



Appendix I Approval Documentation

June 2022

CITY OF ALAMEDA RESOLUTION NO. 15910

APPROVING THE CITY OF ALAMEDA CLIMATE ADAPTATION AND HAZARD MITIGATION PLAN AS THE CITY'S LOCAL HAZARD MITIGATION PLAN INCLUDING INCORPORATION INTO THE CITY OF ALAMEDA GENERAL PLAN SAFETY ELEMENT BY REFERENCES, AND ADOPTING A GENERAL PLAN AMENDMENT AMENDING THE HEALTH AND SAFETY ELEMENT AND CONSERVATION AND CLIMATE ACTION ELEMENT OF THE ALAMEDA GENERAL PLAN 2040 TO ALIGN WITH THE CLIMATE ADAPTATION AND HAZARD MITIGATION PLAN, 2022

WHEREAS, due to Alameda's proximity to major earthquake faults, our geography as a low-lying island community with older building stock, Alameda faces risks from a number of climate and natural hazards that have the potential to significantly disrupt daily life and cause damage to people and property; and

WHEREAS, earthquakes, floods and sea level rise pose the greatest risk to people and property in Alameda; and

WHEREAS, Alameda also faces risks from tsunamis, heat, drought, wildfire related hazards of smoky air and power outages, and dam breach inundation; and

WHEREAS, climate change is exacerbating the frequency, duration, extent, and consequences of many of the hazards Alameda faces; and

WHEREAS, some members of the community will be more significantly impacted by natural disasters and may have a more difficult time recovering than others due to lack of stable housing, financial resources, and by zoning laws that have historically disproportionately placed people of color into areas of the city more vulnerable to natural hazards.

WHEREAS, the success of the Climate Adaptation and Hazard Mitigation rests not only on our ability to implement the strategies laid out in this plan, but also on our ability to implement the City's Climate Action and Resiliency Plan (CARP) and reduce our greenhouse gas emissions (GHG) by 50% below 2005 levels by 2030 and become carbon neutral soon as possible. By taking strong actions to reduce our GHG emissions, Alameda will do our part to achieve a climate safe path and avoid some of the most extreme climate effects we could face; and

WHEREAS, the City of Alameda seeks to be prepared for future hazards and climate impacts by reducing the potential loss of life, property damage, and environmental degradation from natural disasters, while accelerating equitable economic recovery from those disasters; and

WHEREAS, the City of Alameda is committed to increasing the resilience of the infrastructure, health, housing, economy, government services education, environment, and land use systems in the City of Alameda; and

WHEREAS, given the interconnectedness of our ecosystems and the shared watershed of San Leandro Bay and the Oakland-Alameda Estuary, the City must work collaboratively with key stakeholders across the region to help ensure uniform protections for all communities, especially for under resourced communities, and speak with a unified voice to expedite collective hazard mitigation and climate adaptation goals; and

WHEREAS, the federal Disaster Mitigation Act of 2000 (DMA 2000) requires all cities counties, and special districts to have adopted a Local Hazard Mitigation Plan (LHMP) to receive disaster mitigation funding from FEMA; and

WHEREAS, the LHMP for the City of Alameda planning area was developed in accordance with DMA 2000 and followed FEMA's 2011 Local Hazard Mitigation Plan guidance; and

WHEREAS, the LHMP incorporates a process where hazards are identified and profiled, the people and facilities at risk are analyzed, and mitigation actions are developed to reduce or eliminate hazard risk; and

WHEREAS, the implementation of these mitigation actions, which include both short and long-term strategies, involve planning, policy changes, programs, projects, and other activities; and

WHEREAS, the Federal Emergency Management Agency approved the City's Local Hazard Mitigation Plan, 2022, pending City Council adoption of the plan on May 1, 2022.

WHEREAS, Government Code section 65300.5 requires the City of Alameda (City) to maintain a General Plan that is an "integrated, internally consistent and compatible statement of policies for the adopting agency"; and

WHEREAS, the General Plan establishes the local development and conservation policies necessary to guide the long-term plan for the physical development of the City and protect the general health, safety and welfare of the community and the environment; and

WHEREAS, Alameda's General Plan 2040 was adopted November 30, 2021 by the City Council; and

WHEREAS, staff recommends revisions to policies in both the Health and Safety Element and Conservation and Climate Action Element of the General Plan so that the strategies and policies are aligned and consistent with the Mitigation Plan strategies; and

WHEREAS, incorporation of the recommended revisions outlined in the Addendum List (Exhibit 1) will align the strategies in the Mitigation Plan with the proposed General Plan policies. Staff is recommending that the General Plan be amended to reflect this alignment; and

WHEREAS, the draft General Plan amendments and the adequacy of the General Plan EIR were considered by the City Planning Board at a duly noticed public hearing on May 9, 2022, during which the Planning Board received and considered public testimony and written comments before making its recommendation to the City Council.

