1 year
38	Water Supply Improvements	Wildfire	Medium	City Enterprise Funds, State/Federal Grants	Public Works, Fire Chief	>5 years
39.	Critical Facility Hardening	Wildfire	High	City General Funds	Public Works	>1 year
40	Water Usage and Filtration Limits	Volcano	Medium	State/Federal Grants	Public Works	>5 years
41	Ash Masks	Volcano, Hazardous Materials	Medium	State/Federal Grants	Emergency Manager	>1 year

6.0 PLAN MAINTENANCE

This section addresses Element D of the Local Mitigation Plan Regulation Checklist.

Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans
Element D: Plan Maintenance
D1. Is there discussion of how each community will continue public participation in the plan maintenance process? (Requirement 44 CFR § 201.6(c)(4)(iii))
D1-a. Does the plan describe how communities will continue to seek future public participation after the plan has been approved?
D2. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a five-year cycle)? (Requirement 44 CFR § 201.6(c)(4)(i))
D2-a. Does the plan describe the process that will be followed to track the progress/status of the mitigation actions identified within the Mitigation Strategy, along with when this process will occur and who will be responsible for the process?
D2-b. Does the plan describe the process that will be followed to evaluate the plan for effectiveness? This process must identify the criteria that will be used to evaluate the information in the plan, along with when this process will occur and who will be responsible
D2-c. Does the plan describe the process that will be followed to update the plan, along with when this process will occur and who will be responsible for the process?
D3. Does the plan describe a process by which each community will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement 44 CFR § 201.6(c)(4)(ii))
D3-a. Does the plan describe the process the community will follow to integrate the ideas, information, and strategy of the mitigation plan into other planning mechanisms?
D3-b. Does the plan identify the planning mechanisms for each plan participant into which the ideas, information, and strategy from the mitigation plan may be integrated?
D3-c. For multi-jurisdictional plans, does the plan describe each participant's individual process for integrating information from the mitigation strategy into their identified planning mechanisms?

6.1 CONTINUED PUBLIC PARTICIPATION

A copy of the 2026 LHMP will remain available at the City of Cordova's city office and the State of Alaska Division of Community and Regional Affairs online community planning library, along with contact information. The mayor and/or the city administrator will use the community's Facebook page to notify the public of, and seek input on, any changes or updates to the 2026 LHMP, including the final action plan and the 2031 LHMP kickoff.

6.2 PLAN EVALUATION PROCESS, UPDATE METHOD AND SCHEDULE

To ensure project implementation, plan integration, and overall document relevance, the project manager (Public Works Director) will administer an annual plan review system with the help of the steering committee. Specifically, every January (2027, 2028, 2029, and 2030), the project manager will send out an Annual Review Tracker (Appendix D) to the steering committee and ask each member to complete the tracker, which documents disasters that have occurred; community assets that have been damaged; public outreach that has been conducted; mitigation actions that have been implemented (and mitigation goals that each action addresses, as identified in Appendix

C); new and/or updated studies, reports, and maps that have been published; and changes that have been made and/or that need to be made to the current or future LHMP. The project manager will collate and summarize the findings and distribute them to the steering committee.

In addition to the Annual Review Tracker, the project manager will collect any FEMA Mitigation Progress Reports (or other similar forms) from the previous year. The project manager will email these documents to each member of the steering committee for review. The project manager will subsequently hold a steering committee meeting in the first quarter of each year to determine, based on the findings from the Annual Review Tracker and FEMA Mitigation Progress Reports, if the actions undertaken the previous year (and the goals that they address, as identified in Appendix C) are helping achieve the plan's mitigation goals.

Finally, on the fourth year of the annual review, the project manager will kick off the 2031 LHMP in the summer of 2030 with the following activities:

- The project manager will reconvene the steering committee and update membership.
- The steering committee will review the summarized Annual Review Tracker findings to determine the hazards, community assets, and other related information to be included in the 2031 LHMP.
- The project manager will develop a new work plan.
- The project manager—with support from the steering committee—will begin the plan update process in mid-2030. The plan update process is expected to take up to 6 months.

The 2026 LHMP will be monitored, evaluated, and updated by the LHMP project manager; specifically, the Public Works Director. Should the 2026 LHMP project manager no longer be involved with the LHMP, the mayor will select a new project manager to oversee the annual reviews and plan update.

The LHMP project manager will get input from specific planning team members as needed. The LHMP project manager will complete the Annual Review Tracker every January and after any major disaster to ensure that the 2026 LHMP is relevant and effective in achieving the plan's goals. Annual review will be tracked in a table in this document (Appendix D). FEMA-funded mitigation projects will continue to be tracked and reviewed using FEMA Mitigation Progress Report forms; progress summaries will be included in the Annual Review Tracker (Table 6-1) at the beginning of each year.

Four years after the 2026 LHMP's adoption:

- The mayor and city administrator or designee will complete the Annual Review Tracker.
- The mayor and city administrator or designee will reconvene the planning team and update membership, if necessary.
- The mayor and city administrator or designee will review Table 6-1, which provides annual summaries of the disasters that have occurred; new permanent information that becomes available; implementation measures; and public outreach and response to determine the hazards to be included in the next LHMP.
- The mayor and city administrator or designee will develop a new work plan.
- The mayor and city administrator or designee—with support from the planning team—will begin the plan update process, which is expected to take up to 6 months.

Table 6-1: Annual Review Tracker Summary

Year	Disasters that Occurred	Mitigation Actions Implemented	New Relevant Studies/Reports to Include in the 2026 LHMP	Public Outreach Conducted	Changes Made to the 2026 LHMP
2027					
2028					
2029					
2030					

6.3 PLAN INTEGRATION

Information about how the 2026 LHMP will be integrated into the City of Cordova's relevant plans and programs moving forward is provided in Table 6-2.

