2022

City of Whittier
Local Hazard Mitigation Plan

CITY OF WHITTIER
2022 LOCAL HAZARD MITIGATION PLAN

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LIST OF ACRONYMS AND ABBREVIATIONS

ºF	degrees Fahrenheit
AECOM	AECOM Technical Services, Inc.
BRIC	Building Resilient Infrastructure and Communities
CFR	Code of Federal Regulations
DMA 2000	Disaster Mitigation Act of 2000
EHS	Extremely Hazardous Substance
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
HMA	Hazard Mitigation Assistance
HMGP	Hazard Mitigation Grant Program
LHMP	Local Hazard Mitigation Plan
mph	miles per hour
NFIP	National Flood Insurance Program
NIPP	National Infrastructure Protection Plan
PGA	peak ground acceleration
SNAP	Scenarios Network for Alaska + Arctic Planning
U.S.	United States
USGS	United States Geological Survey

1.0 INTRODUCTION

1.1 COMMUNITY OVERVIEW

The city of Whitter is at the head of the Passage Canal in Prince William Sound (Figure 1). The city is in the Chugach Census Area and comprises 19.7 square miles, with 12.5 square miles of land and 7.2 square miles of water. It is on the west side of Prince William Sound, 60 miles southeast of Anchorage. In 1969, the city was incorporated. Whittier's government includes a mayor and six council members.

Passage Canal was once the quickest route from Prince William Sound to Cook Inlet. A port and a railroad terminus were constructed by the United States (U.S.) Army for transporting fuel and other supplies into Alaska during World War II. The railroad spur and two tunnels were completed in 1943, and the Whittier Port became the entrance for troops and dependents of the Alaska Command. The port remained an active army facility until 1960, when the population was 1,200. According to the 2020 U.S. Census, the population of Whittier is currently 272, down from 220 in 2010.

The Anton Anderson Memorial Tunnel is a tunnel through Maynard Mountain that links the Seward Highway with Whittier and is the only land access to the town. The tunnel originated as a rail-only tunnel excavated in 1941-1942 and was upgraded to bimodal use by the Kiewit Construction Company between September 1998 and mid-summer 2000.

1.2 HAZARD MITIGATION PLANNING

As defined in Title 44 of the Code of Federal Regulations (CFR), Subpart M, Section 206.401, hazard mitigation is "any action taken to reduce or eliminate the long-term risk to human life and property from natural hazards." As such, hazard mitigation is any work to minimize the impacts of any type of hazard event before it occurs. Hazard mitigation aims to reduce losses from future disasters. It is a process that identifies and profiles hazards, analyzes the people and facilities at risk, and develops mitigation actions to reduce or eliminate hazard risk. The implementation of the mitigation actions—which include short- and long-term strategies that may involve planning, policy changes, programs, projects, and other activities—is the end result of this process.

Over the past two decades, local hazard mitigation planning has been driven by a federal law, known as the Disaster Mitigation Act of 2000 (DMA 2000). On October 30, 2000, Congress passed the DMA 2000 (Public Law 106-390), which amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (Title 42 of the U.S. Code Section 5121 et seq.) by repealing the act's previous mitigation planning section (409) and replacing it with a new mitigation planning section (322). This new section emphasized the need for state, tribal, and local entities to closely coordinate mitigation planning and implementation efforts. This new section also provided the legal basis for the Federal Emergency Management Agency's (FEMA's) mitigation plan requirements for the Hazard Mitigation Assistance (HMA) grant programs.

1.3 2022 LOCAL HAZARD MITIGATION PLAN SYNOPSIS

To meet the requirements of the DMA 2000, the City of Whittier is updating its 2013 Local Hazard Mitigation Plan (LHMP). The goal of this planning process is to assess risks posed by hazards and to develop prioritized action plans to reduce risks in Whittier. The 2022 LHMP is organized to follow FEMA's Local Mitigation Plan Review Tool (Appendix B), 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 2022 LHMP structure has been updated to include the following sections:

- **Section 1 Introduction**, which provides an overview of the city of Whittier and information on hazard mitigation planning.
- **Section 2 Planning Process**, which provides an overview of the planning process, starting with a timeline. It identifies planning team members and describes their involvement with the planning process. Stakeholder outreach, public involvement, and continued public involvement are also detailed in this section. It provides an overview of the existing plans and reports, details how those documents were incorporated into the 2022 LHMP, and provides a plan update method and schedule. Supporting planning process documentation is provided in Appendix C.
- **Section 3 Hazard Identification**, which provides a description of each of the six of hazards addressed in this plan. Hazard figures are provided in Appendix A.
- **Section 4 Risk Assessment**, which provides hazard impact tables or descriptions for land area, population centers, and critical facilities. An overall summary of vulnerability for each hazard is also provided.
- **Section 5 Mitigation Strategy**, which provides a description of Whittier's mitigation goals; potential mitigation actions and projects; and prioritization process. A capability assessment, prioritized action plan, and the process to integrate the 2022 LHMP into other planning mechanisms are also addressed.
- **Section 6 Plan Review**, which provides an overview of development changes that have occurred since the 2013 plan, the progress in local mitigation efforts, and changes in priorities for mitigation actions.
- **Section 7 Plan Adoption**, which provides information about the formal adoption.
- **Section 8 Appendices**, which include Appendix A (Figures), Appendix B (FEMA Documentation), and Appendix C (Planning Process).

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))
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))
A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))
A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))
A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii))
A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))

2.1 OVERVIEW OF THE 2021 LHMP PLANNING PROCESS

The development of the 2022 LHMP was collaborative effort between the City of Whittier, AECOM Technical Services, Inc. (AECOM), and a planning team. The planning process officially kicked off in January 2022 and ended in June 2022. A timeline of the major planning tasks and milestones by month, including the times the planning team met, 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
January 2022	First planning team meeting; LHMP kick-off call Initial information collected: hazards to be profiled, critical facility information	LHMP project manager, consultant
January 2022	Initial public outreach and stakeholder involvement Hazard profiles drafted	LHMP project manager, consultant, planning team
February 2022	Hazard figures created, hazard impact assessments drafted	consultant
February 2022	Integration of LHMP into other planning documents determined	LHMP project manager, consultant, planning team
March 2022	Draft mitigation actions developed	consultant
March 2022	Second planning team meeting (hazard maps and draft mitigation actions reviewed)	LHMP project manager, consultant, planning team
March 2022	Prioritization action plan developed	LHMP project manager, consultant, planning team

Table 2-1: LHMP Timeline

Date	Tasks	People Involved
March 2022	Internal Draft LHMP	LHMP project manager, consultant, planning team
April 2022	Public Draft LHMP Follow-up public outreach and stakeholder involvement	LHMP project manager, consultant, public
June 2022	Final Draft LHMP	LHMP project manager, consultant, Alaska Division of Homeland Security and Emergency Management, FEMA Region X
[month, year]	Adoption of Final LHMP	LHMP project manager, City Council

Table 2-2: Planning Team

Name	Department/Agency and Title	Contribution
Jim Hunt	City Manager, City of Whittier, LHMP Project Manager	Served as the LHMP project manager. Led planning team meetings; reviewed and commented on hazard figures, risk assessment tables, mitigation strategies, and the Internal Draft LHMP.
Dave Borg	Harbor Master, City of Whittier	Participated in planning team meetings and/or reviewed planning team documents; reviewed and commented on hazard figures, mitigation strategies, and the Internal Draft LHMP.
Jackie C. Wilde	Assistant City Manager, City of Whittier	Participated in planning team meetings and/or reviewed planning team documents; reviewed and commented on hazard figures, mitigation strategies, and the Internal Draft LHMP.
Scott Korbe	Director of Public Works, City of Whittier	Participated in planning team meetings and/or reviewed planning team documents; reviewed and commented on hazard figures, mitigation strategies, and the Internal Draft LHMP.
Andre Achee	Director of Public Safety, City of Whittier	Participated in planning team meetings and/or reviewed planning team documents; reviewed and commented on hazard figures, mitigation strategies, and the Internal Draft LHMP.
Jessica Evans	Planner, AECOM	Served as the contractor LHMP project manager. Led planning team meetings; developed hazard figures, risk assessment tables, mitigation strategies, and the Internal Draft LHMP.

2.2 OPPORTUNITIES FOR STAKEHOLDERS

On January 31, 2022, the LHMP project manager reached out to stakeholders via email (Appendix C) about the 2022 LHMP and invited them to participate in the planning process. Stakeholders included Alaska Department of Natural Resources, Alaska Department of Transportation and Public Facilities, Alaska Railroad Corporation, Alaska Marine Lines, Begich Towers, Inc., Chugach Alaska Corporation, Chugach Electric, Cliffside Marina, Copper River Seafood, Dojer Services, Alaska Marine Highway, ENSTAR,

Girdwood Parks and Recreation, Whittier Manor, Municipality of Anchorage, Prince William Sound Aquaculture Corporation, Prince William Sound Economic Development District, Chugach National Forest, Whittier Parking and Camping, and Whittier Seafood. A response was received from the Lands Director at Chugach Alaska Corporation stating they would like to be added to the distribution list when the draft plan was released.

The LHMP project manager reached out to the stakeholders again via email on April 18, 2022, inviting them to review and provide comments about the Public Draft LHMP (Appendix C). No stakeholder comments were received on the draft plan.

2.3 PUBLIC INVOLVEMENT

On January 24, 2022, the City of Whittier posted information about the 2022 LHMP kickoff on the City's Facebook page. The Prince William Sound Economic Development District also added information about the 2022 LHMP kickoff to their newsletter.

Also, on April 18, 2022, the City posted information about the Public Draft LHMP and comment period on their Facebook page. No public comments were received on the draft plan. Screenshots of the City's social media outreach are provided in Appendix C.

2.4 REVIEW AND INCORPORATION OF EXISTING PLANS AND REPORTS

A list of the major relevant plans and reports reviewed and incorporated into the 2022 LHMP is provided in Table 2-3.

Table 2-3: Existing Plans and Reports

Plans and Reports	Information to be Incorporated into the 2022 LHMP
City of Whittier 2020, Whittier Comprehensive Plan	Reviewed for consistency.
Alaska State Hazard Mitigation Plan, 2018	Information on statewide trends and the nature for all hazards are incorporated into the hazard profile and risk assessment sections.
Whittier Creek Levee Stabilization Total Project Snapshot Report	Historical information on the levee was incorporated into the hazard profiles.
Dai et al. 2020, Detection and Assessment of a Large and Potentially Tsunamigenic Periglacial Landslide in Barry Arm, Alaska	Information on tsunami risk in Whittier was incorporated into the risk analysis and hazard profiles.
U.S. Geological Survey (USGS) 2021, Preliminary Assessment of the Wave Generating Potential from Landslides at Barry Arm, Prince William Sound, Alaska	Information on tsunami risk in Whittier was incorporated into the risk analysis and hazard profiles.
Alaska Division of Geological and Geophysical Surveys 2011, Tsunami inundation maps of Whittier and Western Passage Canal, Alaska	Information on tsunami risk in Whittier was incorporated into the risk analysis and hazard profiles.

2.5 CONTINUED PUBLIC PARTICIPATION

A copy of the 2022 LHMP will remain available at the City office and the offices and online at the State of Alaska Division of Community and Regional Affairs online community planning library. The LHMP project manager will use the City of Whittier's Facebook site to notify the public of and seek input on any

changes or updates to the 2022 LHMP, including prioritized action plan and the 2027 LHMP kickoff. The public can reach out to the city manager with comments or questions at citymanager@whittieralaska.gov.

2.6 PLAN UPDATE METHOD AND SCHEDULE

The 2022 LHMP will be monitored and evaluated by a subset of the planning team, specifically the LHMP project manager. Should the project manager no longer be involved with the 2022 LHMP, the project manager and/or the current city manager will select a new LHMP project manager to oversee the annual reviews and plan update.

The LHMP project manager will receive 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 2022 LHMP is relevant and effective in achieving the plan's goals. Annual review will be tracked in a table in this document (Table 2-4). FEMA-funded mitigation projects will continue to be tracked and reviewed using FEMA Mitigation Progress Report forms, and progress summaries will be included in the Annual Review Tracker (Table 2-4) at the beginning of each year.

Four years after the 2022 LHMP's adoption:

- The LHMP project manager will complete the Annual Review Tracker.
- The LHMP project manager will reconvene the planning team and update membership, if necessary.
- The planning team will review Table 2-4, 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 LHMP project manager will develop a new work plan.
- The LHMP project manager—with support from the planning team—will begin the plan update process, which is expected to take up to 6 months.

Table 2-4: Annual Review Tracker

Year	Disasters that Occurred	Mitigation Actions Implemented	New Relevant Studies/Reports to Include in 2027 LHMP	Public Outreach Conducted	Changes Made to 2022 LHMP
2023					
2024					
2025					
2026					

3.0 HAZARD IDENTIFICATION AND 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 each jurisdiction(s)? (Requirement § 201.6(c)(2)(ii))
B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement § 201.6(c)(2)(i))

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 six hazards addressed in Section 3.1 through Section 3.6: climate change, dam failure, earthquake, hazardous materials, severe weather, and tsunami. The hazards profiled for this LHMP are discussed in alphabetical order and not hazard classification. The order does not signify level of risk.