NOW, THEREFORE, BE IT RESOLVED that the City of Alameda adopts the Climate Adaptation and Hazard Mitigation Plan, 2022 as Alameda's Local Hazard Mitigation Plan.

NOW, THEREFORE, BE IT FURTHER RESOLVED that the Climate Adaptation and Hazard Mitigation Plan is incorporated into the City of Alameda General Plan Safety Element by reference.

NOW, THEREFORE, BE IT FURTHER RESOLVED, that the City Council finds that on November 30, 2021, by Resolution No. 15841, the City Council certified a Final Environmental Impact Report (State Clearinghouse No. 2021030563) in compliance with the California Environmental Quality Act, and adopted written findings, a Statement of Overriding Considerations, and a Mitigation Monitoring and Reporting Program for the General Plan Amendment to update the Alameda General Plan. Pursuant to CEQA Guidelines sections 15162 and 15163, none of the circumstances necessitating further CEQA review are present. The proposed General Plan amendments would not require major revisions to General Plan Amendment EIR due to new significant impacts or due to a substantial increase in the severity of the significant environmental effects. There have been no substantial changes with respect to the circumstances under which the policies would be implemented that would require major revisions of the General Plan Amendment EIR due to new or substantially increased significant environmental effects. Further, there has been no discovery of new information of substantial importance that would trigger or require major revisions to the General Plan Amendment EIR due to new or substantially increased significant environmental effects. For these reasons, no further environmental review with respect to the General Plan Amendment EIR is required.

NOW, THEREFORE, BE IT FURTHER RESOLVED, that the Health and Safety Element and Conservation and Climate Action Element of the Alameda General Plan 2040 be amended to reflect the amendments shown in Exhibit 1; and

Exhibit 1:

The Conservation and Climate Action Element policies shall be amended as follows:

CC-16

Water Efficiency and Conservation. Minimize water use in existing and new construction and landscaped areas to make Alameda more resilient to drought and generate less wastewater.

Actions:

- a. **Water Efficient Landscape Requirements.** Maintain up-to-date water-efficient landscaping regulations and ordinances to reduce water use in both private and public landscapes that include healthy, drought tolerant soils, diverse native plant species, non-invasive drought tolerant/low water use plants, and high-efficiency irrigation systems.*
- b. **Water-Efficient Buildings.** Require low-flow fixtures, such as low-flow toilets and faucets in new construction.*
- c. **Recycled and Reclaimed Water.** Promote the production and usage of recycled and reclaimed water (sometimes called "grey water") for potable and non-potable uses.*
- d. **Pesticides, Herbicides, and Fertilizers.** Limit the use of pesticides, herbicides, and fertilizers throughout the city by fostering healthy soil practices, which include organic carbon amendments (e.g. compost and mulch) on all non-turf planting areas.*
- e. **Soil Health.** Encourage soil health by promoting and educating the public about the benefits of organic carbon soil amendments that improve water retention in local landscapes.*
- f. **EBMUD.** Work with EBMUD to improve effectiveness of water conservation programs and increase drought awareness.*
- g. **City Buildings.** Implement water-saving technologies at all City-owned buildings and post visible signage to educate visitors.*

CC-21

Sea Level Rise Plans. ~~Develop neighborhood shoreline sea level rise protection and funding plans to 50 years of the Ocean Protection Council's Medium-High Risk Aversion, high emissions scenario of sea level rise in addition to a 100 year storm in the initial design and funding mechanisms to pay for later adaptation improvements to address future sea level and groundwater increases above that level. (See also Policies HS-18 and HS-22).~~ **Adaptation Pathway Master Plan.** Develop an adaptation pathway master plan that includes updated vulnerability studies, groundwater rise studies and other data collection as needed to identify the range of shoreline protection, groundwater management and adaptation strategies over time from short- to long-term as well as land use, building and infrastructure design standards needed to help Alameda and the entire San Leandro Bay and Oakland-Alameda Estuary area adapt to rising sea and groundwater levels. The plan should include economic analysis and cost estimates to facilitate the development of funding strategies and regional cooperation. (See also Policies LU-14, CC-24, and HS-24).

CC-22

Critical Public Assets. Ensure resilience and long-term functionality of the transportation network. Implement improvements to move or protect critical public assets threatened by earthquakes, sea level rise or rising groundwater. (See also Policy HS-127).