Table 6-2: Integration of the 2026 LHMP

LHMP Section	Existing Plan/Policy/Program	Process/Timeframe
Section 4 – Risk Assessment	Comprehensive Plan	Incorporate GIS mapping of hazard areas, setbacks, and other studies identifying or refining the City's understating of hazards and risks into the updates to the City's Comprehensive Plan.
Section 5 – Mitigation Strategy	Comprehensive Plan	Incorporate the mitigation actions provided in Table 5-6 into planning for the update of the Comprehensive Plan and continue studying and evaluating the underlying problems potential solutions. Begin the design stage to develop a plan for each identified project, the actions to be taken, engineering and construction required, schedule, and estimated costs.

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7.0 PLAN UPDATE

This section addresses Element E of the Local Mitigation Plan Regulation Checklist.

Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans
Element E: Plan Review, Evaluation and Implementation
E1. Was the plan revised to reflect changes in development? (Requirement 44 CFR § 201.6(d)(3))
E2. Was the plan revised to reflect changes in priorities and progress in local mitigation efforts? (Requirement 44 CFR § 201.6(d)(3))
E2-a. Does the plan describe how it was revised due to changes in community priorities?
E2-b. Does the plan include a status update for all mitigation actions identified in the previous mitigation plan?
E2-c. Does the plan describe how jurisdictions integrated the mitigation plan, when appropriate, into other planning mechanisms?

7.1 CHANGES IN DEVELOPMENT

The 2026 LHMP was updated to reflect the following changes that affect development:

- Six-Mile Subdivision which is located on Eyak Drive in a known area with high risk for flooding, very high landslide susceptibility, and within the tsunami hazard area.
- Construction starting on oil spill response facility at Shepard Point which is located in a known landslide and avalanche hazard area.

7.2 CHANGES IN PRIORITIES

According to FEMA, changes in a community's priorities do not always directly relate to how a plan prioritizes mitigation actions but could include new or modified goals for the plan and new hazards in the plan. There were several changes in priorities made to the 2026 LHMP, including the following:

- Including drought as a new hazard, which is increasing in Cordova as climate change continues to increase average temperatures and increase precipitation variability.
- Amending the prioritization from the 2018 LHMP to give priority toward strategies that have the potential to address multiple hazards.
- Mitigation goals were updated and consolidated into all-hazard goals for consistency and to reflect the change in planning priorities.

7.3 PROGRESS IN LOCAL MITIGATION EFFORTS

The City of Cordova reviewed its 2018 LHMP's mitigation strategy and documented progress made toward each local mitigation effort, provided in Table 7-1. Mitigation actions that had not yet been implemented were considered for the 2026 LHMP (Table 5-5).

Table 7-1: Progress in Local Mitigation Efforts

Action #	Action	Status
FLD-1	Six-Mile Subdivision Drainage System	Ongoing; mitigation action revised and included in 2026 LHMP
FLD-2	Alternative Water Source to Six-Mile Subdivision	Deferred; mitigation action included in the 2026 LHMP
FLD-3	Letter or Map Revision for FIRMs	Completed in 2015; mitigation action revised and included in 2026 LHMP
FLD-4	Design and Construct Flood Proofing for Hospital	Deferred; mitigation action included in the 2026 LHMP
FLD-5	Heney Creek Waterline Replacement	Deferred; mitigation action revised and included in the 2026 LHMP
FLD-6	Power Creek Waterline Repair and/or Replacement	Deferred; mitigation action revised and included in the 2026 LHMP
FLD-7	Identify Drainage Patterns and Develop a Comprehensive Drainage System	Deferred; mitigation action revised and included in the 2026 LHMP
FLD-8	Structure Elevation and/or Relocation	Ongoing; mitigation action included in the 2026 LHMP
FLD-9	Take Steps to Update FIRM Cordova Maps	Ongoing; mitigation action revised and included in the 2026 LHMP
FLD-10	Public Information	Ongoing; mitigation action revised and included in the 2026 LHMP
FLD-11	Install new stream flow and rainfall measuring gauges	Complete; mitigation action revised and included in the 2026 LHMP
FLD-12	Apply for grants/funds to implement riverbank protection methods.	Deferred; mitigation action included in the 2026 LHMP
FLD-13	Investigate obtaining a community rating system to lower flood insurance rates.	Deferred; mitigation action revised and included in the 2026 LHMP
FLD-14	Continue to obtain flood insurance for all City structures and continue compliance with NFIP.	Deferred; mitigation action revised and included in the 2026 LHMP
FLD-15	Require that all new structures in the Flood Zone be constructed according to NFIP requirements and set back from river shoreline to lessen future erosion concerns and costs.	Ongoing; mitigation action revised and included in the 2026 LHMP

Action #	Action	Status
FLD-16	Take steps toward Mapping the Six-Mile Subdivision.	Completed in December 2015
FLD-17	Provide adequate storm drain and systems, ditches, surface hardening, and other resources to control erosion caused by floods.	Ongoing; mitigation action revised and included in the 2026 LHMP
SW-1	Research and consider instituting the National Weather Service program of "Storm Ready."	Complete; mitigation action revised and included in the 2026 LHMP
SW-2	Conduct special awareness activities such as Winter Weather Awareness Fair, Flood Awareness Week, etc.	Ongoing; mitigation action revised and included in the 2026 LHMP
SW-3	Expand public awareness about NOAA Weather Radio for continuous weather broadcasts and warning tone alert capability.	Ongoing; mitigation action revised and included in the 2026 LHMP
SW-4	Encourage weather-resistant building construction materials and practices.	Complete; building codes updated in 2025
SW-5	Evaluate current heavy equipment for show/debris and other needs created by severe weather conditions.	Deferred; mitigation action revised and included in the 2026 LHMP
SW-6	Perform Storm Drain Analysis. Provide solutions and efficiencies for potential flood relief and drainage of low areas.	Ongoing; mitigation action revised and included in the 2026 LHMP
WF-1	Continue to support the fire department with adequate firefighting equipment and training.	Ongoing; mitigation action revised and included in the 2026 LHMP
WF-2	Promote education of building design, siting, and materials for construction.	Complete; building codes updated in 2025
WF-3	Enhance public awareness of potential risk to life and personal property. Encourage mitigation measures in the immediate vicinity of their property.	Ongoing; mitigation action revised and included in the 2026 LHMP
E-1	If funding is available, perform an engineering assessment of the earthquake vulnerability of each identified critical infrastructure owned by the City of Cordova.	Complete
E-2	Identify buildings and facilities that must be able to remain operable during and following and earthquake event.	Complete
E-3	Contract a structural engineering firm to assess the identified buildings and facilities to determine their structural integrity and strategy to improve their earthquake resistance. Retrofit or upgrade critical structures as recommended by Structural Engineer.	Deferred; mitigation action revised and included in the 2026 LHMP