3.1 CLIMATE CHANGE

Table 3-1: 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. The Fourth National Climate Assessment Report (2018) states that Earth's climate is now changing at a faster rate than at any time in the history of modern civilization, primarily due to human activities. The disruption in the climate is already impacting the way people live, the food they grow, their health, the wildlife, the availability of water, and much more. The impacts of global climate change are being felt today, from sea level rise and storm surge in coastal areas, increased riverine flooding and stormwater inundation; more frequent and prolonged higher temperatures (leading to heat events, wildfires, and permafrost thaw); and more severe and frequent extreme weather events. Changing climate conditions are more pronounced in the polar regions. Alaska is often identified as being at the forefront of climate change because it is warming faster than any other state and faces multiple issues associated with a changing climate. These climate change impacts include: • Retreat of sea ice, which will disrupt marine ecosystems and other animals (such as polar bears and walruses); impact local communities where sea ice is important for subsistence or tourism; and contribute to increased storm surge, coastal flooding, and erosion • Increase of ocean temperature impacting marine ecosystems and Alaska's fisheries • Flooding and erosion of coastal and river areas related to changes in sea ice and increase in storm intensity • Increase in ocean acidification, which will impact marine organisms and thereby disrupting the marine food web • Increase in the size and frequency of wildfires and droughts • Thawing permafrost, melting glaciers, and the associated effects on the state's infrastructure and hydrology • Increase of health threats, such as injuries; smoke inhalation; damage to vital infrastructure; decrease of food and water security; and new infectious diseases

Table 3-1: Climate Change

Profile	Description
Location	The entire area of the city of Whittier is susceptible to climate change. Potential seal level rise, along with increased intensity of storm surge and coastal erosion, could threaten the shoreline.
History	Whittier is in the gulf coast maritime climate zone, which is characterized by a rainy atmosphere; with long, cold winters; and mild summers. The average temperature of Whittier is 36.35 degrees Fahrenheit (ºF), which is higher than the state average of 32ºF. Whittier also has an above average precipitation of 141.44 inches, compared to the state average of 64.46 inches. According to the 2018 National Climate Assessment, the rate at which Alaska's temperature has been warming is twice as fast as the global average since the middle of the twentieth century. Statewide annual average temperatures from 1925 to the late 1970s were variable with no clear pattern of change. However, over the past 40 years (from late 1970s), statewide annual average temperatures began to increase with an average rate of 0.7ºF per decade. The temperature increase was especially strong in the Arctic due to the polar amplification of global warming. In Whittier, the Alaska Climate Research Center has observed a change of annual average temperature from 37.59ºF in 1955 to 41.28ºF in 2010 (9.8% increase). During this period, the Alaska Climate Research Center also observed an increase of annual precipitation from 173.8 inches to 193.06 inches (11.1% increase). While historical precipitation and temperature changes in Alaska have been well documented over the past several decades, historical information on sea level rise is less known due to lack of tide gauges with extended records. Researchers believe that prior to 1990, sea level rise on a global scale was only 0.04 inches per year; however, for the 1993-2012 reporting period, sea level rise has been 0.12 inches per year.
Extent / Severity	The University of Alaska Fairbanks Scenarios Network for Alaska + Arctic Planning (SNAP) models climate data for mid-range global emissions. SNAP temperature models show that Whittier will experience a temperature increase of 5.4ºF by the end of the century. Likewise, precipitation models show that for the same reporting period Whittier will experience an average rainfall increase of 26.1 inches. (Table 3-2) Sea level rise is not modeled for the city of Whittier, but any rise in sea level or storm surge intensity would threaten all land near the shoreline.
Recurrence Probability	Climate change is a significant and lasting change in the statistical distribution of weather patterns over periods, 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 the National Aeronautics and Space Administration, "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." The National Aeronautics and Space Administration 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."

Table 3-2: Mean Annual Temperature and Precipitation Predictions

	2010-2019	2050-2059	2090-2099
Mean Annual Temperature	41.2°F	44.1°F	46.6°F
Mean Annual Precipitation	226.3 inches	236.0 inches	252.4 inches

3.2 DAM FAILURE

Table 3-3: Dam Failure

Profile	Description
Nature	Dam failure (also known as a dam breach) is the structural collapse of a dam that releases the water stored in the reservoir behind the dam. A dam failure is usually the result of the age of the structure, inadequate spillway capacity used in construction, or structural damage caused by an earthquake or flood. When a dam fails, a large quantity of water is suddenly released with a great potential to cause human casualties, economic loss, and environmental damage. This type of disaster is especially dangerous because it can occur suddenly, providing little warning and evacuation time for the people living downstream. The flows resulting from dam failure are generally much larger than the capacity of the downstream channels and therefore lead to extensive flooding. Flood damage occurs as a result of the momentum of the flood caused by the sediment-laden water flooding over the channel banks and impact debris carried by the flow.
Location	In Whittier, there is one levee along Whittier Creek, just south of a campground (Whitter Parking and Campground). Whittier Creek flows downslope (north) on the edge of town and outlets into Passage Canal to the west of the Whittier Inn.
History	The Whittier Creek levee was built in the 1940s to divert the flow of Whittier Creek (a dynamic glacial stream) away from the city of Whittier. The levee helped to curb the wandering nature of the creek but did not contain it completely In 1994-1995, the creek overflowed and damaged the Alaska Railroad bridge on the only road out of town. High water events in 2009 caused erosion along the levee and larger floods were able to overtop the aging levee, creating significant life and property safety concerns. At that time, the city was granted funds for bank stabilization.
Extent / Severity	The Whittier Creek levee is not listed in the national database of dams managed by FEMA and therefore is not assigned a severity category. However, a channel assessment conducted in 2007 notes that the wandering nature of the creek, bank erosion, decreasing stabilization, and sediment deposition increase the risk of the levee overtopping. The creek carries high sediment loads and can transport large boulders during floods, which exacerbate streambank erosion and sediment deposition, and make it difficult to implement mitigation actions.
Recurrence Probability	Dams and levees fail for a variety of reasons, including sub-standard construction materials/techniques, spillway design error, geological instability, poor maintenance, intense rainfall, and earthquakes; therefore, recurrence probabilities are unknown. In recent years, there has been growing concern around extreme precipitation and flooding events pushing the aging levee beyond what it was designed to handle. Water flowing over the top of a dam or levee is considered among the worst possible failures because it puts pressure on the structure and increases the odds of a complete collapse. Even if kept in good condition, extreme weather events can cause a dam or levee to breach. One way to measure extreme precipitation events that may cause the failure of the Whittier Creek levee is to analyze high precipitation events and high snow runoff return intervals. Whittier has relatively high annual precipitation, which is predicted to increase by the end of the century. A high precipitation event or high snowfall runoff could occur within the next 5 to 10 years.

3.3 EARTHQUAKE

Table 3-4: 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: 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: 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: 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 earthquake intensity used in the U.S. are the Modified Mercalli Intensity scale, which measures felt intensity; and peak ground acceleration (PGA), which measures instrumental intensity by quantifying how hard the earth shakes in a given location. Magnitude is measured by the amplitude of the earthquake waves recorded on a seismograph using a logarithmic scale.
Location	Whittier is in a seismically active zone of Alaska as evidenced by the March 27, 1964 earthquake. Other hazards associated with seismic activity are of concern. The nearest fault line to Whittier is the Patton Bay fault on Montague Island, which is a historic fault (one event per 150 years) approximately 65 miles away.

Table 3-4: Earthquake

Profile	Description
History	As stated in the 2018 State of Alaska Hazard Mitigation Plan, 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., magnitude 8 or higher) earthquake every 13 years, one magnitude 7 to 8 earthquake every year, and six magnitude 6 to 7 earthquakes every year. In addition, earthquakes that occur on tectonic plate boundary faults near the coast can generate tsunamis that impact coastal communities, including Whittier. The effects of the March 27, 1964 Great Alaska Earthquake (magnitude 9.2) in the Whittier area were thoroughly documented after the event. Observations included general damage caused by tectonic subsidence of over 8 feet and tsunami waves. Injuries and property damage included 13 people killed; loss of most of the port facilities; destruction of waterfront buildings, the small boat harbor, the railcar barge slip, and several homes; and uncontrolled fire at the fuel storage facilities. Since 2000, there have been 32 earthquakes magnitude 5.5 or greater that occurred within 300 miles of the city of Whittier. Three of those earthquakes were magnitude 7.0 or greater. Seventeen of the 32 earthquakes occurred since the 2013 LHMP, the most recent in December 2021. Two earthquakes of magnitude 7.0 or greater have occurred since the 2013 LHMP, in January 2016 and November 2018.
Extent / Severity	Whittier was recognized as an "area of particular concern" for earthquake hazards in the 2007 Whittier Coastal Management Plan. There are areas in Whittier with submarine sliding, areas subject to damage from submarine-slide generated waves, and potential damage from wave run-up, all of which resulted from the 1964 earthquake. Because the submarine slopes in Passage Canal were not significantly decreased by the land sliding that occurred during the earthquake, more slides and corresponding destructive waves may be expected in the wake of another earthquake of comparable magnitude. The PGA values in Whittier for a 5% probability of exceedance in 50 years are shown on Figure 2. Based on this model, there are 7,974 acres (100% of land area) in the perceived 'severe' shaking zone, with moderate to heavy potential damage.
Recurrence Probability	As shown on Figure 2, the seismic PGA for Whitter has a 5% probability of severe shaking in Whittier in the next 50 years. Based on these data, there is a 5% chance of an earthquake occurring in Whittier that will exceed 51.49 PGA in 50 years.

3.4 HAZARDOUS MATERIALS

Table 3-5: 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 (i.e., short-term); or not emerge until days, weeks, or even years after exposure (i.e., 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 that pose the greatest risk for causing catastrophic emergencies (as identified by the Environmental Protection Agency) are classified as Extremely Hazardous Substances (EHSs). Releases of EHSs and other hazardous substances can occur at facilities or during transport. Transportation-related releases are generally more troublesome because they can occur anywhere, including close to human populations, critical facilities, or environmentally sensitive areas. Transportation-related EHS releases can also be more difficult to mitigate due to the great area over which any given incident might occur and the potential distance from response resources. 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 multitude of secondary effects depending on the nature and size of the incident. Fuel spills can create fires; incidents on highways or railroads can halt or impede transportation; and releases of EHSs can trigger evacuation and short- or long-term displacement and social disruption.
Location	Whittier is unique because much of the land area is owned by the Alaska Railroad. From an economic and geographic standpoint, Whittier represents the Alaska Railroad's only viable freight interchange point for its barge service connecting Alaska with the lower 48 states and Canada. Whittier is a year-round, ice-free, deep-water port. It is only 50 miles from Anchorage and with track grades for trains and engines. For these reasons, all Alaska Railroad railcars, locomotives, and rail-borne freight must enter and depart via Whittier. Approximately one-third of all goods, freight, and fuel in Alaska come through Whittier. The railroad tracks are a prominent feature in the community of Whittier dividing the water side from the mountain side of town. Any goods transported via rail travel through the entire community. In addition, vehicle travel through the tunnel is stopped when trains are using it.
History	The Pipeline and Hazardous Materials Safety Administration’s Office of Hazardous Materials Safety Hazmat Incident Report Search Tool collects information from the Hazardous Materials Incident Report Form 5800.1 on the size, frequency, and impacts of hazardous materials releases during transportation. The tool shows that four known hazardous material incidents occurred in Whittier in 1993, 1999, and most recently in 2000. Three of those incidents involved the Alaska Railroad and one was considered serious. The “serious” event occurred when a railcar was being transferred from a barge. A wheel chock on the deck caught on the bottom hopper door, pulling it open. The spilled product flowed from the railcar into Passage Canal. The railcar was put back on the barge and repaired.

Table 3-5: Hazardous Materials

Profile	Description
Extent / Severity	As noted above, Whittier has experienced at least one serious hazardous material transportation incident. These incidents are defined by the Pipeline and Hazardous Materials Safety Administration Office as including a fatality or injury requiring in-patient hospitalization. Depending on the material, events can cause fire, injury, human health problems, and environmental damage. Many incidents occur during transfers; for this reason, the shoreline and dock/harbor areas are most at risk to failure. Rail transport through the community poses a risk and an event on the rail line could cut off tunnel access. Other risks come from the chemicals used by fish processing plants in Whittier.
Recurrence Probability	Based on previous known events, there is approximately one significant occurrence of a hazardous material event in Whittier every 20 years.

3.5 SEVERE WEATHER

Table 3-6: Severe Weather

Profile	Description
Nature	Severe weather occurs throughout Alaska with extremes that include thunderstorms; lightning; hail; heavy and drifting snow; freezing rain/ice storm; extreme cold; and high winds. Severe weather events can include the following: • A winter storm is an event in which the main types of precipitation are snow, sleet, or freezing rain and be accompanied by high winds, cold temperatures, and storm surge. A winter storm can range from a moderate snow over a few hours, to blizzard conditions with blinding wind-driven snow that last several days. Some winter storms may be large enough to affect several states, while others may affect only a single community. In more temperate continental climates these storms are not necessarily restricted to the winter season and may occur in the late autumn and early spring as well. • Heavy snow and rain occur frequently in coastal areas, and snowfall can accumulate 4 inches or more in 12 hours or less. • Freezing rain and ice storms can lead to rain or drizzle freezing on surfaces, which can cause damage to powerlines, pipelines, and other infrastructure. • Extreme cold varies according to normal regional climate. Alaska's extreme cold usually involves temperatures between -20 to -50ºF. Excessive cold may accompany winter storms, occur after storms, or can occur without storm activity. • High winds in Alaska can equal hurricane force but are under a different classification because they are not cyclonic nor possess other hurricane characteristics. Strong winds occasionally occur over the interior due to strong pressure differences, especially where influenced by mountainous terrain; however, the windiest places in Alaska are generally along the coastlines. • Storm surge is caused by coastal storms when a low pressure weather system draws water toward the storm's center, which creates a bulge of water that moves with the storm. Flooding occurs when the bulge or storm surge meets up with land and is worse when the timing of its arrival coincides with a high tide. Other factors that influence the amount of flooding experienced are the shape and orientation of the coast relative to the oncoming storm.
Location	The entire Whittier area is vulnerable to the effects of severe weather. Annual precipitation for Whittier can approach 175 inches, with up to 440 inches of snowfall. Snowfall is greatest from December through March, and peak rainfall occurs from September through December. Winter snow accumulation can approach 20 feet deep with rapid changes from snow to rain, and vice versa. Winds in Passage Canal and Whittier are strong and variable with a mean hourly wind speed of 10 to 15 miles per hour (mph). The strongest winds blow east and west along the axis of Passage Canal. Winds of 40 to 60 mph are not uncommon and may generate waves from 4 to 6 feet high in the center of Passage Canal. In the city of Whittier, a southerly wind from the Whittier Glacier can attain a speed of 30 to 50 mph and persist for long periods of time.
History	Notable severe weather events from 2011 through 2021 include: • In October 2018, a rapidly intensifying low brought a front onshore in the early afternoon. This increased winds around Prince William Sound above 70 mph. In Whittier, due easterly winds combined with an unusually high tide caused significant erosion and damage along the dock. • In March 2013, a low crossed Portage Pass and entered Prince William Sound. As the low passed over Whittier the pressure gradient rapidly increased bringing in strong westerly winds in addition to the heavy snow that had been falling. The low remained at close to the same strength and was nearly stationary throughout the day.