Actions:

- a. **Stormwater System.** *Identify funding sources to improve the public stormwater infrastructure and ensure it meets current needs and is prepared for the effects of sea level rise and climate change.*
- b. **Sewer System.** Protect vulnerable wastewater systems and facilities to minimize disruption to the systems following ground shaking and extreme weather events.
- c. **Electric System.** Ensure electrical infrastructure is flood-proofed or elevated. Where possible, move assets out of the hazard zone.
- d. **Transportation.** *Work with Caltrans and the Alameda County Transportation Commission to identify funding to adapt the regional and local roadways in Alameda.*

CC-23

Rising Groundwater. *Prepare for the impacts of rising groundwater levels on private and public property. (See also Policy HS-24).*

Actions:

- a. **Infrastructure and Access.** *Develop plans and strategies to protect and/or relocate critical infrastructure and maintain access to impacted property.*
- b. **Building Codes.** *Prepare and adopt revised zoning and building codes to increase resilience of new buildings against the impacts of rising groundwater.*
- c. **Annual Review.** *Annually monitor groundwater levels and progress on specific strategies to mitigate impacts.*
- d. **Data.** Collect new data, add groundwater monitoring wells, analyze additional contaminants and potential landfill risks, update liquefaction zones and continue to refine the quality of the groundwater model.

SPOTLIGHT: BUILDING ELECTRIFICATION BENEFITS

Fiscal Responsibility and Inevitability: Key regional and state decision-makers, including PG&E, have indicated the desire and intention to go all-electric and eventually discontinue gas service.

Equity: As natural gas costs rise over time, customers will switch to all-electric appliances and homes at faster and faster rates. Coordinating and subsidizing a timely and fair transition for lower-income and more vulnerable residents is critical.

Healthy Air: Gas appliances emit pollutants and increase risk of respiratory illness, cardiovascular disease, and other long-term illnesses. Children living in homes with gas stoves are 40% more likely to develop asthma. According to the Rocky Mountain Institute, children who grow up in buildings with natural gas stoves were 42% more likely to develop asthma.

Resilience and Safety: Buildings that depend on natural gas may have to wait up to 6 months following severe earthquake events for service to return (compared to up to 1 week with electric appliances). Removing gas infrastructure reduces the risk of fires in the event of an earthquake.

Climate: Replacing gas appliances with electric appliances will reduce methane emissions from natural gas use, which is 86 times stronger than carbon dioxide, having significant impacts on climate change. Electrification transitions building energy use to clean energy from a renewable grid and supports green jobs.

The Health and Safety Element policies and Spotlights shall be amended as follows:

NEW SPOTLIGHT

Local Hazard Mitigation Plan. The Local Hazard Mitigation Plan (LHMP) for the City of Alameda was developed in accordance with the Disaster Mitigation Act of 2000 (DMA 2000) and followed FEMA's 2011 Local Hazard Mitigation Plan guidance. The LHMP incorporates a process where hazards are identified and profiled, the people and facilities at risk are analyzed, and mitigation actions are developed to reduce or eliminate hazard risk. The implementation of these mitigation actions, which include both short and long-term strategies, involve planning, policy changes, programs, projects, and other activities. The LHMP is available for review at <https://www.alamedaca.gov/HazardMitigationPlan>

HS-3

Emergency Coordination Mutual Aid Agreements. Coordinate local emergency preparedness efforts with the Federal Emergency Management Agency, California Office of Emergency Services, Coast Guard, United States Maritime Administration Ready Reserve Fleet, the San Francisco Bay Area Water Emergency Transportation Authority, Alameda County, East Bay Municipal Utility District, the Port of Oakland, adjacent jurisdictions, CalWARN, the Alameda Unified School District, the various private schools in Alameda, local hospitals, housing facilities for seniors or individuals with disabilities, and other local and regional police, fire and public health agencies in preparation for natural and man-made disasters, and ensure that the City's disaster response communication technologies are compatible with other agency communication technologies. (See also Policy CC-3).

HS-4

Public Communication. Maintain and promote community programs to train volunteers, support vulnerable community members like seniors and individuals with disabilities, coordinate with food

banks and other local aid organizations, and assist police, fire, and civil defense personnel during and after a major earthquake, fire, or flood. (See also Policy CC-1).