Action #	Action	Status
E-4	Continue to educate all City employees and citizens with regards to earthquake preparedness, particularly with regards to the current EOP, Incident Command Structure, Cordova Continuity of Operations Plan (COOP), and personal Responder READY courses.	Ongoing; mitigation action revised and included in the 2026 LHMP
T/S-1	Continue Participation in the Tsunami Awareness Program.	Ongoing
T/S-2	Finish TsunamiReady Community Designation	Complete
T/S-3	Inundation Mapping.	Complete
T/S-4	Continue Using the Emergency Operations Plan in exercises regarding natural hazards including tsunami danger.	Ongoing; mitigation action revised and included in the 2026 LHMP
T/S-5	The Police / Jail / Fire Station / Alaska State Troopers building is located in the tsunami inundation area. This building needs to be relocated.	Ongoing; mitigation action revised and included in the 2026 LHMP
T/S-6	Improve “high ground” parking areas for tsunami evacuations.	Deferred; mitigation action revised and included in the 2026 LHMP
T/S-7	Evaluate heavy equipment and other equipment needed to remove debris.	Deferred; mitigation action revised and included in the 2026 LHMP
A/L-1	Prohibit new construction in avalanche zones.	Complete for specific area; mitigation action revised and included in the 2026 LHMP
A/L-2	Utilize appropriate methods of structural avalanche control.	Complete
A/L-3	Enact buyout of homes in avalanche paths.	Complete
A/L-4	Prohibit removal of vegetation in areas prone to landslides.	Deferred; mitigation action included in the 2026 LHMP
A/L-5	Install warning signage in mapped landslide zones.	Ongoing; mitigation action revised and included in the 2026 LHMP
A/L-6	Continue to educate public, specifically back country users, about avalanche and landslide hazards. Information can be disseminated to be public through the City web site, press releases, media ads, avalanche awareness classes, and other methods.	Ongoing; mitigation action revised and included in the 2026 LHMP
A/L-7	Complete the avalanche mapping and mitigation alternatives overview of other avalanche areas within the City of Cordova, including Power Creek and Shepard Point.	Ongoing; mitigation action included in the 2026 LHMP

Action #	Action	Status
A/L-8	Encourage good record-keeping of past, present and future avalanche events affecting private lands in the Cordova area. Such records are invaluable for planning and mitigation.	Ongoing; mitigation action revised and included in the 2026 LHMP
A/L-9	Add a Geologic Layer to Cordova's mapping system.	Deferred; mitigation action revised and included in the 2026 LHMP
VAF-1	Continue to educate the public about what to do in case of volcanic ashfall.	Deferred; mitigation action revised and included in the 2026 LHMP
VAF-2	Determine water usage levels and filtration limits of current system, to determine whether water rationing may be necessary in the event ashfall impacts drinking water supply.	Deferred; mitigation action included in the 2026 LHMP
VAF-3	Ensure a local supply of ash masks and store at emergency shelters.	Ongoing; mitigation action included in the 2026 LHMP
TPHH-1	Identify and organize local resources.	Ongoing; mitigation action included in the 2026 LHMP
TPHH-2	Support community-wide mitigation training/education about non-natural hazards.	Ongoing; mitigation action revised and included in the 2026 LHMP
TPHH-3	Encourage improved training, education, planning and safety in the production, use and transportation of oil and hazardous substances.	Ongoing; mitigation action revised and included in the 2026 LHMP
TPHH-4	Participate in regional oil spill drills / exercises.	Ongoing; mitigation action included in the 2026 LHMP

In addition, supporting local plans, studies, and programs were reviewed to determine additional progress in local mitigation efforts. Relevant ongoing actions are also provided in Table 5-6.

7.4 INTEGRATION OF THE 2026 LHMP INTO OTHER PLANNING MECHANISMS

In 2019, the City of Cordova completed an update to its Comprehensive Plan. The updated Comprehensive Plan includes a chapter on Quality of Life, with Goal D "Achieve resiliency through continued hazard mitigation and emergency preparedness planning." The hazard profiles and mitigation strategies in this 2026 LHMP can be integrated into future updates to the Comprehensive Plan and other relevant planning mechanisms to better utilize the hazard mitigation plan as a planning and decision-making tool for future development.

8.0 PLAN ADOPTION

This section addresses Element F of the Local Mitigation Plan Regulation Checklist.

Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans
Element F: Plan Adoption
F1. For single-jurisdictional plans, has the governing body of the jurisdiction formally adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))
F1-a. Does the participant include documentation of adoption?
F2. For multi-jurisdictional plans, has the governing body of each jurisdiction officially adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))
F2-a. Did each participant adopt the plan and provide documentation of that adoption?

8.1 FORMAL ADOPTION

The 2026 LHMP was formally adopted on XXXX, by the City of Cordova City Council. A copy of the adoption resolution is on file with the community and the Alaska Division of Homeland Security and Emergency Management.