Table 3-6: Severe Weather

Profile	Description
	• In January 2012, a small low in Prince William Sound produced snow and strong wind through Thompson Pass resulting in blizzard conditions. This same low also produced intense channeled wind through Portage Pass and off Whittier Glacier that peaked around 90 mph in Whittier. The strong wind in Whittier damaged several windows in Begich Towers, ripped several boat covers that were in dry dock, and broke one boat window. The mooring lines of several boats moored in the harbor snapped due to the strong winds. • In December 2011, a strong storm moved into the northern Gulf of Alaska producing winds gusting as high as 146 mph in Thompson Pass along with snow, resulting in a blizzard. Wind peaked around 60 mph in Whittier, combined with snow, reducing the visibility to 0.25-mile or less.
Extent / Severity	As noted above, wind, rain and heavy snowfall are common in Whittier throughout the winter season. According to the Alaska Department of Transportation, in Whittier, the average annual precipitation is 196 inches, the average annual snowfall is 241 inches and winds are commonly 40-60 MPH in the area.
Recurrence Probability	Based on historical occurrences, the city of Whittier can expect to experience severe weather conditions about 5 to 6 days each year.

3.6 TSUNAMI

Table 3-7: 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 submarine landslides, submarine 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 a period of about 10 seconds and a wavelength of up to 300 feet. Tsunamis caused by landslides or underwater slope failures during an earthquake are a serious hazard in glacial fjords such as Passage Canal. Massive slope failures typically generate large waves that are usually observed while the ground is still shaking. A primary reason for submarine landslides is the accumulation of sediments on steep underwater slopes. During an earthquake, seismic activity causes sliding of the unconsolidated sediments. The major factors contributing to the total volume and extent of the slide material are the duration of ground motion, configuration of slopes, and type of sediment forming these slopes (unconsolidated or fine-grained materials). 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 not symmetrical, 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; therefore, coasts in the shadow of affected land masses are safer. Secondary hazards can occur from tsunamis, such as: • Erosion or scouring of stream banks, roadway embankments, foundations, footings for bridge piers, and other features • Impact damage to structures, roads, bridges, culverts, and other features from high-velocity flow and from debris carried by floodwaters; debris may also accumulate on bridge piers and in culverts, increasing loads on these features or causing overtopping or backwater effects • Release of sewage and hazardous or toxic materials when wastewater treatment plants are inundated, storage tanks are damaged, and pipelines are severed • Flood waters can pose health risks such as contaminated water and food supplies • Loss of shelter leaves people vulnerable to insect exposure, heat, and other environmental hazards The majority of deaths associated with tsunamis are related to drownings, but traumatic injuries are also a primary concern. Injuries such as broken limbs and head injuries are caused by the physical impact of people being washed into debris such as houses, trees, and other stationary items. As the water recedes, the strong suction of debris being pulled into largely populated areas can cause further injuries and undermine buildings and services.
Location	The tsunami inundation zone for Whittier is shown on Figure 3 and Figure 4. The train tracks and everything north could be inundated to a depth of 6 feet. This includes the road westbound to the tunnel; part of the airstrip; and all port and harbor infrastructure.

Table 3-7: Tsunami

Profile	Description
History	Southcentral and southeastern Alaska have a long recorded history of tsunami waves generated by submarine and subaerial landslides, avalanches, and rockfalls. In the majority of cases, tectonic tsunamis arriving in bays and fjords from the open ocean had relatively small wave height, but a great number of local landslide-generated tsunamis had much larger wave height. The 1964 Great Alaska Earthquake generated the most destructive tsunami in Alaska history and impacted the west coast of the U.S. and Canada. The city of Whittier greatly suffered from local landslide-generated waves. Although a tectonic tsunami was not noticed by local residents and its effect on the port infrastructure remains unknown, the town sustained great damage and 13 people perished in the locally generated tsunamis. Because local landslide-generated tsunamis were responsible for most of the damage in Whittier during the 1964 earthquake, the potential occurrence of similar events is evaluated for comprehensive inundation mapping and for development of tsunami evacuation maps. No tsunamis have occurred in Whittier since the 1964 event.
Extent / Severity	According to modeling, 198.35 acres (2.49%) of Whittier's land area is located in a tsunami inundation zone with an inundation depth of 6 feet.
Recurrence Probability	In October 2020, a study was released by Geophysical Research Letters that detected a large slow-moving landslide in Barry Arm, which is 30 miles from Whittier. Movement of the landslide has increased substantially since 2010. Since the study was released, an interagency science team has been continually monitoring the speed of the landslide movement and using best available data for modeling. As of October 2021, the landslide is predicted to generate a tsunami wave 7 feet high in the community of Whittier, approximately 20 minutes after slide failure. There is no prediction for when the landslide-generated tsunami will occur; however, the State of Alaska and federal science and emergency management teams urge the public to take the threat seriously and are developing tools to provide capability for a reliable early-warning and rapid-detection system for the potential risk from a Barry Arm landslide and tsunami. The likelihood of a tsunami is hard to predict; however, previous events have shown that it is plausible that a landslide-generated or an earthquake-generated tsunami could impact Whittier within the next 20 years.

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
B3. Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii))
B4. Does the Plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii))

4.1 HAZARD IMPACT

A hazard impact assessment predicts the current or expected impact of a hazard on a community or given area. When available, quantitative data are provided by this analysis that may be used to identify and prioritize potential mitigation measures by allowing communities to focus attention on areas with the greatest risk of damage.

For this 2022 LHMP, a conservative exposure-level analysis was conducted to assess the risks associated with the identified hazards. Due to a combination of a lack of adequate information and methodology, a semi-quantitative hazard impact assessment has only been prepared for the earthquake and tsunami hazards.

For the 2022 LHMP, hazard impact assessments were prepared for the Whittier's land area, population center, and critical facilities (Table 4-1). A land area of 7,974 acres (12.5 square miles) was determined using Geographic Information System (GIS) data. The population center, which is a region is a geographical point that describes a center point of Whittier's population, of 186 acres (0.29 square miles) was determined using GIS. Critical facilities (Figure 5) are those that provide services and functions essential to the city of Whittier, especially during and after a disaster. Common types of critical facilities include fire stations; police stations; hospitals; schools; water and wastewater systems; and utilities. Critical facilities may also include places that can be used for sheltering or staging purposes, such as community centers and libraries; or large public gathering spots and places of worship. For the 2022 LHMP, 37 public and private critical facilities critical facilities were identified. Critical facility names and coordinates were then geocoded to a location and the resulting geographic features were used for hazard impact assessment. Facility-specific information was given to the City and will be kept on file.

The overall results of the hazard assessments are provided below. This analysis is a simplified assessment of the potential effects of the hazards on land area (Table 4-2), population center (Table 4-3), and critical facilities (Table 4-4) at risk, without consideration of the probability or level of damage. In addition, elevation data were not available; therefore, additional analysis will need to be conducted to develop a more accurate understanding of hazard vulnerabilities.

Table 4-1: Total Land Area, Population Center and Critical Facilities

Category	Number
Land Area	7,974.73 acres
Population Center	185.54 acres
Critical Facilities	37

Table 4-2: Total Acres of Land in a Hazard Area

Hazard Area	Acres	Percent of Total Acres
Climate Change	7,974.73	100
Dam Failure	No mapping data are available for dam failure. Based on existing reports and the community planning team, less than 1% of the total land area is susceptible to inundation from a levee failure.	
Earthquake		
Weak-Light	0	0
Moderate	0	0
Strong-Severe	7,974.73	100
Hazardous Materials	No mapping data are available for hazardous material events. Based on existing reports and the community planning team, less than 5% of the total land area is susceptible to direct impacts from a hazardous material release.	
Severe Weather	7,974.73	100
Tsunami	198.35	2.49

Table 4-3: Total Number of Acres of Population Center in a Hazard Area

Hazard Area	Acres	Percent of Total Acres
Climate Change	185.54	100
Dam Failure	No mapping data are available for dam failure. Based on existing reports and the community planning team, less than 5% of the population center is susceptible to inundation from a levee failure.	
Earthquake		
Weak-Light	0	0
Moderate	0	0
Strong-Severe	185.54	100
Hazardous Materials	No mapping data are available for hazardous material events. Based on existing reports and the community planning team, approximately 45% of the population center is susceptible to direct impacts from a hazardous material release.	
Severe Weather	185.54	100
Tsunami	108.08	58.25

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

Hazard Area	Number	Percent of Total Facilities
Climate Change	31	100
Dam Failure	12	32
Earthquake		
Weak-Light	0	0
Moderate	0	0
Strong-Severe	31	100
Hazardous Materials	17	46
Severe Weather	31	100
Tsunami	25	68

4.2 OVERALL SUMMARY OF VULNERABILITY

A list of the key issues or overall summary of vulnerability, for each hazard profiled in the 2022 LHMP is provided in Table 4-5.

Table 4-5: Overall Summary of Vulnerability

Hazard	Vulnerability
Climate Change	All of Whittier is vulnerable to climate change. Over the next century, weather patterns that are considered extreme today are expected to become normal. The city of Whittier's overall vulnerabilities to climate change include sea level rise, coastal erosion, increased average annual maximum temperature, increased average annual precipitation, severe moisture deficit/drought, and wildfires. • Sea level rise: 45% percent of the critical facilities and infrastructure in the city are along the shoreline and could be at risk of inundation. Flooding due to sea level rise will cause destructive erosion; flooding; soil contamination with salt; loss of habit for fish, birds, and plants; disruption and/or delay of transportation; and damages to homes and businesses on a more regular basis. • Temperature and precipitation: SNAP temperature models show that all of Whittier will experience a temperature increase of 5.4ºF by the end of the century, while precipitation models show that for the same reporting period, Whittier will see an average rainfall increase of 26.1 inches. In the summer, an increase in temperature can cause fire risk to increase. • Mega storms that are linked to climate change can cause severe flooding. Along the coast, deadly and destructive storm surges may push farther inland than they once did, which means more frequent nuisance flooding.

Table 4-5: Overall Summary of Vulnerability

Hazard	Vulnerability
Dam Failure	In the event of a levee breach, impacts would reach the school, Begich Towers (which house multiple services), a campground, bridges, the Alaska Railyard (where substantial freight transits into and out of Alaska), and the cruise ship dock. For those living in a levee breach inundation area, the potential for loss of life, injuries, and potential damage to homes and critical facilities due to a levee failure depends on a number of variables including depth and velocity of water released; number of people in the inundation area; warning time; and public perception. The Whittier Creek levee is unlikely to cause loss of life if breached but could cause property damage, particularly at Begich Towers and the campground.
Earthquake	All of the city of Whittier is vulnerable to ground shaking from an earthquake and the entire city is in severe perceived ground shaking hazard areas. 100% of Whittier's residents live in and 100% of critical facilities and infrastructure are situated in the severe shaking potential areas. Those that live in severe shaking potential areas can expect earthquake events to produce moderate to heavy damage. According to USGS, this could mean slight damage in specially designed structures; considerable damage in ordinary substantial buildings with partial building collapse; and considerable damage in poorly built or badly designed structures. Those that live in violent shaking potential areas can expect earthquake events to produce the potential for heavy damage. According to USGS, this could mean that well-designed framed structures could be thrown out of plumb and substantial buildings could experience partial collapse.
Hazardous Materials	Whittier is vulnerable to both fixed and transportation-related hazardous material events. Hazardous material releases or events are most likely to occur at the docks, fish processing plants, along the railroad line, along the highway, and at the airport. Hazardous material event impacts include fires; impediment of transportation; evacuation and short- or long-term displacement; social disruption; and human health concerns. Depending on the material, events can cause fire, injury, human health problems, and environmental damage. Many incidents occur during transfers; for this reason, the shoreline and dock/harbor areas are most at risk to failure. Rail transport through the community poses a risk and an event on the rail line could cut off tunnel access. Other risks come from the chemicals used by fish processing plants in Whittier.
Severe Weather	All of the city of Whittier is vulnerable to severe weather. Passage Canal is most vulnerable to high winds during the winter season. Winds may sweep up loose snow and produce blizzards and dangerous wind chills. High winds and high storm surge can cause extensive damage to community facilities and infrastructure, including power lines, roads, and erosion mitigation installments. Whittier has an extensive history of storm damage. In addition, the Seward Highway between Anchorage and Whittier is closed each year in intervals due to an avalanche event or for avalanche control, which can further isolate the community.

Table 4-5: Overall Summary of Vulnerability

Hazard	Vulnerability
Tsunami	The Alaska Earthquake Center and University of Alaska Fairbanks model for tsunami waves and inundation shows a maximum composite tsunami inundation for Whittier. Based on this model, there are 108 acres (58%) of Whittier's population center at risk to tsunami inundation. This inundation level includes 25 (68%) critical assets. As shown on inundation maps, if there is a tsunami wave, anyone in the Begich Towers (where a majority of residents live) or who evacuates to safe zones to the south and east of town could be cut off from tunnel and the airstrip access, essentially isolating them. If a large tsunami occurred when a tourist cruise ship or an Alaska Marine Highway ferry were docked, it could be catastrophic for both human life and infrastructure.