Actions:

- a. **Volunteers.** Maintain community based emergency preparedness training programs targeted to neighborhoods and business groups, such as Community Emergency Response Teams and including outreach and coordination with Voluntary Organizations Active in Disasters (VOAD) and other community based programs.*
- b. **Education.** Prepare and/or make available public education and awareness materials in multiple languages on all aspects of emergency preparedness, including the type and extent of hazards in the community, measures to reduce the likelihood of damage and injury, provisions for emergency supplies, steps to take immediately after a disaster, and the location of shelters and medical facilities.*
- c. **Targeted Communication.** Engage Alamedans using a wide range of tools, languages and strategies to communicate about all types of threats and planning, with a special emphasis on the most vulnerable people who are least likely to know about or be able to adapt to various threats.*
- d. **Resilience Hubs.** Promote resilience hubs, community-serving facilities augmented to support residents, coordinate resource distribution and services before, during, or after a natural hazard event, and reduce carbon pollution while enhancing quality of life.*

7.2 SEISMIC + GEOLOGIC HAZARDS

Figure 7.2 illustrates Alameda's susceptibility to severe liquefaction in the event of ground shaking. Climate change may increase the risk of liquefaction. Rising sea levels will cause rising groundwater levels in Alameda. Liquefiable soils that become saturated with groundwater are at increased risk of liquefaction. As the risks grow, so does the need for Alameda to strengthen its requirements to make buildings safer and more resilient to severe ground shaking and liquefaction.

HS-9

Building and Infrastructure Standards. Maintain up-to-date building codes and encourage or require new and existing buildings and infrastructure to be designed or retrofitted for timely restoration of service (functional recovery) following an earthquake, with particular attention on the effects of liquefaction on buildings and infrastructure.

HS-12

City Buildings and Infrastructure Continue to strengthen and rehabilitate city buildings and infrastructure, including but not limited to waste water systems and pump stations, storm water systems and pump stations, and electric systems and facilities to ensure that the City can respond effectively to a seismic event and to provide resilience and long-term functionality. (See also Policies CC-4, CC-5, CC-13, CC-14, and CC-16, and CC-22).

- a. **Stormwater System.** Rehabilitate the existing storm system conveyances and pump stations to increase capacity and resilience during storms, high tides, sea level rise, seismic events, and power outages, thereby decreasing the chance of flooding of nearby streets, utilities, and buildings.*

- b. **Sewer System.** Protect vulnerable wastewater system and facilities to minimize disruption to the systems following ground shaking and extreme weather events and consider the impact of rising groundwater levels and increasing salinity on buried utility infrastructure.
- c. **Electric System.** Protect vulnerable electric systems and facilities. Ensure electrical infrastructure is flood-proofed or elevated and strengthened for earthquakes. Where possible, move assets out of the hazard zone, including elevating utility junction boxes and other electrical infrastructure on scaffolding.
- d. **Transportation.** Work with Caltrans and the Alameda County Transportation Commission to identify funding to adapt and strengthen the regional and local roadways in Alameda.

HS-13

Private Buildings. Require owners of vulnerable structures, to the extent feasible, to retrofit existing structures to withstand earthquake ground shaking, and require retrofitting when such structures are substantially rehabilitated or remodeled.

Actions:

- a. **Soft Story Program.** *Continue to implement and expand the City's Soft Story Program, including mandatory requirements for substantially improving the seismic performance of multi-family wood frame residential buildings with open ground floor parking or commercial spaces known as soft stories.*
- b. **Wood Framed Building Program.** *Continue to implement and expand the City's Wood Framed Building Program, including ~~voluntary~~ requirements for substantially improving the seismic performance of one- and two-story wood frame residential buildings with vulnerable "cripple walls".*
- c. **Non-ductile Concrete Buildings.** *Identify, evaluate and retrofit non-ductile concrete residential and nonresidential buildings that are vulnerable to collapse in earthquakes.*
- d. **Chimneys.** *Encourage owners to remove or rebuild masonry or stone chimneys vulnerable to collapse in earthquakes.*
- e. **Incentives.** *Develop incentives and assistance to help property owners make their homes and businesses more earthquake-safe. Pursue a variety of funding sources, such as grants, low-interest loans, tax credits and zoning waivers and density bonuses, to assist residents and businesses with seismic upgrades. Provide exemptions from City zoning requirements, such as off-street parking and/or common open space to facilitate the retrofitting of vulnerable privately-owned buildings.*
- f. **Shoreline Property Management.** *Require owners of shoreline properties, to the extent feasible, to inspect, maintain, and repair the perimeter slopes to withstand earthquake ground shaking, consolidation of underlying bay mud, and wave erosion.*
- g. **Cool/Green Buildings.** Incentivize and consider requiring the installation of cool roofs, green roofs, and/or other energy-efficient cool building methods to mitigate heat impacts and reduce runoff.

HS-14

Flood Insurance. Continue the City's participation in the National Flood Insurance Program and the Community Rating System as a Class 8 community. Identify ways to increase Alameda's Community Rating to reduce flood insurance costs.