9.0 APPENDICES

APPENDIX A—PLANNING PROCESS

APPENDIX B—FIGURES

APPENDIX C—DRAFT MITIGATION ACTIONS

Table C-1: Summary of Draft Mitigation Actions

No.	Project Name	Hazard Mitigated
1	Cordova Center Backup Generator	All
2	Update City Emergency Plans	All
3	Cordova's Mapping System Updates	All
4	Public Awareness	All
5	Complete Communications Trailor	All
6	Community Resiliency Hubs	All
7	Update and Expand Communications	All
8	Heavy Equipment for Snow/Debris Removal	Avalanche, Earthquake, Flood, Landslide, Severe Weather, Tsunami
9	Debris Management Plan	Avalanche, Earthquake, Flood, Landslide, Severe Weather, Tsunami
10	Avalanche Mapping	Avalanche
11	Avalanche Events Record-Keeping	Avalanche
12	Sheridan Glacier and Sheridan River Studies	Climate Change. Erosion, Flood
13	Repair, Replace, and Maintain Storm Drain Systems	Climate Change, Erosion, Flood, Severe Weather
14	Cordova Water and Sewer Master Plan Update	Drought, Flood
15	Water System Vulnerabilities	Drought
16	Building Inspectors	Earthquake
17	Engineering Assessment of Earthquake Vulnerability	Earthquake
18	Assess and Retrofit Buildings	Earthquake, Climate Change, Severe Weather
19	Encourage Community Partners in Preparation Activities	Earthquake, Tsunami
20	Stabilize Break Water Avenue	Erosion, Severe Weather, Tsunami

No.	Project Name	Hazard Mitigated
21	Power Creek Road Slope Stabilization and Repairs	Erosion, Landslide
22	Setbacks for New Structures	Erosion, Flood
23	Erosion Study for Station 2	Erosion, Flood
24	Six-Mile Subdivision Drainage System	Flood
25	Continue to Comply with NFIP and Facilitate FIRM Updates	Flood
26	Hospital Flood Proofing	Flood
27	Complete Watershed Mapping	Flood
28	Structure Elevation and/or Relocation	Flood, Tsunami
29	Update and Replace Existing Streamflow and Rainfall Gauges	Flood
30	Funding for Riverbank Protection	Flood
31	Conditional Ownership and Management of Eyak Lake Weir	Flood
32	Meals Lake Dam Repairs	Flood, Drought
33	Identify and Organize Local Resources	Hazardous Materials, Technological / Cyber Threat, Tsunami
34	Hazardous Material and Cyber Security Trainings	Hazardous Materials, Technological / Cyber Threat
35	Hazardous Material Drills and Exercises	Hazardous Materials
36	Update Fuel Tanks	Severe Weather, Flood, Tsunami
37	Fire and Emergency Service Vehicles, Training, and Equipment	Wildfire
38	Water Supply Improvements	Wildfire
39	Critical Facility Hardening	Wildfire

No.	Project Name	Hazard Mitigated
40	Water Usage and Filtration Limits	Volcano
41	Ash Masks	Volcano

Table C-2: Draft Mitigation Actions

1. Cordova Center Backup Generator	
Overview	The Cordova Center is a multi-use facility which includes the library, historical museum, municipal offices, performance and theater space, and conference and meeting room spaces. During climate hazards and emergencies, the Cordova Center can provide emergency shelter if equipped with backup generator to ensure operation during outages. This project aims to investigate the details necessary to provide a backup generator for the Cordova Center and seek funding for this project.
Hazards	All
Goals	1, 2, 5
Asset Type	Cordova Center (Existing)
Benefits and Costs	Costs are associated with staff time for research and grant funding application, initial purchase of the generator and installation, as well as fuel, maintenance, and annual testing. Costs are also associated with the expected life cycle of the generator (e.g., between 20 and 30 years if maintained). Benefits including creating safer communities, speeding up recovery, and addressing multiple hazards.
2. Update City Emergency Plans	
Overview	This project is revised Projects E-4 and T/S-4 from the 2018 LHMP, which has been expanded from its original scope relating to earthquakes and tsunamis primarily to cover all hazards. The relevant City Emergency Plans include the current EOP, Incident Commend structure, COOP, and personal Responder READY courses, among others.
Hazards	All
Goals	1, 2, 3, 4, 5
Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time to complete the updates. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, strengthening community partnerships, and addressing multiple hazards.

3. Cordova's Mapping System Updates	
Overview	This project is revised Projects A/L-1 and A/L-5, which prohibit construction in avalanche zones and install warning signage in mapped landslide zones. These projects have been expanded to include a more comprehensive mapping project addressing multiple hazards, which includes the official City Zone Map and adding a geologic layer to the mapping system. It also includes updating construction prohibited areas and installing signage as appropriate in hazard zones, such as avalanche, flood, and landslide.
Hazards	All
Goals	1, 2, 3, 4, 5
Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time to complete the mapping projects, and equipment and materials for signage. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, strengthening community partnerships, and addressing multiple hazards.
4. Public Awareness	
Overview	This project is revised Projects FLD-10, SW-2, SW-3, WF-3, A/L-6, VAF-1, and TPHH-2, which described public information efforts for each hazard individually. These projects have been merged to cover multiple hazards and focus on increasing public knowledge about hazards impacting property owners and visitors to Cordova. This project relates to continued use of existing materials and expansion of the distribution of brochures, pamphlets, or use of the City website or other methods of communication for all hazards. The project also includes special awareness activities such as Winter Weather Awareness Fair, avalanche awareness classes, "Shelter in Place," and Flood Awareness Week, as well as National Oceanic and Atmospheric Administration Weather Radio and HAM Radios.
Hazards	All
Goals	1, 5
Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time to complete the public information and awareness campaigns, including equipment and materials for items such as pamphlets and brochures. Benefits include creating safer communities, speeding up recovery, lessening the financial impacts, and increasing public awareness.
5. Complete Communications Trailer	
Overview	The City of Cordova Communications Trailer, owned by the Cordova Telecom Cooperative, is a mobile unit designed to support emergency and temporary communication needs, and is equipped with various communication tools including satellite phones, radios, and internet connectivity to ensure reliable communication during emergencies of