4.3 NATIONAL FLOOD INSURANCE PROGRAM INSURED STRUCTURES

The City of Whittier does not participate in the National Flood Insurance Program (NFIP).

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))
C2. Does the Plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement § 201.6(c)(3)(i))
C3. Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i))
C4. Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement §201.6(c)(3)(ii))
C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))
C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii))

5.1 AUTHORITIES, POLICIES, PROGRAMS, AND RESOURCES

The City of Whittier'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 Whittier 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

Staff/Personnel	Department/Agency	Principal Activities Related to Hazard Mitigation
Planner(s) and technical staff with knowledge of land development, land management practices, human-caused hazards, and natural hazards	City of Whittier Planning and Zoning Commission	Anticipates and acts on the need for new plans, policies, and code changes. Applies the approved plans, policies, code provisions, and other regulations to proposed land uses.
Engineer(s), building inspectors / code enforcement officers or other professional(s), and technical staff trained in construction requirements	City of Whittier Planning and Zoning Commission	Oversees the effective, efficient, fair, and safe enforcement of the building codes.
Engineer(s), project manager(s), technical staff, equipment operators, and maintenance and construction staff	City of Whittier Department of Public Works	Maintains and operates of a wide range of local equipment and facilities and assists members of the public. This includes providing sufficient clean fresh water, reliable sewer services, street maintenance, storm drainage systems, street cleaning, streetlights, and traffic signals.
Emergency Medical Services and Fire Coordinator	Whittier Department of Public Safety	Coordinates local response and relief activities in the Emergency Operations Center; works closely with local, state, and federal partners to support planning and training, and to provide information and coordinate assistance.
Procurement Services Manager	City Manager and Administration	Provides a full range of municipal financial services and administers several licensing measures.
Director of Public Safety	City of Whittier Department of Public Safety	Provides fire protection services in the city.
Public Information Officer	City Manager and Administration	Coordinates and facilitates a public information program regarding activities of Whitter and its various departments; actively promotes the services and successes of operating departments and the benefits to residents; proactively establishes and maintains productive relationships between Whittier and any media; and performs related duties as required.
Director of Public Safety	City of Whittier Department of Public Safety	Provides law enforcement services in Whittier.

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

Staff/Personnel	Department/Agency	Principal Activities Related to Hazard Mitigation
Whittier Harbormaster	City of Whittier Port and Harbor Commission	Supports Whittier's Harbor department by setting policies and procedures that impact the city's cruise ship dock, small boat harbor, launch ramp, commercial loading facilities, fee schedule, and all tidelands and waterfront properties under lease.
Ground Lease and Management Agreement	Alaska Railroad	An estimated 46% of the usable land available in the city core is owned by the Alaska Railroad and is vitally important to the city's future. The agreement recognizes this fact and sets forth conditions by which the city is given the authority to manage these lands and to provide the Alaska Railroad with a percentage of any sublease payments.

Table 5-2: Financial Resources for Hazard Mitigation

Type	Source	Purpose	Amount
City General Fund	City Manager and Administration	Program operations and specific projects.	Variable
Cruise Ship Tax Special Revenue Fund	City Manager and Administration	The Cruise Ship Tax Special Revenue Fund is one fund within the compilation of funds that make up the Governmental Funds as previously described. Revenue for the cruise ship fund comes from the State of Alaska Commercial Passenger Vessel Excise Tax Program per AS 43.52.200. The City receives $5.00 per cruise ship passenger meeting the eligibility requirements of the statute.	The city receives $5.00 per cruise ship passenger meeting requirements
Enterprise Funds	City Manager and Administration	An enterprise fund is a self-supporting government fund that sells goods and services to the public for a fee. An enterprise fund uses the same accounting framework followed by entities in the private sector. Whittier uses an enterprise fund for the small boat harbor, water and sewer, and parking.	Variable
Renewable Energy Fund	Alaska Energy Authority	Provides funding for the development of qualifying and competitively selected renewable energy projects in Alaska. The program is designed to produce cost-effective renewable energy for both heat and power. For Fiscal Year 2019, $11 million has been allocated by the governor to fund the Renewable Energy Fund. This program runs through 2023.	Project-specific
HMA: Hazard Mitigation Grant Program (HMGP)	FEMA	Supports pre- and post-disaster mitigation plans and projects. Available to communities in Alaska after a presidentially declared disaster has occurred in Alaska.	Project-specific

Table 5-2: Financial Resources for Hazard Mitigation

Type	Source	Purpose	Amount
HMA: Building Resilient Infrastructure and Communities (BRIC)	FEMA	Focuses on reducing the nation's risk by funding public infrastructure projects that increase a community's resilience before a disaster affects an area.	Project-specific
HMA: Flood Mitigation Assistance	FEMA	Funds projects that reduce or eliminate the risk of repetitive flood damage to buildings insured by the NFIP.	Project-specific
Homeland Security Preparedness Technical Assistance Program	FEMA/Department of Homeland Security	Build and sustain preparedness technical assistance activities in support of the four homeland security mission areas (i.e., prevention, protection, response, recovery) and homeland security program management.	Project-specific
Assistance to Firefighters Grant Program	FEMA/U.S. Fire Administration	Provides equipment, protective gear, emergency vehicles, training, and other resources needed to protect the public and emergency personnel from fire and related hazards. Available to fire departments and nonaffiliated emergency medical services providers.	Project-specific
The National Dam Rehabilitation Program	FEMA	Allow communities to make the preemptive investment into aging infrastructure and in the process make the communities below a dam safer. Eligible projects include dams determined to have high-hazard potential by the State Dam Safety Program, have an Emergency Action Plan approved by the State Dam Safety Program, and fail to meet minimum dam safety standards or pose an unacceptable risk to the public.	Project-specific
Community Action for a Renewed Environment	U.S. Environmental Protection Agency	Through financial and technical assistance, this program offers an innovative way for a community to organize and take action to reduce toxic pollution (e.g., stormwater) in its local environment. Through this program, a community creates a partnership that implements solutions to reduce releases of toxic pollutants and minimize exposure to them.	Project-specific
Community Block Grant Program Entitlement Communities Grants	U.S. Department of Housing and Urban Development	Acquisition of real property; relocation and demolition; rehabilitation of residential and nonresidential structures; construction of public facilities and improvements, such as water and sewer facilities, streets, and neighborhood centers; and the conversion of school buildings for eligible purposes.	Project-specific

Table 5-3: Planning and Policy Resources for Hazard Mitigation

Name	Description	Hazards Addressed	Emergency Management
Whittier Comprehensive Plan	Describes hazard areas and lists goals and policies to reduce the potential risk of death, injuries, and economic damage resulting from natural and human-caused hazards.	Earthquake, Hazardous Materials, Tsunami	Mitigation, Preparedness, Response
Emergency Operations Plan	The plan describes Whittier's 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.	Earthquake, Hazardous Materials, Tsunami	Response, Recovery
Land Use Regulations	Promotes public health, safety, and general welfare through laws enforced locally. Building permits are issued and based on the current edition of the building code and local amendments, which encompass building, electrical, mechanical, plumbing, state energy requirements, and state accessibility laws. The City of Whittier can update and revise local amendments, as needed or required.	Climate Change, Earthquake, Hazardous Materials	Mitigation
Public Outreach	The City of Whittier uses a Facebook page to provide outreach to the community on relevant events, activities, and planning processes happening in the city. The city website includes updated information on the Barry Arm landslide and hazard assessment.	All	All Phases

Table 5-4: Ability to Expand Resources

Capability	Type/Description	Expansion
Human and Technical	Mitigation Specialist	Appoint or assign someone with city government to oversee hazard mitigation grant opportunities, including notifying city departments/commissions of upcoming grant cycles and spearheading Notice of Intent applications, grant applications, and grant management requirements.
Financial	HMA funding	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.
Planning and Policy	Climate Action Plan	Develop a Climate Action Plan to reduce greenhouse emissions through a series of local transportation, land use, building energy, water, waste, and green infrastructure programs and policies.

5.2 NATIONAL FLOOD INSURANCE PROGRAM PARTICIPATION

The City of Whittier is not mapped to a FIRM and therefore does not participate in the NFIP. Localized flood issues are managed by the Department of Public Works.

5.3 MITIGATION GOALS

Mitigation goals are defined as general guidelines that explain what an agency wants to achieve in terms of hazard 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 three goals (Table 5-5) for the 2022 LHMP.

Table 5-5: Mitigation Goals

Goal #	Description
1	Enhance climate protection and adaptation efforts
2	Create a healthy and safe community
3	Protect critical facilities and infrastructure against hazards

5.4 RECOMMENDED MITIGATION ACTIONS

Mitigation actions help achieve the goals of the LHMP. The recommended mitigation actions provided in Table 5-6 include: education and awareness; structure and infrastructure projects; preparedness and response; and local plans and regulations. This list addresses every hazard profiled in this plan and is based on the plan's risk assessment as well as lessons learned from recent disasters, it was developed using FEMA success stories and best management practices; FEMA job aids; local and regional plans and reports; and input from planning team members and sustainability practitioners.

Table 5-6: Recommended Mitigation Actions

No.	Project Name	Hazard Mitigated	Project Description	Type of Development
1	Community Planning	All	Maintain a formal role for the hazard mitigation planning team to develop a sustainable process to implement, monitor, review, and evaluate community wide mitigation actions.	New and existing
2	Saltwater Corrosion Monitoring and Mitigation	Climate Change	Monitor for potential adverse corrosion effects of saltwater on steel reinforcement and other system components and mitigate as needed.	Existing
3	Passive Floodproofing measures	Dam Failure	Install passive floodproofing measures in existing critical facilities that cannot be elevated and are in levee breach inundation areas.	Existing
4	National Dam Safety Program	Dam Failure	Continue to apply for grants as needed under the National Dam Safety Program for assistance in training; levee inspection and repairs; and coordination with state emergency preparedness officials.	New and existing
5	Seismic Retrofits	Earthquake	Seismically retrofit existing critical facilities to make them more resistant to earthquakes.	Existing
6	Earthquake-resistant Pipe Replacement	Earthquake	Replace aging critical pipes in areas of extreme or violent shaking hazard and landslide hazard areas to improve seismic reliability and safeguard critical water distribution lines against the potential destructive impacts of large-scale earthquakes.	Existing
7	National Infrastructure Protection Plan's (NIPP) Security and Resilience Challenge	Hazardous Materials	Strengthen the security and resilience of critical infrastructure through state-of-the-art cost-effective technology, tools, processes, and methods as part of the 2017 NIPP Security and Resilience Challenge.	Existing
8	High Wind Reinforcement	Severe Weather	Reinforce critical facilities and homes against high winds.	Existing
9	TsunamiReady Program	Tsunami	Maintain certification in the TsunamiReady program. The main goal of the program is to improve public safety before, during, and after tsunami emergencies. It aims to do this by establishing guidelines for a standard level of capability to mitigate, prepare for, and respond to tsunamis; and working with communities to help them meet the guidelines and ultimately become recognized as TsunamiReady by the National Weather Service.	New and existing

Table 5-6: Recommended Mitigation Actions

No.	Project Name	Hazard Mitigated	Project Description	Type of Development
10	Wet-Proof Facilities	Tsunami	Elevate and reinforce tsunami-resistant critical facilities' foundations to "wet-proof" using National Oceanic and Atmospheric Administration coastal construction guidelines.	New and existing

5.5 PRIORITIZED ACTION PLAN

A prioritized action plan is an itemized list of recommended mitigation actions that a community/agency hopes to put into practice to reduce its risks and vulnerabilities.

For 2022 LHMP, the planning team created a two-tier prioritization process based on the following:

- High-priority mitigation actions are those that address hazards of immediate concern and are also cost effective (positive cost-benefit ratio) and have an identified funding source.
- Medium-priority mitigation actions are those that address 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 Whittier determined the hazards and threats of immediate concern based on the 2022 LHMP's hazard profiles, risk assessment, and capability assessment as follows: hazardous material events, severe weather, and tsunami.

The results of the above prioritization process are provided in Table 5-7. For each mitigation action listed, potential funding sources, responsible departments or agencies, and implementation timelines have been identified.

Table 5-7: Prioritized Action Plan

No.	Project Name	Priority	Potential Funding Source	Responsibility	Timing
1	Community Planning	Medium	City of Whittier	City Manager and Administration	0 to 5 years
4	National Dam Safety Program	Medium	FEMA National Dam Safety Program	City of Whittier Department of Public Works	0 to 5 years
5	Seismic Retrofits	Medium	FEMA BRIC/HMGP	City of Whittier Department of Public Works	0 to 5 years
7	NIPP's Security and Resilience Challenge	High	City of Whittier and partners (Alaska Railroad, Copper River Seafood, Dojer Services, Alaska Department of Transportation and Public Facilities, Shoreside Petroleum, Whittier Seafood)	City Manager and Administration	0 to 5 years
8	High Wind Reinforcement	High	FEMA BRIC/HMGP	City of Whittier Department of Public Works	0 to 5 years
9	TsunamiReady Program	High	City of Whittier	City Manager and Administration	0 to 5 years

5.6 PLAN INTEGRATION

Information about how the 2022 LHMP will be integrated into Whittier's relevant plans and programs moving forward is provided in Table 5-8.

Table 5-8: Integration of 2022 LHMP

LHMP Section	Existing Plan/Policy/Program	Process/Timeframe
Section 3—Hazard Identification	Whittier Comprehensive Plan	Update of the Whittier Comprehensive Plan to address hazards in the LHMP that are not currently included. Consider creating a hazard profiles section in the Whittier Comprehensive Plan.
Section 4—Risk Assessment	Planning and Zoning Programs	Incorporate based risk assessment findings into the planning and zoning programs to help identify and ensure critical resources to maintain operations internally and externally.