HS-18

Preferred Adaptation Strategies. In the Adaptation Pathways Master Plan (see Policy CC-21), develop sea level and groundwater rise adaptive strategies for different areas of the City for public discussion and evaluation, including but not limited to: avoidance/planned retreat, enhanced levees, setback levees to accommodate habitat transition zones, buffer zones, beaches, expanded tidal prisms for enhanced natural scouring of channel sediments, raising and flood-proofing structures, and/or provisions for additional flood water pumping stations, and inland detention basins to reduce peak discharges. (See also Policies LU-14 and CC-24).

- a. **Funding for Priority Flooding Mitigations.** Design and approve "shovel-ready" adaptation projects at areas of location-based priority flooding identified in the Local Hazard Mitigation Plan.

HS-20

Tsunami Preparedness Strategy. Prepare Alameda for tsunamis and prepare for a timely evacuation with a focus of access and functional needs populations. ~~including Assess vertical evacuation options and develop an evacuation strategy, including wayfinding signs, with a focus on access and functional needs.~~

Actions:

- a. **Awareness.** Develop a public information campaign to educate the public about tsunami risks and evacuation procedures, with special emphasis on access and functional needs populations and maritime communities.
- b. **Evacuation Emergency Annex.** Include and maintain an Evacuation Emergency Annex in the Emergency Operations Plan that includes a strategy for tsunami evacuation.
- c. **Signs.** Place tsunami inundation zone and evacuation route signs.
- d. **Vertical Evacuation.** Assess vertical evacuation options.
- e. **Drills.** Conduct tsunami evacuation training and drills with schools.
- f. **Partner.** Partner with Caltrans, Alameda County, AC Transit, the City of Oakland and Port of Oakland to plan for tsunami evacuation.
- g. **Tsunami Ready.** Become recognized as a Tsunami Ready community by the National Weather Service.

HS-22

New Development. Design For Flooding Implement programs and amend regulations to require and incentivize flood-proofing retrofits to existing buildings in flood-prone areas, and require all new development to design for sea level and associated groundwater rise based on the most current regional projections. (See also Policies LU-30 and CC-20).

Actions:

- a. **Waterfront Setbacks.** *Require new development to provide adequate setbacks along waterfront areas for the future expansion of seawalls and levees to adapt to sea level rise.*
- b. **Data.** *Update maps and publish open data that display these risks clearly as soon as new data or guidelines are created, such as a digital elevation model, sea level and groundwater risks, or the latest risk tolerance guidance provided by the State of California.*
- c. **Building Codes.** *Amend local codes to require flood-proofing techniques in defined flood hazard zones and adjacent areas to protect them from future sea level rise. Consider incorporating sea level rise into the flood management section of the Building Code to encourage, incentivize, or require compliance with base floor elevation and flood-proofing requirements to mid-century sea levels.*
- d. **Risk Prioritization.** *Inventory and prioritize highest at-risk buildings, including those serving vulnerable populations, for resiliency upgrades.*
- e. **Assistance.** *Adopt fee waiver or small grant programs to help low-income households and other vulnerable residents pay for flood retrofits.*

HS-35

Contaminated Sites Cleanup. Work with county, regional, state, and federal agencies and private property owners to ensure that the necessary steps are taken to clean up residual hazardous wastes on any contaminated sites.

Actions:

- a. **New Construction.** *Require that all new construction, including construction on former industrial sites, has been cleared for residential, commercial or industrial uses from the appropriate federal, state and local agencies and acts, including the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Program, the Resource Conservation and Recovery Act (RCRA), the California Department of Toxic Substances Control (DTSC), the Regional Water Quality Control Board (RWQCB) and the Alameda County Department of Environmental Health (ACDEH), which is the Certified Unified Program Agency (CUPA) responsible for implementing state environmental regulations related to hazardous waste and hazardous materials.*
- b. **Groundwater Rise.** *Review remediation timelines for contaminated sites based on a groundwater model with projected sea level rise impacts. Work with applicable agencies to adjust remediation, as applicable.*

I, the undersigned, hereby certify that the foregoing Resolution was duly and regularly adopted and passed by the Council of the City of Alameda in a regular meeting assembled on the 7th day of June, 2022, by the following vote to wit:

AYES: Councilmembers Daysog, Herrera Spencer, Knox White, Vella and Mayor Ezzy Ashcraft – 5.

NOES: None.

ABSENT: None.

ABSTENTIONS: None.

IN WITNESS, WHEREOF, I have hereunto set my hand and affixed the official seal of said City this 8th day of June, 2022.



Lara Weisiger, City Clerk
City of Alameda



Yibin Shen
City Attorney