	events when regular infrastructure might be compromised. This project is to coordinate with the Cordova Telecom Cooperative to complete the interior installation of the City of Cordova Communications Trailer.
Hazards	All
Goals	1, 2, 3, 4, 5
Asset Type	Communications Trailer (New)
Benefits and Costs	Costs are associated with staff time to coordinate with Cordova Telecom Cooperative. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, strengthening community partnerships, and addressing multiple hazards.
6. Community Resiliency Hub(s)	
Overview	Community resiliency hubs are designed to support local communities in preparing for, responding to, and recovering from various challenges, including natural disasters, climate change, public health emergencies, and economic disruptions. In Cordova, Mt. Eccles Elementary School is identified as an evacuation shelter and may be considered for this project. Another potential location includes the High School. This project identifies resources necessary to improve or construct multifunctional facilities for shelter, emergency medical care, Point of Dispensing (POD) locations for vaccinations, food distribution, backup power generators, storage of emergency supplies, and renewable energy to support the local energy grid to supplement or expand existing facilities. This project also includes appropriate trainings in order to ensure effective operation of such locations during and after emergencies.
Hazards	All
Goals	1, 2, 3, 4, 5
Asset Type	Community resiliency hubs
Benefits and Costs	Costs are associated with staff time for research and securing funding, coordination with State and other relevant entities, and costs of equipment and materials, if necessary. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, strengthening community partnerships, and addressing multiple hazards.
7. Upgrade and Expand Communications	
Overview	This project aims to expand and update the notifications list for areas outside of the audible siren and includes adding an automated text notification or similar for issuing public alerts. Additionally, the project supports the hardware, software, training, and/or consulting services directly relating to the upgrade of 911 equipment and operations.
Hazards	All
Goals	1, 2, 5

Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time to coordinate and maintain a communications list, and associated with hardware, software, training and/or consulting services for 911 upgrades. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, and strengthening community partnerships.
Project Example	Division of Homeland Security and Emergency Management | Alaska Emergency Alert System Plan
8. Heavy Equipment for Snow / Debris Removal	
Overview	This project is revised Projects SW-5, T/S-7 from the 2018 LHMP. The project aims to evaluate and procure additional heavy equipment for snow and debris removal and other needs created by avalanches, landslides, severe weather, and tsunamis.
Hazards	Avalanche, Earthquake, Flood, Landslide, Severe Weather, Tsunami
Goals	1, 2, 5
Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time to research equipment types and secure funding, purchase equipment, and training, if needed, for staff on how to use equipment. Costs are also associated with fuel and maintenance of equipment, and the expected life cycle of the equipment (e.g., 7–15 years depending on the type and maintenance). Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, and addressing multiple hazards.
9. Debris Management Plan	
Overview	This project aims to ensure timely and efficient removal, clearance, and disposal of debris following hazard events to restore critical infrastructure, maintain public safety, and reduce secondary impacts such as blocked evacuation routes and impaired storm drain systems. The Debris Management Plan would include details related to susceptible areas, response coordination, and organization of resources and equipment.
Hazards	Avalanche, Earthquake, Flood, Landslide, Severe Weather, Tsunami
Goals	1, 2, 4, 5
Asset Type	Transportation, Storm Water
Benefits and Costs	Costs are associated with staff time to complete the plan. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, strengthening community partnerships, and addressing multiple hazards.

10. Avalanche Mapping	
Overview	This project is revised Project A/L-7 from the 2018 LHMP. The Alaska Division of Geological & Geophysical Survey (DGGS) is conducting landslide and snow avalanche mapping and slope analysis for community-selected areas in and around Cordova. This project is specifically focused on completing the avalanche mapping and mitigation alternatives overview of other avalanche areas within the city of Cordova, including Power Creek and Shepard Point. This project differs from Project 4 in that is relates specifically to the DGGS-led mapping and recommendations rather than City-led mapping.
Hazards	Avalanche, Landslide
Goals	1, 4, 5
Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time to collaborate with DGGS. Benefits include creating a safer community, lessening the financial impact of hazards, increasing public awareness, strengthening community partnerships, and addressing multiple hazards.
Project Example	Cordova avalanche and landslide hazards Project | Alaska Division of Geological & Geophysical Surveys
11. Avalanche Events Record-Keeping	
Overview	This project is revised Project A/L-8 from the 2018 LHMP. The Cordova Avalanche Center maintains records of avalanche observations, weather conditions, and accidents. These records are crucial for forecasting and understanding avalanche risks. This project expands the previous project to include public and private lands in Cordova. The project aims to continue current practice to maintain records of past and present avalanche events affecting Cordova.
Hazards	Avalanche
Goals	1, 4, 5
Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time to complete the record-keeping. Benefits include creating a safer community, lessening the financial impact of hazards, increasing public awareness, and strengthening community partnerships.
Project Example	Cordova Avalanche Center - Homepage | AAIC
12. Sheridan Glacier and Sheridan River Studies	
Overview	The Sheridan Glacier has been experiencing melting which can lead to flooding conditions on transportation facilities, particularly access to the landfill. Glacier melting is influenced by and accelerated by climate change with warming temperatures. Melting glacial water can accumulate and create glacial lake outburst floods where water from a glacier-

	dammed lake is suddenly released causing significant flooding and impacting roads and infrastructure. This project aims to complete a study of the Sheridan River considering accelerated glacier melt to identify the feasibility of measures to protect transportation and landfill facilities, in collaboration with DOT & PF and the Native Village of Eyak.
Hazards	Climate Change, Erosion, Flood
Goals	1, 2, 4, 5
Asset Type	Transportation, Landfill (Existing)
Benefits and Costs	Costs are associated with staff time to coordinate with partners and participate in study. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, and strengthening community partnerships.
13. Repair, Replace, and Maintain Storm Drain Systems	
Overview	This project is revised Projects FLD-17 and SW-6 from the 2018 LHMP. The project identifies areas requiring repair or replacement of existing storm drains systems, ditches, and surface hardening to control erosion caused by floods. The project includes consideration of nature-based solutions and other natural solutions.
Hazards	Climate Change, Erosion, Flood, Severe Weather
Goals	1, 2, 3, 5
Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time, and/or hiring an engineer, to complete the assessment and any updates as needed (e.g., annually). Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, and strengthening community partnerships.
14. Cordova Water and Sewer Master Plan Update	
Overview	This project is revised from Projects FLD-2 and FLD-5 in the 2018 LHMP which focused on specific projects which would be included in this larger master plan update (the Alternative Water Source to Six-Mile Subdivision, and the Heney Creek Waterline). The Water and Sewer Master Plan Update will focus on expanded and reliable year-round water supply, as well as evaluation of water and sewer infrastructure and high priority needs.
Hazards	Drought, Flood
Goals	1, 2, 4, 5
Asset Type	Water and Sewer Infrastructure (Existing)