6.0 PLAN REVIEW, EVALUATION, AND IMPLEMENTATION

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

Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans
Element D: Plan Review, Evaluation and Implementation
D1. Was the plan revised to reflect changes in development? (Requirement § 201.6(d)(3))
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement § 201.6(d)(3))
D3. Was the plan revised to reflect changes in priorities? (Requirement § 201.6(d)(3))

6.1 CHANGES IN DEVELOPMENT

The 2022 LHMP was updated to reflect the following changes that affect development:

- The 2022 LHMP includes some critical facilities that were not included in the 2013 LHMP. These include an additional seafood processing plant, well houses, condominium associations, the water reservoir, small boat launches, communications facilities, and the sewage treatment plant. These facilities are within the existing population center and do not increase the vulnerability of the community. Linear features (e.g., roads, sewer lines, and telephone lines) were excluded from this plan.
- The City of Whittier completed Phase IV of the Shotgun Cove Road project in 2018 and is currently working on Phase V. The City intends to encourage Shotgun Cove development that supports a quality environment for year-round and seasonal residents, tourists, and recreational users. Completion of the proposed Shotgun Cove Road is a prerequisite for any full-scale development in the Shotgun Cove and Emerald Cove areas. The area is not mapped for tsunami inundation; however, it is likely that some of the facilities planned for development will be within the inundation area. These could include recreational facilities such as access roads, a kayak launch, parking areas, and a viewpoint.

6.2 PROGRESS IN LOCAL MITIGATION EFFORTS

The City of Whittier reviewed its 2013 LHMP's mitigation strategy and documented progress made toward each local mitigation effort, provided in Table 6-1. Mitigation actions that had not be implemented were considered for the 2022 LHMP (Table 5-6).

Table 6-1: Progress in Local Mitigation Efforts

Action #	Action	Status
FLD-1	Structure elevation and/or relocation.	Ongoing, mitigation action modified and included in the 2022 LHMP.
FLD-2	Whittier flood maps.	Ongoing, ongoing mitigation actions no longer considered as part of the 2022 LHMP due to focus on new and emerging mitigation actions and ideas.
FLD-3	Public education regarding flooding.	Ongoing, mitigation action modified and included in the 2022 LHMP.

Table 6-1: Progress in Local Mitigation Efforts

Action #	Action	Status
FLD-4	Pursue joining the NFIP.	Deferred, mitigation action no longer considered relevant and/or a priority and not included in the 2022 LHMP.
FLD-5	Whittier Creek Levee project.	Ongoing, mitigation action modified and included in the 2022 LHMP.
FLD-6	Pedestrian tunnel—pumps are needed to remove water build up in the tunnel.	Deferred, mitigation action no longer considered relevant and/or a priority and not included in the 2022 LHMP.
FLD-7	Railroad/highway bridge damage improvements.	Deferred, mitigation action no longer considered relevant and/or a priority and not included in the 2022 LHMP.
FLD-8	Retaining wall improvements for Triangle Area.	Deferred, mitigation action no longer considered relevant and/or a priority and not included in the 2022 LHMP.
SW-1	Research and consider instituting the National Weather Service program of StormReady.	Ongoing, mitigation action modified and included in the 2022 LHMP.
SW-2	Conduct special awareness activities, such as Winter Weather Risk Awareness Week, Flood Awareness Week, etc.	Deferred, mitigation action no longer considered relevant and/or a priority and not included in the 2022 LHMP.
SW-3	Expand public awareness about National Oceanic and Atmospheric Administration Weather Radio for continuous weather broadcasts and warning tone alert capability.	Ongoing, mitigation action modified and included in the 2022 LHMP.
SW-4	Encourage weather resistant building construction materials and practices.	Ongoing, mitigation action modified and included in the 2022 LHMP.
WF-1	Continue to support the local fire department with adequate firefighting equipment and training.	Deferred, mitigation action no longer considered relevant and/or a priority and not included in the 2022 LHMP.
WF-2	Promote Firewise building design, siting, and materials construction.	Deferred, mitigation action no longer considered relevant and/or a priority and not included in the 2022 LHMP.
WF-3	Continue development of building codes and requirements for new construction.	Ongoing, mitigation action modified and included in the 2022 LHMP.
WF-4	Enhance public awareness of life/safety issue potential risk to life and personal property. Encourage mitigation measures in the immediate vicinity of their property.	Ongoing, mitigation action modified and included in the 2022 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 Whittier.	Ongoing, mitigation action modified and included in the 2022 LHMP.

Table 6-1: Progress in Local Mitigation Efforts

Action #	Action	Status
E-2	Identify buildings and facilities that must be able to remain operable during and following an earthquake event.	Ongoing, mitigation action modified and included in the 2022 LHMP.
E-3	Contract a structural engineering firm to assess the identified buildings and facilities.	Ongoing, mitigation action modified and included in the 2022 LHMP.
T/S-1	Participation in the Tsunami Awareness Program.	Ongoing, mitigation action modified and included in the 2022 LHMP.
T/S-2	TsunamiReady community designation.	Ongoing, mitigation action modified and included in the 2022 LHMP.
T/S-3	Inundation mapping.	Complete, tsunami inundation mapping completed by the Alaska Division of Geological and Geophysical Surveys in 2011.
T/S-4	Update Whittier Emergency Operations Plan.	Ongoing, mitigation action modified and included in the 2022 LHMP.
A/L-1	Prohibit new construction avalanche zones.	Deferred, mitigation action no longer considered relevant and/or a priority and not included in the 2022 LHMP.
A/L-2	Use appropriate methods of structural avalanche control.	Deferred, mitigation action no longer considered relevant and/or a priority and not included in the 2022 LHMP.
A/L-3	Enact buyout of homes in avalanche paths.	Deferred, mitigation action no longer considered relevant and/or a priority and not included in the 2022 LHMP.
A/L-4	Prohibit removal of vegetation in areas prone to landslides.	Deferred, mitigation action no longer considered relevant and/or a priority and not included in the 2022 LHMP.
A/L-5	Public disclosure of risk linked to deed or title of property and require owners to notify renters of hazard prior to occupancy.	Deferred, mitigation action no longer considered relevant and/or a priority and not included in the 2022 LHMP.
A/L-6	Install warning signage in mapped landslide zones.	Deferred, mitigation action no longer considered relevant and/or a priority and not included in the 2022 LHMP.
A/L-7	Continue to educate public about avalanche and landslide hazards.	Deferred, mitigation action no longer considered relevant and/or a priority and not included in the 2022 LHMP.

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

6.3 CHANGES IN PRIORITIES

The 2013 LHMP's mitigation strategy was prioritized using a listing of benefits and costs review method as described in the FEMA *How-To-Guide Benefit-Cost Review in Mitigation Planning* (FEMA 386-5).

While this method has been replaced in the 2022 LHMP by a more streamlined prioritization process, the priorities (listed below) have not changed:

- To build a culture and practice of disaster resilience by addressing hazards of immediate concern, a mitigation project must have social support
- To be implemented in a timely manner, a mitigation project must be economically feasible and have an identified funding source

7.0 PLAN ADOPTION

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

Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans
Element E: Plan Adoption
E1. Does the Plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5)) E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5))

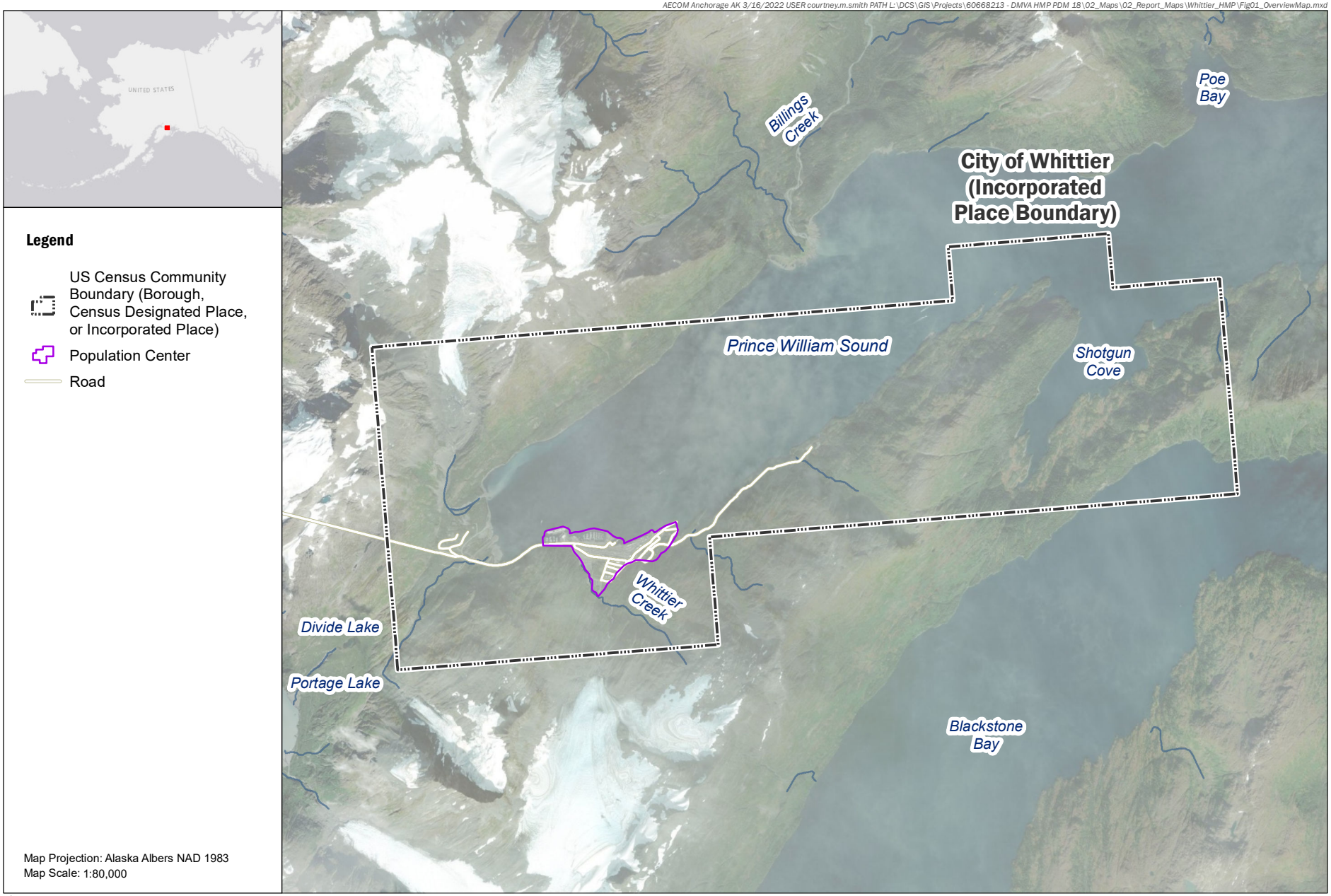
7.1 FORMAL ADOPTION

The 2022 LHMP was formally adopted on [date] by the City of Whitter City Council. A copy of the adoption resolution in on file with the community and the Alaska Division of Homeland Security and Emergency Management.

8.0 APPENDICES

APPENDIX A—FIGURES

AECOM Anchorage AK 3/16/2022 USER courtney.m.smith PATH L:\DCS\GIS\Projects\60668213 - DMVA HMP PDM 18\02_Maps\02_Report_Maps\Whittier_HMP\Fig01_OverviewMap.mxd



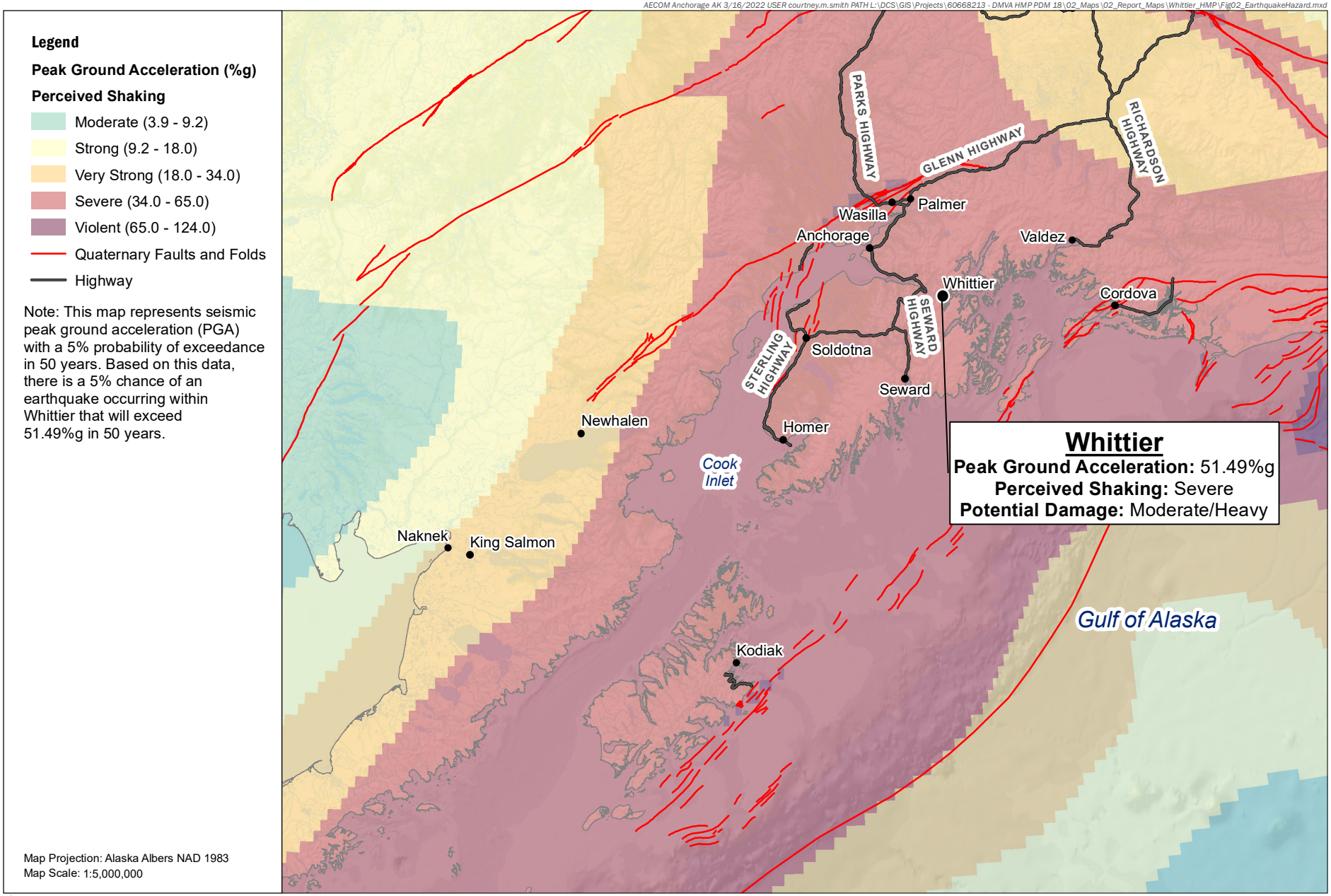
US Census TigerLine (2021)
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

AECOM
City of Whittier 2022
Local Hazard Mitigation Plan

OVERVIEW MAP

Figure 1

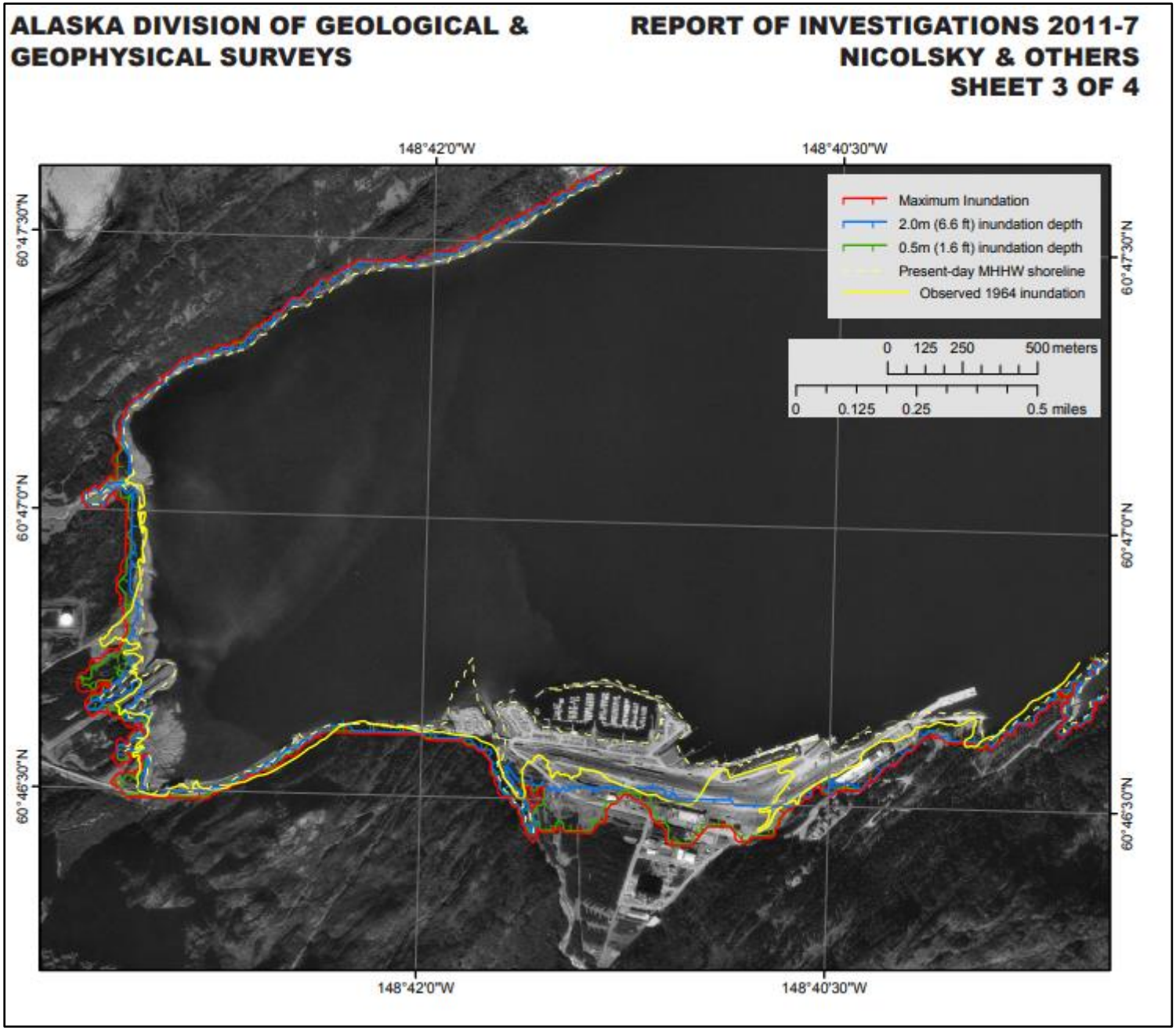
AECOM Anchorage AK 3/16/2022 USER courtney.m.smith PATH L:\DCS\GIS\Projects\60668213 - DMVA HMP PDM 18\02_Maps\02_Report_Maps\Whittier_HMP\Fig02_EarthquakeHazard.mxd



AECOM
City of Whittier 2022
Local Hazard Mitigation Plan

EARTHQUAKE HAZARD AREAS

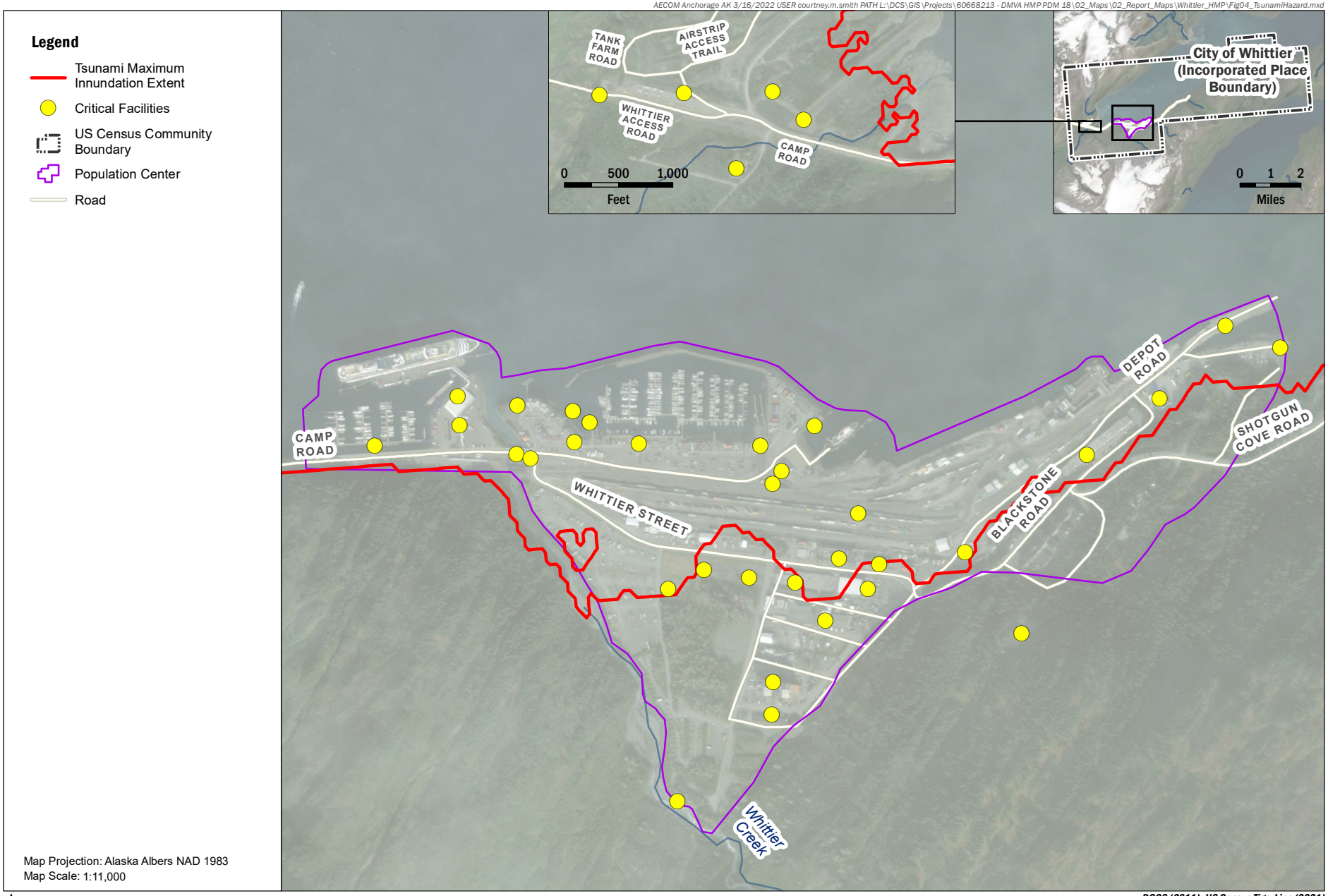
Figure 2



TSUNAMI INUNDATION

Figure 3

AECOM Anchorage AK 3/16/2022 USER courtney.m.smith PATH L:\DCS\GIS\Projects\60668213 - DMVA HMP PDM 18\02_Maps\02_Report_Maps\Whittier_HMP\Fig04_TsunamiHazard.mxd



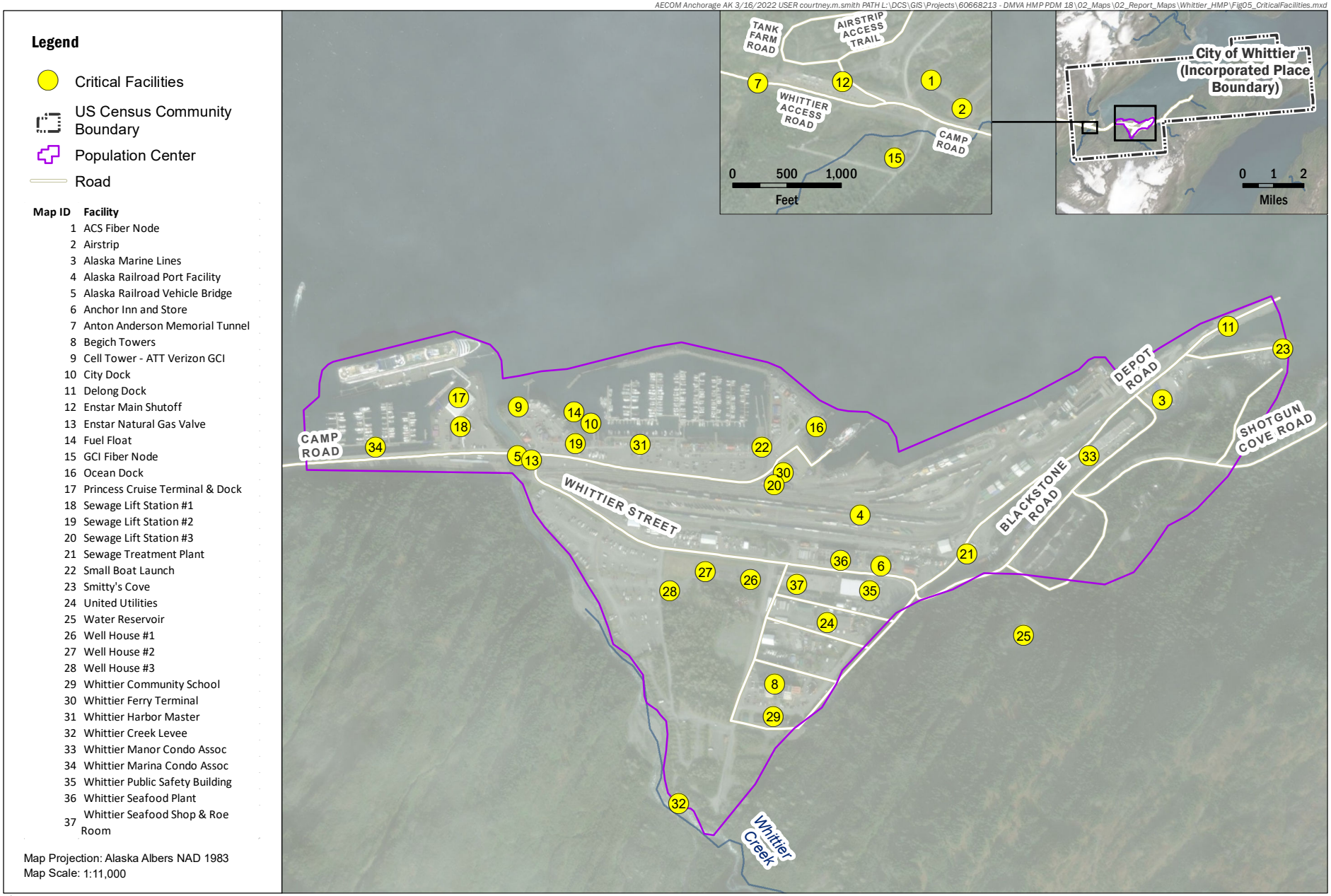
DGGS (2011); US Census TigerLine (2021)
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

AECOM
City of Whittier 2022
Local Hazard Mitigation Plan

TSUNAMI HAZARD AREAS

Figure 4

AECOM Anchorage AK 3/16/2022 USER courtney.m.smith PATH L:\DCS\GIS\Projects\60668213 - DMVA HMP PDM 18\02_Maps\02_Report_Maps\Whittier_HMP\Fig05_CriticalFacilities.mxd



AECOM

City of Whittier 2022
Local Hazard Mitigation Plan

CRITICAL FACILITIES

Figure 5

APPENDIX B—FEMA DOCUMENTATION

LOCAL MITIGATION PLAN REVIEW TOOL

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers States and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The Regulation Checklist provides a summary of FEMA's evaluation of whether the Plan has addressed all requirements.
- The Plan Assessment identifies the plan's strengths as well as documents areas for future improvement.
- The Multi-jurisdiction Summary Sheet is an optional worksheet that can be used to document how each jurisdiction met the requirements of each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction: City of Whittier	**Title of Plan:** 2022 City of Whitter Local Hazard Mitigation Plan	**Date of Plan:** May, 2022
Local Point of Contact: Jim Hunt	**Address:**	
Title: City Manager		
Agency:		
Phone Number: 907-202-2442	**E-Mail:** citymanager@whittieralaska.gov	

State Reviewer: Erin M. Leaders	**Title:** EMS II/Planner	**Date:** 4/20/2022

FEMA Reviewer	Olenka Wrobel and John McCandless
Title	Hazard Mitigation Planner
Date:	**5/20/2022**
Date Received in FEMA Region 10	5/12/2022
Plan Not Approved	6/3/2022
Plan Approvable Pending Adoption	6/13/2022
Plan Approved	

SECTION 1:
REGULATION CHECKLIST

INSTRUCTIONS: The Regulation Checklist must be completed by FEMA. The purpose of the Checklist is to identify the location of relevant or applicable content in the Plan by Element/sub-element and to determine if each requirement has been 'Met' or 'Not Met.' The 'Required Revisions' summary at the bottom of each Element must be completed by FEMA to provide a clear explanation of the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is 'Not Met.' Sub-elements should be referenced in each summary by using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each Element and sub-element are described in detail in this *Plan Review Guide* in Section 4, Regulation Checklist.