Benefits and Costs	Costs are associated with staff time to complete the plan update, plus capital expenditures and costs for environmental planning, design and review. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, strengthening community partnerships, and addressing multiple hazards.
15. Water System Vulnerabilities	
Overview	In 2019, the city of Cordova experienced a significant drought which impacted its reservoirs, including the Eyak Lake and Meals Reservoir. This project focuses on identifying and implementing equipment upgrades, catchment upgrades, or additional pieces of equipment that might be needed during periods of low water levels, such as pumps and siphons, at reservoirs and lakes serving as the city's water supply.
Hazards	Drought
Goals	1, 2, 5
Asset Type	Water Supply and Distribution (Existing)
Benefits and Costs	Costs are associated with capital expenditures and maintenance costs. Benefits include creating a safer community, speeding up recovery, and lessening the financial impact of hazards.
16. Building Inspectors	
Overview	This project aims to secure funding for multiple people to become building inspectors and be qualified in post-disaster assessment of buildings through the National Earthquake Technical Assistance Program (NETAP) or similar programs.
Hazards	Earthquake
Goals	1, 2, 5
Asset Type	Multiple
Benefits and Costs	Costs are associated with fees for course enrollment, staff time to complete the trainings, and staff time to implement inspections. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, and strengthening community partnerships.
Project Example	NETAP Training Course Descriptions, Contacts and Associated Materials | FEMA.gov
17. Engineering Assessment of Earthquake Vulnerbility	
Overview	This project is revised Project E-1 from the 2018 LHMP. If funding is available, the project would be to perform an engineering assessment of the earthquake vulnerability of each identified critical infrastructure owned by the City of Cordova.
Hazards	Earthquake
Goals	1, 2, 5

Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time to complete the assessment and any updates as needed (e.g., annually). Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, and strengthening community partnerships.
Project Example	https://seismic.alaska.gov/download/ashsc_meetings_minutes/pr_2021-1_resilient_critical_infrastructure.pdf
18. Assess and Retrofit Buildings	
Overview	This project is Project E-3 in the 2018 LHMP. The project is to contract a structural engineering firm to assess the identified buildings and facilities to determine their structural integrity and develop a strategy to improve their earthquake resistance. The project also includes retrofitting or upgrading critical structures as recommended by a structural engineer. This project was not completed in 2018. In 2025, this project also includes encouraging buildings to be weather resistant and incorporate energy efficiency improvements in order to contribute to overall resiliency and reliability during extreme events.
Hazards	Earthquake, Climate Change, Severe Weather
Goals	1, 2, 5
Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time to complete the feasibility and need analysis, and to procure and manage a contracted engineering firm. Benefits include creating a safer community, speeding up recovery, and lessening the financial impact of hazards.
19. Encourage Community Partners in Preparation Activities	
Overview	This project encourages the City to continue partnering with community organizations in evacuation preparation and other preparedness activities, such as the Great Alaska ShakeOut.
Hazards	Earthquake, Tsunami
Goals	1, 2, 4, 5
Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time to coordinate and communicate with community organizations annually. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, and strengthening community partnerships.
Project Example	The Great Alaska ShakeOut - Get Ready!
20. Stabilize Break Water Avenue	

Overview	Breakwater Avenue is located near the Cordova Harbor, an area susceptible to damage from erosion. Breakwater Ave is the only roadway that connects the north harbor to the rest of Cordova's road network. Protecting this connection is vital to ensuring that goods continue to flow through the port for decades to come. Doing so will ensure that this crucial freight corridor will withstand the industrial demands placed upon it and stand up to the effects of natural forces and climate change, which is currently taking its toll on the roadway in the form of tidal erosion and stormwater sheet flow erosion. This erosion has reduced the roadway's width over time, creating compounding effects on safety, efficiency, and resiliency. This project will stabilize the roadway and protect it from future erosion by creating a bulkhead along the full length of Breakwater Ave. This bulkhead will stabilize the roadway and provide protection from tidal erosion, and storm and tsunami surges by creating a solid barrier that will absorb and deflect these forces. Stormwater erosion will be eliminated as the newly created uplands behind the bulkhead incorporate modern stormwater collection systems. This system will collect the stormwater, separate contamination, such as oil and other pollutants, and then safely discharge them in a way that does not cause erosion.
Hazards	Erosion, Severe Weather, Tsunami
Goals	1, 2, 3, 5
Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time for planning, design and engineering and also include maintenance costs for the project life expectancy (depending on materials used can be 30-50 years). Benefits include creating safer communities and lessening the financial impacts of hazards. The project addresses multiple hazards.
21. Power Creek Road Slope Stabilization and Repairs	
Overview	This project is revised Project FLD-6 from the 2018 LHMP. The Power Creek Hydro Facility was repaired as of the 2018 LHMP by Cordova Electric Power Network. This project is a revision of the FLD-6 to focus on the road to the Power Creek Hydro Facility. This project aims to identify locations susceptible to erosion and landslide hazards and complete slope stabilization and other repairs or preventative measures.
Hazards	Erosion, Landslide
Goals	1, 2, 5
Asset Type	Power Creek Hydro Facility (Existing)
Benefits and Costs	Costs are associated with staff time to complete the assessment of locations susceptible to erosion and landslide and capital expenditures for stabilization, repairs, or other preventative measures. Benefits include creating a safer community, speeding up recovery, and lessening the financial impact of hazards.