1. REGULATION CHECKLIST	Location in Plan (section and/or page number)	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)	Sec 2.0 Planning Process/pp. 2-1 – 2-5 (PDF 8-12)	Met	
ELEMENT A. PLANNING PROCESS			
A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))	Sec 2.1/pp. 2-1 – 2-2 (PDF 8-9); Appendix C	Met	
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))	Sec 2.2/pp. 2-2 – 2-3 (PDF 9-10) Appendix C	Met	
A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))	Sec 2.3/pp. 2-3 (PDF 10); Appendix C	Met	
A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))	Sec 2.4/pp. 2-3 (PDF 10)	Met	
A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii))	Sec 2.5/pp. 2-3 – 2-4 (PDF 10-11)	Met	
A6. 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 §201.6(c)(4)(i))	Sec 2.6/pp. 2-4 – 2-5 (PDF 11-12)	Met	
ELEMENT A: REQUIRED REVISIONS All requirements have been met.			
ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT			
B1. Does the Plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement §201.6(c)(2)(i))	**Climate Change Sec 3.1** Type (Nature): pp. 3-1 (PDF 13) Location: pp. 3-2 (PDF 14) Extent: pp. 3-2 (PDF 14)	Met	

	Dam Failure Sec 3.2 Type (Nature): pp. 3-3 (PDF 15) Location: pp. 3-3 (PDF 15) Extent: pp. 3-3 (PDF 15) **Earthquake Sec 3.3** Type (Nature): pp. 3-4 (PDF 16) Location: pp. 3-4 (PDF 16) Extent: pp. 3-5 (PDF 17) Appendix A Figure 2 **Hazardous Materials Sec 3.4** Type (Nature): pp. 3-8 (PDF 20) Location: pp. 3-8 (PDF 20) Extent: pp. 3-9 (PDF 21) **Severe Weather Sec 3.5** Type (Nature): pp. 3-11 (PDF 26) Location: pp. 3-11 (PDF 26) Extent: pp. 3-12 (PDF 27) **Tsunami Sec 3.6** Type (Nature): pp. 3-10 (PDF 22) Location: pp. 3-10 (PDF 22) Extent: pp. 3-11 (PDF 23) Appendix A Figures 3 & 4		
B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))	**Climate Change Sec 3.1** History: pp. 3-2 (PDF 14) **Dam Failure Sec 3.2** History: pp. 3-3 (PDF 15) **Earthquake Sec 3.3** History: pp. 3-5 (PDF 17) **Hazardous Materials Sec 3.4** History: pp. 3-6 (PDF 18) **Severe Weather Sec 3.5** History: pp. 3-8 (PDF 20) **Tsunami Sec 3.6** History: pp. 3-11 (PDF 23)	Met	
B3. Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii))	Impact: Sec 4.1/pp. 4-1 – 4-3 (PDF 24-26) Summary: Sec 4.2/pp. 4-3 – 4-5 (PDF 26-28999)	Met	
B4. Does the Plan address (National Flood Insurance Program (NFIP) insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii))	Sec 4.3/pp. 4-5 (PDF 28)	Met	
ELEMENT B: REQUIRED REVISIONS ~~**B2-c.** The plan does not include recent events for earthquakes or tsunamis. Updated mitigation plans need to include hazard events that have happened since the previous plan was adopted. If there have not been any recent events, the plan can state this to meet the requirement.~~ FEMA Revisions Review: Recent events has been updated for earthquakes and tsunamis.			
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))	Sec 5.1/pp. 5-1 – 5-6 (PDF 29-34)	Met	

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))	Sec 5.2/pp. 5.7 (PDF 35)	Met	
C3. Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i))	Sec 5.3/pp. 5-7 (PDF 35)	Met	
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))	Sec 5.4/pp. 5-7 – 5-9 (PDF 35-37)	Met	
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))	Sec 5.5/pp. 5-10 (PDF 38)	Met	
C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii))	Sec 5.6/pp. 5-10 – 5-11 (PDF 38-39)	Met	
ELEMENT C: REQUIRED REVISIONS All requirements have been met.			
ELEMENT D. PLAN REVIEW, EVALUATION, AND IMPLEMENTATION (applicable to plan updates only)			
D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3))	Sec 6.1/pp. 6-1 (PDF 40) Appendix A Figure 5	Met	
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3))	Sec 6.2/pp. 6-1 – 6-3 (PDF 40-42)	Met	
D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3))	Sec 6.3/pp. 6-3 – 6-4 (PDF 42-43)	Met	
ELEMENT D: REQUIRED REVISIONS All requirements have been met.			
ELEMENT E. PLAN ADOPTION			
E1. Does the Plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5))			
E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5))	N/A		
ELEMENT E: REQUIRED REVISIONS			
OPTIONAL: HIGH HAZARD POTENTIAL DAM (HHPD) RISKS			
HHPD1. Did Element A4 (planning process) describe the incorporation of existing plans, studies, reports, and technical information for high hazard potential dams?	N/A		
HHPD2. Did Element B3 (risk assessment) address HHPDs?	N/A		
HHPD3. Did Element C3 (mitigation goals) include mitigation goals to reduce long-term vulnerabilities from high hazard potential dams that pose an unacceptable risk to the public?	N/A		

HHPD4. Did Element C4-C5 (mitigation actions) address HHPDs prioritize mitigation actions to reduce vulnerabilities from high hazard potential dams that pose an unacceptable risk to the public?	N/A		
REQUIRED REVISIONS			
ELEMENT F. ADDITIONAL STATE REQUIREMENTS (OPTIONAL FOR STATE REVIEWERS ONLY; NOT TO BE COMPLETED BY FEMA)			
F1.			
F2.			
ELEMENT F: REQUIRED REVISIONS			

SECTION 2:
PLAN ASSESSMENT

INSTRUCTIONS: The purpose of the Plan Assessment is to offer the local community more comprehensive feedback to the community on the quality and utility of the plan in a narrative format. The audience for the Plan Assessment is not only the plan developer/local community planner, but also elected officials, local departments and agencies, and others involved in implementing the Local Mitigation Plan. The Plan Assessment must be completed by FEMA. The Assessment is an opportunity for FEMA to provide feedback and information to the community on: 1) suggested improvements to the Plan; 2) specific sections in the Plan where the community has gone above and beyond minimum requirements; 3) recommendations for plan implementation; and 4) ongoing partnership(s) and information on other FEMA programs, specifically RiskMAP and Hazard Mitigation Assistance programs. The Plan Assessment is divided into two sections:

1. Plan Strengths and Opportunities for Improvement
2. Resources for Implementing Your Approved Plan

Plan Strengths and Opportunities for Improvement is organized according to the plan Elements listed in the Regulation Checklist. Each Element includes a series of italicized bulleted items that are suggested topics for consideration while evaluating plans, but it is not intended to be a comprehensive list. FEMA Mitigation Planners are not required to answer each bullet item and should use them as a guide to paraphrase their own written assessment (2-3 sentences) of each Element.

The Plan Assessment must not reiterate the required revisions from the Regulation Checklist or be regulatory in nature and should be open-ended and should provide the community with suggestions for improvements or recommended revisions. The recommended revisions are suggestions for improvement and are not required to be made for the Plan to meet Federal regulatory requirements. The italicized text should be deleted once FEMA has added comments regarding strengths of the plan and potential improvements for future plan revisions. It is recommended that the Plan Assessment be a short synopsis of the overall strengths and weaknesses of the Plan (no longer than two pages), rather than a complete recap section by section.

Resources for Implementing Your Approved Plan provides a place for FEMA to offer information, data sources and general suggestions on the plan implementation and maintenance process. Information on other possible sources of assistance including, but not limited to, existing publications, grant funding or training opportunities, can be provided. States may add state and local resources, if available.

A. Plan Strengths and Opportunities for Improvement

This section provides a discussion of the strengths of the plan document and identifies areas where these could be improved beyond minimum requirements.

Element A: Planning Process

Strengths:

- Explaining how existing plans were incorporated in the LHMP connects the plans and strengthens the credibility of the data used.
- The Annual Review Tracker is a good way of keeping the plan as a living document over its lifetime.
- Residents heard about the planning process through multiple communication platforms.

Opportunities for Improvement:

- You could use a community survey for more engagement. Talking about the plan at town halls or other regular meetings where residents already participate could help spread awareness about the planning process.

Element B: Hazard Identification and Risk Assessment

Strengths:

- The map showing tsunami extent and critical facilities does a good job of highlighting which critical facilities would be affected by a tsunami hazard.
- The hazard impact section thoroughly explains the limits of the assessment and why you used a simplified assessment.

Opportunities for Improvement:

- Using figures in the hazard identification section would help the reader understand the risk assessment better.
- A stronger assessment or justification for omission on flood hazard risk would give a better understanding of the community's overall hazard risk.

Element C: Mitigation Strategy

Strengths:

- The mitigation strategies are clearly defined and potential funding sources are identified in a table. The table is easy to interpret.

Opportunities for Improvement:

- Including the cost-benefit analysis described in the mitigation action prioritization section would be helpful in strengthening the case for ranking the actions as high- and medium-priority.
- All prioritized actions have a timing of 0-5 years. Some should be identified as happening sooner to create an order for each one to take place.

Element D: Plan Update, Evaluation, and Implementation (*Plan Updates Only*)

Strengths:

- Table 6-1 provides a thorough list of actions that are ongoing or deferred from the last LHMP update.
- Changes in development are explained in detail. They align with the Type of Development column in Table 5-6.

Opportunities for Improvement:

- Include any success stories from the plan. These might be mitigation projects that were implemented or meetings that were held. These stories can show that mitigation is a worthwhile process.
- Table 6-1 provides a good overview of each of the actions from the previous plan. Providing more detail on why deferred projects are not included in the 2022 LHMP would align it better with the change in prioritization section 6.3.

B. Resources for Implementing Your Approved Plan

Ideas may be offered on moving the mitigation plan forward and continuing the relationship with key mitigation stakeholders such as the following:

- *What FEMA assistance (funding) programs are available (for example, Hazard Mitigation Assistance) to the jurisdiction(s) to assist with implementing the mitigation actions?*
- *What other Federal programs NFIP, Community Rating System, Risk MAP, etc.) may provide assistance for mitigation activities?*
- *What publications, technical guidance or other resources are available to the jurisdiction(s) relevant to the identified mitigation actions?*
- *Are there upcoming trainings/workshops (Benefit-Cost Analysis), Hazard Mitigation Assistance, etc.) to assist the jurisdictions(s)?*
- *What mitigation actions can be funded by other Federal agencies (for example, United States Forest Service, National Oceanic and Atmospheric Administration, Environmental Protection Agency Smart Growth, Housing and Urban Development Sustainable Communities, etc.) and/or state and local agencies?*

SECTION 3:
MULTI-JURISDICTION SUMMARY SHEET (OPTIONAL)

INSTRUCTIONS: For multi-jurisdictional plans, a Multi-jurisdiction Summary Spreadsheet may be completed by listing each participating jurisdiction, which required Elements for each jurisdiction were 'Met' or 'Not Met,' and when the adoption resolutions were received. This Summary Sheet does not imply that a mini plan be developed for each jurisdiction; it should be used as an optional worksheet to ensure that each jurisdiction participating in the Plan has been documented and has met the requirements for those Elements (A through E).

		Multi-Jurisdiction	Summary	Sheet				Requirements:		(Met /Not Met)		
Line Number	Jurisdiction Name	Jurisdiction Type (city/borough/township/village, etc.)	Plan Point of Contact	Mailing Address	Email	Phone	A. Planning Process	B. Hazard Identification and Risk Assessment	C. Mitigation Strategy	D. Plan Review, Evaluation, and Implementation	E. Plan Adoption	F. State Requirements
1												
2												
3												
4												
5												
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APPENDIX C—PLANNING PROCESS

Evans, Jessica

From: Evans, Jessica
Sent: Monday, January 31, 2022 4:27 PM
To: Evans, Jessica
Cc: City Manager
Subject: City of Whitter Local Mitigation Plan Update

Good Afternoon,

Sending on behalf of the City of Whitter: The City is kicking off the 2022 City of Whitter Local Hazard Mitigation Plan (LHMP) update process. LHMPs are pre-disaster plans that are focused on reducing the impacts of disasters before they occur. In addition, governments that prepare LHMPs are eligible for certain types of FEMA funding.

The 2022 LHMP update process will take place over the next several months. Hazards addressed in the plan will include: tsunami, earthquake, severe weather, flood, climate change, and hazardous material events.

To learn more about hazard mitigation planning, please visit: https://www.fema.gov/hazard-mitigation-planning.
If you would like to participate in our plan update process, please contact me or Jim Hunt at citymanager@whittieralaska.gov.

We will send out a follow-up email when our Public Draft is available for review and comment.

Thank you,

Jessica

Jessica Evans
Environmental Scientist/Planner, IAP Practices, Alaska
D +1-907-261-6764
jessica.evans@aecom.com

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Anchorage, Alaska, United States
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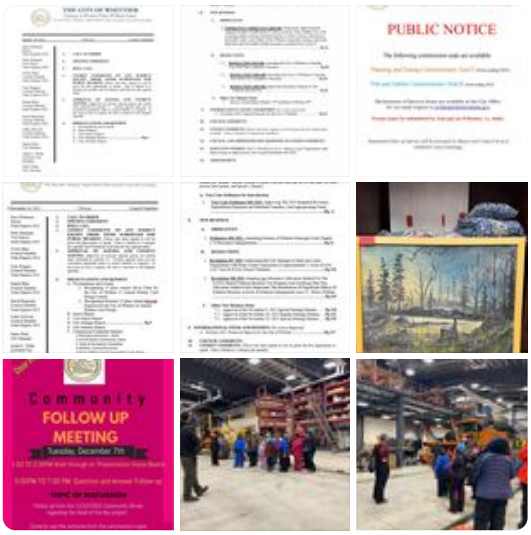
Group posts | ...

Intro

Member of **What's what in Whittier** since November 1, 2021

Recent Photos



Recent Activity

Group posts

Whittier Alaska shared a link.
19h ·

City of Whittier 2022 Local Hazard Mitigation Plan

Our community is launching an effort known as the City of Whittier 2022 Local Hazard Mitigation Plan. Over the next few months, we will work with a consultant to assess risks posed by natural disasters and develop strategies to protect life and property in Whittier from future hazard events.

Hazards addressed in our plan include the following: earthquake, climate change, earthquake, flood, hazardous material event, severe weath... See more

WHITTIERALASKA.GOV

Whittier Alaska replied to **Friederike Petrasch**'s comment: "https://www.youtube.com/channel/UCBg7gv6xdpH-LfbwiDwgfHw"

Whittier Alaska replied to **Friederike Petrasch**'s comment: "Yes. you can watch by using this link https://www.youtube.com/channel/UCBg7gv6xdpH-LfbwiDwgfHw"

City of Whittier Alaska | City of Whittier
Whittier Social Media Links Head of the Bay project CC 19 ...

See how the average temperature in your area is changing.
Explore Climate Science Info

19 3 Comments 3 Shares

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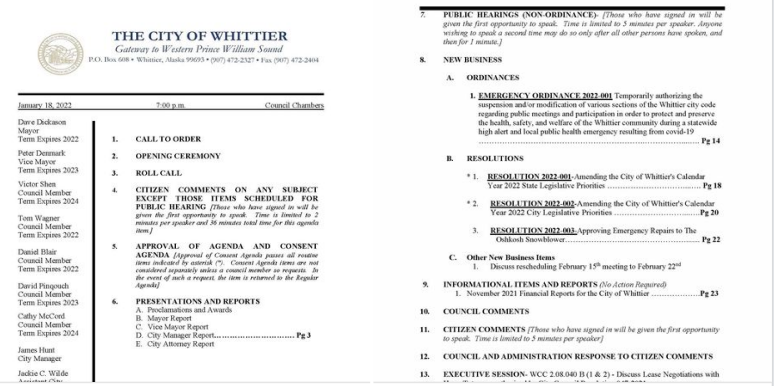
Whittier Alaska ▸ **What's what in Whittier**
January 17 at 8:24 PM ·

City Council Meeting
Tuesday January 18, 2022 @ 7:00PM
Public Safety Building



THE CITY OF WHITTIER
Gateway to Western Prince William Sound
P.O. Box 608 • Whittier, Alaska 99693 • (907) 472-2327 • Fax (907) 472-2404

January 18, 2022 — 7:00 p.m. — Council Chambers

Dave Dickason, Mayor, Term Expires 2022
Peter Denmark, Vice Mayor, Term Expires 2023
Victor Shen, Council Member, Term Expires 2024
Tom Wagner, Council Member, Term Expires 2022
Daniel Blair, Council Member, Term Expires 2022
David Pinguoch, Council Member, Term Expires 2023
Cathy McCord, Council Member, Term Expires 2024
James Hunt, City Manager
Jackie C. Wilde

1. CALL TO ORDER
2. OPENING CEREMONY
3. ROLL CALL
4. CITIZEN COMMENTS ON ANY SUBJECT EXCEPT THOSE ITEMS SCHEDULED FOR PUBLIC HEARING *[Those who have signed in will be given the first opportunity to speak. Time is limited to 2 minutes per speaker and 30 minutes total time for this agenda item.]*
5. APPROVAL OF AGENDA AND CONSENT AGENDA *[Approval of Consent Agenda passes all routine items indicated by asterisk (*). Consent Agenda items are not considered separately unless a council member so requests. In the event of such a request, the item is returned to the Regular Agenda]*
6. PRESENTATIONS AND REPORTS
   A. Proclamations and Awards
   B. Mayor Report
   C. Vice Mayor Report
   D. City Manager Report..... Pg 3
   E. City Attorney Report

7. PUBLIC HEARINGS (NON-ORDINANCE) *[Those who have signed in will be given the first opportunity to speak. Time is limited to 5 minutes per speaker. Anyone wishing to speak a second time may do so only after all other persons have spoken, and then for 1 minute.]*
8. NEW BUSINESS
   A. ORDINANCES
      1. EMERGENCY ORDINANCE 2022-001 Temporarily authorizing the suspension and/or modification of various sections of the Whittier city code regarding public meetings and participation in order to protect and preserve the health, safety, and welfare of the Whittier community during a statewide high alert and local public health emergency resulting from covid-19 ..... Pg 14
   B. RESOLUTIONS
      * 1. RESOLUTION 2022-001-Amending the City of Whittier's Calendar Year 2022 State Legislative Priorities ..... Pg 18
      * 2. RESOLUTION 2022-002-Amending the City of Whittier's Calendar Year 2022 City Legislative Priorities ..... Pg 20
      3. RESOLUTION 2022-003-Approving Emergency Repairs to The Oshkosh Snowblower..... Pg 22
   C. Other New Business Items
      1. Discuss rescheduling February 15th meeting to February 22nd
9. INFORMATIONAL ITEMS AND REPORTS *(No Action Required)*
   1. November 2021 Financial Reports for the City of Whittier ..... Pg 23
10. COUNCIL COMMENTS
11. CITIZEN COMMENTS *[Those who have signed in will be given the first opportunity to speak. Time is limited to 5 minutes per speaker]*
12. COUNCIL AND ADMINISTRATION RESPONSE TO CITIZEN COMMENTS
13. EXECUTIVE SESSION- WCC 2.08.040 B (1 & 2) - Discuss Lease Negotiations with

6 3 Comments

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Whittier Alaska ▸ **What's what in Whittier**
January 17 at 4:46 PM ·

Have you ever wanted to make a difference?
Have you wondered, "Can the City benefit from my experience and knowledge?"
Do you want to have a voice in the City's growth and future?
Do you want to be a part of the body that is responsible for making decisions regarding policy, service and education? ... **See more**

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PUBLIC NOTICE

The following commission seats are available

Planning and Zoning Commissioner- Seat E *(Term ending 2023)*

Port and Harbor Commissioner- Seat B *(Term ending 2023)*

PRINCE WILLIAM SOUND
ECONOMIC
DEVELOPMENT
DISTRICT

PWSEDD BOARD TRANSITION, NEW HIRE

We'd like to give a BIG thank you to **Patience Andersen Faulkner** of Cordova and **Dan Blair** of Whittier for their time and service on the PWSEDD Board. Patience, a long-time community volunteer with many organizations, has served on our Board since 2014, and Dan, a Whittier business owner, since 2017. Thanks to their hard work, PWSEDD has seen exciting growth and we will certainly miss working with them. We'd also like to give a warm welcome to our newest board member, **Tommy Sheridan**, and our new Program Manager, **Lindsey Hammer.** Tommy brings a wealth of knowledge and experience with Alaskan fishery resource management through fisheries management and teaching positions he's held throughout the state, as well as a strong passion for service. Lindsey is a local Cordovan who is excited to work towards bettering her community after having graduated from Whitman College. Glad to have you both on board!

VESSEL & COMMERCIAL BUILDING ENERGY EFFICIENCY AUDIT PROGRAM is now open

The Alaska Mariculture Cluster (AMC) has been awarded $500,000 as a finalist for the U.S. Economic Development Administration Build Back Better Regional Challenge. This project aims to build and strengthen a sustainable mariculture industry in coastal Alaskan communities, including Prince William Sound. If selected for a Phase 2 award, AMC will receive $25-75 million to put towards creating an integrated hatchery network, providing financing option to mariculture entrepreneurs, coordinating public outreach, and supporting product, market and workforce development. Read more here, and we'll be reporting on the next phase of this application.

CORDOVA COMMUNITY GARDEN

PWSEDD in partnership with the Copper River Watershed Project has been awarded two grants, a U.S. Department of Agriculture (USDA) Farm to School grant and Department of Natural Resources Micro-Grants for Food Security, to help develop a community garden in Cordova! If you're interested in getting involved with the Cordova Community Garden, send us an email below.

EMAIL US

AROUND THE SOUND

Alaska Marine Highway System: the new Alaska Marine Highway Operations Board will hold its first meeting on February 11, 2022 from 10 a.m. - 4 p.m. Use the link here to watch a Facebook live stream, or call 1-855-925-2801, meeting code 5612.

In **Whittier**: FEMA is assisting Whttier with updating its Local Hazard Mitigation Plan (LHMP). LHMPs are pre-disaster plans that are focused on reducing the impacts of disasters before they occur. In addition, governments that prepare LHMPs are eligible for certain types of FEMA funding. The 2022 LHMP update process will take place over the next several months. Hazards addressed in the plan will include: tsunami, earthquake, severe weather, flood, climate change, and hazardous material events. Look for meeting notices on Facebook or contact the City of Whittier to be added to a mailing list.

In **Cordova**: *What does the future look like for the Copper River Highway Corridor?* To answer that question, state, local and tribal partners are developing the vision and goals for a 25 year Copper River Highway Master Plan. Begun in late January, the process is being led by the Alaska Department of Transportation, the Native Village of Eyak and the City of Cordova. Ultimately, the plan will document existing conditions, collect data on previous and existing planning efforts, and work with stakeholders and the public to develop a vision statement for the corridor and spell out long-term needs along the CRH.

FOLLOW US

Evans, Jessica

From: Evans, Jessica
Sent: Monday, April 18, 2022 3:11 PM
To: Evans, Jessica
Cc: City Manager
Subject: City of Whittier Local Hazard Mitigation Plan: Draft for Review
Attachments: Whittier_LHMP_DRAFT_041822.pdf

Good afternoon,

As you may remember from our last email on January 31, the City of Whittier is updating our Local Hazard Mitigation Plan (LHMP). LHMPs are pre-disaster plans that are focused on reducing the impacts of disasters before they occur. In addition, governments that prepare LHMPs are eligible for certain types of FEMA funding.

We have completed a public draft of the 2022 Whittier Local Hazard Mitigation Plan (LHMP) update. Over past few months, we have worked with a consultant to assess risks posed by natural disasters and develop strategies to protect life and property in the community from future hazard events. Hazards addressed in the plan include: climate change, dam failure, earthquake, hazardous materials, severe weather, and tsunami.

To learn more about hazard mitigation planning, please visit: https://www.fema.gov/hazard-mitigation-planning.

A copy of our plan is attached and available to review until May 2, 2022. If you have questions or comments, please contact Jim Hunt at citymanager@whittieralaska.gov or myself at jessica.evans@aecom.com.

Thank you for your continued interest and participation.

Sent on behalf of the City of Whittier.

Jessica

Jessica Evans
Environmental Scientist/Planner, IAP Practices, Alaska
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jessica.evans@aecom.com

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Intro

City of Whittier, Alaska

Lives in **Whittier, Alaska**

Followed by **20 people**

CityofWhittierAK

https://www.youtube.com/channel/UCBg7gv6xdpH-LfbwiDwgfHw/videos

WhittierAlaska.gov

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Whittier Alaska
21m ·

2022 City of Whittier Local Hazard Mitigation Plan
Our community has completed a public draft of the 2022 Local Hazard Mitigation Plan. Over past few months, we have worked with a consultant to assess risks posed by natural disasters and develop strategies to protect life and property in Whittier from future hazard events.
Hazards addressed in our plan include the following: climate change, dam failure, earthquake, hazardous materials, severe weather, and tsunami.
Once our pl... **See more**

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Jacob Langton


Antonio Jesus Dagnino Hernandez


Elishaba Doerksen


Javier Valdez

Manuel Salomon


Jesus Antonio Paredes


Katriona Suli

Melissa Hartwick Jackson

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Hazard Mitigation Planning

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Explore Climate Science Info

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Whittier Alaska

April 5 at 12:29 PM ·

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PUBLIC NOTICE

Whittier Planning & Zoning Commission

SEAT AVAILABLE

Seat B: 2 years remaining on a 3 Year Term, expiring 2024

Declarations of Interest forms are available at the City Office.
Forms must be completed and returned to the City Office
no later than April 14, 2022.
Seats will be appointed by the City Council on April 19, 2022

POSTED:04/05/2022
- Anchor Inn
- BTI
- City Office/Website
- Harbor Office
- Museum
- Whittier Manor

5

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