22. Setbacks for New Structures	
Overview	This project is revised Project FLD-15 from the 2018 LHMP. The project requires that all new structures in the Flood Zone be constructed according to National Flood Insurance Program (NFIP) requirements and set back from the river shoreline to lessen future erosion and flood concerns and costs. Flood Insurance Rate Maps (FIRMs) were completed in 2015, and the City will need to continuously monitor for updates and monitor new structure siting.
Hazards	Erosion, Flood
Goals	1, 2, 3, 5
Asset Type	Multiple (New)
Benefits and Costs	Costs are associated with staff time to monitor and assess new structure siting. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, and insuring public buildings through the NFIP.
23. Erosion Study of Station 2	
Overview	This new project addresses the erosion concern at Station 2. Community has described erosion issues related to its location adjacent to Lake Eyak, and this project would first document current erosion rates and areas of concern and identify possible solutions.
Hazards	Erosion, Flood
Goals	1, 2, 3, 5
Asset Type	Station 2
Benefits and Costs	Costs are associated with staff time or consultant services to complete the assessment erosion and identify possible solutions for stabilization or other preventative measures. Benefits include creating a safer community, speeding up recovery, and lessening the financial impact of hazards. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, and insuring public buildings through the NFIP.
24. Six-Mile Subdivision Drainage System	
Overview	This project is revised Project FLD-1 from the 2018 LHMP. This project is unchanged from the 2018 LHMP and aims to complete comprehensive analysis of storm drain system at Six-Mile Subdivision.
Hazards	Flood
Goals	1, 2, 5
Asset Type	Drainage System (New)

Benefits and Costs	Costs are associated with staff time to complete the analysis and any updates as needed (e.g., annually). Benefits include creating a safer community, speeding up recovery, and lessening the financial impact of hazards.
25. Continue to Comply with NFIP and Facilitate FIRM Update	
Overview	There are multiple projects from the 2018 LHMP that were revised and combined for this 2026 LHMP, including FLD-3, FLD 9, FLD 13, FLD-14. This project aims to obtain flood insurance for City structures located within Flood Zone, comply with the NFIP, complete letters of map revision for FIRMS, investigate obtaining a community rating system rating to lower flood insurance rates, and track updates to FIRMs.
Hazards	Flood
Goals	1, 2,4, 5
Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time to coordinate, track, and provide updates as needed (e.g., annually). Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, and strengthening community partnerships.
26. Hospital Flood Proofing	
Overview	This project is carried over from the 2018 LHMP (FLD-4). The project is to design and construct flood proofing for Cordova Community Medical Center.
Hazards	Flood
Goals	1, 2, 5
Asset Type	Cordova Community Medical Center (Existing)
Benefits and Costs	Costs are associated with staff time for planning, engineering, design, and review. Benefits include creating a safer community, speeding up recovery, and lessening the financial impact of hazards.
27. Complete Watershed Mapping	
Overview	This project is revised Project FLD-7 from the 2018 LHMP. This project expands the 2018 project by including a comprehensive watershed map that includes drainage patterns.
Hazards	Flood
Goals	1, 2, 3, 5
Asset Type	Multiple

Benefits and Costs	Costs are associated with staff time and/or hiring an engineer to complete the assessment and any updates as needed (e.g., annually). Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, and strengthening community partnerships.
Project Example	Alaska's Watershed Prioritization Map
28. Structure Elevation and/or Relocation	
Overview	This project is revised Project FLD-8 and T/S-5 from the 2018 LHMP. The project aims to identify critical facilities and other structures that are in flood risk and/or tsunami hazard areas for elevating and/or relocating identified structures. One such structure is the Public Safety Building which includes Fire, Emergency Services, Police and Alaska State Troopers which needs to be relocated outside of the tsunami inundation zone.
Hazards	Flood, Tsunami
Goals	1, 2, 5
Asset Type	Public Safety Building, Multiple
Benefits and Costs	Costs are associated with staff time to complete the assessment and, if identified for relocation, costs associated with property acquisition (if needed), planning, design, permitting, and capital expenditures for construction. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, and strengthening community partnerships.
Project Example	Unalakleet Foothills Subdivision Master Plan 2011
29. Update and Replace Existing Streamflow and Rainfall Gauges	
Overview	This project is revised Project FLD-11 from the 2018 LHMP. The National Oceanic and Atmospheric Administration installed new stream flow and rainfall measuring gauges according to the 2018 LHMP. These gauges need to be maintained, updated, and replaced as needed.
Hazards	Flood
Goals	1, 2, 3, 4, 5
Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time to complete repairs, updates, or other maintenance as needed (e.g., annually). Costs are also associated with staff time to coordinate with partners and data management. Benefits include creating a safer community, speeding up recovery, and lessening the financial impact of hazards.
Project Example	Remote Sensing of Streamflow in Alaska Rivers—New Technology to Improve Safety and Expand Coverage of USGS Streamgaging — FS 2019-3024

30. Funding for Riverbank Protection	
Overview	This is Project FLD-12 from the 2018 LHMP. The project is focused on securing grants/funds to implement riverbank protection methods.
Hazards	Flood
Goals	1, 2, 3, 4, 5
Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time to complete grant applications. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, and strengthening community partnerships.
31. Conditional Ownership and Management of Eyak Lake Weir	
Overview	The weir at the mouth of Eyak Lake is failing, which would cause the lake to drain and would impact salmon habitat downstream. The weir was owned by the State of Alaska's Division of Waters and Harbors that no longer exists. The Copper River Watershed Project and partners are looking for opportunities to address the failing weir to improve fish passage up and downstream of where the weir is located, while maintaining current water levels to protect important nearshore spawning sites for salmon, as well as maintain current property lines along the lakeshore. The project is to take over ownership and management of the new weir and is conditional upon a partner state or regional organization installing a new weir.
Hazards	Flood
Goals	1, 2, 3, 4 5
Asset Type	Eyak Lake Weir (Existing)
Benefits and Costs	Costs are associated with the management of the new weir, including staff time to coordinate with partners and annual maintenance costs. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, and strengthening community partnerships.
Project Example	Eyak Lake Weir - Copper River Watershed Project
32. Meals Lake Dam Monitoring and Repair	
Overview	Meals Lake is an important water supply source for the City of Cordova. The dam was assigned a fair rating from the State of Alaska Department of Natural Resources Division of Mining, Land & Water Dam Safety and Construction Unit in 2017. Meals Lake Dam has visible seeps as noted in multiple years of assessment reports. It is assumed there are leaks occurring within the internal structure of the dam. The internal structure of the dam needs to be assessed to determine if components have begun to fail causing leaks and seeps. If so, they should be repaired accordingly.

	The spillway for the dam has experienced severe erosion and spalding. This has led to structural concerns about the spillway and its potential for failure. Spillway should be refinished to address these issues. A permanent depth gauge is needed for measuring the depth of the reservoir. Currently staff brings a stick to use for measuring which leads to inconsistent measurements and lack of ability to properly monitor the depth of the reservoir. Remote monitoring equipment is necessary for security and monitoring. Currently there is no way to monitor the dam and spillway without physically being at the dam. During inclement weather when it is most needed to be monitored we often cannot safely reach the dam. Cameras and depth sensors that can be monitored remotely are needed.
Hazard	Flood, Drought
Goals	1,2,3,4,5
Asset Type	Meals Lake Dam
Benefits and Costs	Cost are associated with repairs that are beyond that typical maintenance costs, including staff time to coordinate with partners. Benefits include creating a safer community, speeding up recovery, and lessening the financial impact of hazards.
33. Identify and Organize Local Resources	
Overview	This is Project TPHH-1 from the 2018 LHMP. The project focused on identifying and organizing local resources and determining appropriate storage facilities for equipment and supplies. Equipment and supplies stored in facilities located in tsunami inundation zones should be prioritized for assessment and relocation.
Hazards	Hazardous Materials, Technological / Cyber Threat, Tsunami
Goals	1, 2, 5
Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, and strengthening community partnerships.
34. Hazardous Material and Cyber SecurityTrainings	
Overview	This is Project TPHH-3 from the 2018 LHMP but has been expanded to include cyber security. The project is to encourage training, education, planning, and safety in the production, use, and transportation of oil and hazardous substances. The project also encourages training, education, planning, and proactive measures to reduce the threat of cyber attacks on critical facilities that rely on computer systems and technology. This project may be a collaborative effort with the City and NVE.
Hazards	Hazardous Materials, Technological / Cyber Threat
Goals	1, 2, 4, 5

Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time to complete the trainings and updates as needed (e.g., annually). Potential cost sharing between the City and NVE could reduce costs. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, and strengthening community partnerships.
Project Example	SEAPRO - Training ASTI Website
35. Hazardous Material Drills and Exercises	
Overview	This is Project TPHH-4 from the 2018 LHMP. The project is to continue participation in regional oil spill drills and exercises.
Hazards	Hazardous Materials
Goals	1, 2, 5
Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time to coordinate and complete the drills and exercises annually. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, and strengthening community partnerships.
Project Example	Spill Response Exercise Schedule
36. Update Fuel Tanks	
Overview	This project will replace aging single-walled fuel tanks with double walled tanks and install secondary containment systems where feasible to reduce the risk of leaks and environmental contamination during severe weather-related system failures and other hazardous conditions related to flood and tsunami.
Hazards	Severe Weather, Flood, Tsunami
Goals	1,2,5
Asset Type	Fuel Tanks
Benefits and Costs	Costs are associated with capital expenditures to purchase new fuel tanks, staff time to install and remove existing tanks, and costs associated with maintaining the new tanks through their operational life. Benefits include creating a safer community, lessening the financial impact of hazards, and addressing multiple hazards.

37. Fire and Emergency Service Vehicles, Training and Equipment	
Overview	This is revised Project WF-1 from the 2018 LHMP. The project aims to purchase new and update existing fire and emergency vehicles, and to continue to support the firefighting department with training and equipment.
Hazards	Wildfire
Goals	1, 2, 3, 4, 5
Asset Type	Fire (New)
Benefits and Costs	Costs are associated with staff time to research and coordinate funding, and capital expenditures for purchase of equipment. Costs are also associated with trainings and maintenance (annual). Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, and strengthening community partnerships.
38. Water Supply Improvements	
Overview	This project would expand the City's water service area to outlying areas that do not currently have access to City water. This expansion allows the City to install fire hydrants in areas that are currently not adequately protected. Water supply improvements would need to be completed in alignment with Mitigation Strategy 14 (Cordova Water and Sewer Master Plan Update) and 15 (Water System Vulnerabilities) in order to ensure the expansion is compatible with drought mitigation.
Hazards	Wildfire
Goals	1, 2, 5
Asset Type	Water System
Benefits and Costs	Costs are associated with planning to ensure the system is compatible with water supply and drought mitigation measures, engineering, permitting, and environmental review. Additional costs from capital expenditures for materials and equipment, labor for construction, and maintenance. Benefits include creating a safer community, speeding up recovery, and lessening the financial impact of hazards.
39. Critical Facility Hardening	
Overview	This project would retrofit key municipal buildings to reduce wildfire ignition risk with fire-resistant roofing/siding where feasible.
Hazards	Wildfire
Goals	1, 2, 5
Asset Type	Municipal Buildings

Benefits and Costs	Costs are associated with planning, design, and permitting. Additional costs from capital expenditures for materials and equipment, labor for construction, and maintenance. Benefits include creating a safer community, speeding up recovery, and lessening the financial impact of hazards.
40. Water Usage and Filtration Limits	
Overview	This is Project VAF-2 from the 2018 LHMP. The project is to determine water usage levels and filtration limits of current system to determine whether water rationing may be necessary if ashfall impacts drinking water supply.
Hazards	Volcano
Goals	1, 2, 5
Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time to complete the assessment. Benefits include creating a safer community, speeding up recovery, lessening the financial impact of hazards, increasing public awareness, and strengthening community partnerships.
41. Ash Masks	
Overview	This is revised Project VAF-3 from the 2018 LHMP. The project aims to ensure a local supply of ash masks, also important for infectious diseases and hazardous materials, ensure supplies are maintained and not expired, and stored emergency shelters.
Hazards	Volcano, Hazardous Materials
Goals	1, 2, 5
Asset Type	Multiple
Benefits and Costs	Costs are associated with staff time to research and coordinate funding, and capital expenditures for purchase of supplies. Benefits include creating a safer community, speeding up recovery, and lessening the financial impact of hazards.

APPENDIX D—PLAN MAINTENANCE

Annual Review Tracker 20XX

Task	Description
Disasters / hazards that occurred over the past year	
Critical facilities and infrastructure as well as other major assets damaged from disasters / hazards that occurred over the past year	
Mitigation-focused public outreach that was conducted over the past year	
Mitigation actions (measures and projects) that were implemented over the past year	
New and/or updated studies, reports, and maps that were published over the past year	
Changes made to 2026 LHMP over the past year or needed to be made to the future LHMP	
Additional information	

APPENDIX E - ADOPTION RESOLUTION