



**County of Alameda**

Annex to 2010 Association of Bay  
Area Governments  
Local Hazard Mitigation Plan  
*Taming Natural Disasters*

County of Alameda



## County of Alameda

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### Introduction

In 1853, just three years after the addition of California as the 31st state of the union, the County of Alameda was established. Located on the east side of San Francisco Bay, it was carved out of territory from two previously established neighboring counties, Contra Costa and Santa Clara. The name of the County, “*Alameda*” means “a place where poplar trees grow”. It was derived from the Spanish/Mexican heritage of the region and was actually the name originally given to a local creek, the Arroyo de la Alameda (Poplar Grove Creek).

Though sparsely populated in the early years after incorporation, the County has since become the 7<sup>th</sup> most crowded in California. With a population of 1,556,657 – a density of 2,110 persons per square mile – the number of County residents has increased 4% since 2007 when the original Annex to the ABAG Multi-jurisdictional Plan was completed. Its 14 cities and 6 unincorporated areas are located within 738 square miles of land alongside 84 square miles of water for a total area of 831 square miles.

The County government, with 9,103 employees and a current operating budget of \$2.44 billion, currently owns and occupies approximately 6.5 million square feet of office and institutional space, leases another 1.2 million, and also owns, operates, and maintains bridges, dams, and other infrastructure (see the map of the County’s jurisdictional boundaries in **Exhibit A**).

Alameda County’s residents, since the time of incorporation, have enjoyed a diverse and beautiful landscape which includes rolling open spaces, urban marinas and coastal plains along the bay, and densely vegetated hillsides with lakes and streams. Along with this natural beauty, however, come the associated dangers that such features bring. These include wildfires, landslides, flooding, and earthquakes. This last natural hazard is the result of a network of faults that permeate the area. Running mostly north to south, the primary faults include Greenville, northern Calaveras, the southern tip of Diablo, and one of the most dangerous fault systems in the United States, the North-South Hayward. And, lurking to the west across the bay is the ever-present San Andreas fault. While not located within the boundaries of Alameda County, it, too, poses a serious threat.

These inherent dangers, both in and around the County, have produced a number of emergencies and major disasters including numerous floods, the Hayward Quake of 1868, The Great San Francisco Earthquake and Fire of 1906, the Oakland Hills Fire Storm of 1991, and the Loma Prieta Earthquake of 1989.

### The Regional Planning Process

The County participated in various ABAG workshops, conferences, and meetings, including:



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- The Sub-Regional meeting on May 8, 2009 to review draft priorities and reach consensus on priorities for mitigation (representatives from county staff);
- 8 ABAG Regional Planning Committee meetings (two Board of Supervisors members plus representatives from County staff);
  - Various dates: 04/02/2008, 08/06/2008, 10/01/2008, 12/03/2008, 04/01/2009, 06/03/2009, 08/05/2009, 10/07/2009.
- ABAG Executive Board meeting (two Board of Supervisor members) on September 17, 2009, and;
- Wildfire Workshop (representatives from county staff) on July 2, 2009.

At these meetings Alameda County representatives provided input on the regional mitigation strategies that were important to the County and shared relevant mitigation successes and challenges with the various groups. For more information on these meetings and for rosters of attendees, please see Appendix A and H in the ABAG Multi-Jurisdictional Local Hazard Mitigation Plan 2010 (MJ-LHMP). In addition, the County has provided written and oral comments on the multi-jurisdictional plan and provided information on facilities that are defined as “critical” to ABAG.

## The Local Planning Process – History and Current Structure

Starting in 2004, a team composed of Alameda County senior management and staff began working with ABAG to develop an Annex to the then pending 2005 ABAG Multi-Jurisdictional Local Hazard Mitigation Plan. The County’s Mitigation Planning Team was composed of an Executive Committee, a Working Group, and individual agency Disaster Mitigation Teams, as follows:

- The Executive Committee (EC): Chaired by the County Administrator’s Office and composed of senior management personnel from General Services (GSA), Community Development (CDA), Public Works (PWA), Health Care Services (HCSA), Public Health (PHD), Office of Emergency Services (OES), Sheriff’s Office (ACSO), and Fire Department (ACFD). This was the ultimate decision-making unit that also provided leadership and support for creating the plan and represented the County to various interest groups, government agencies, and the community.
- Working Group (WG): Chaired by GSA and CDA and comprised of two staff each from the participating agencies/departments noted above, plus participation from the Alameda County Medical Center (ACMC). The unit was responsible for day-to-day research, legwork, analysis, and making recommendations to the EC such as identifying mitigation strategies, prioritizing them, and making revisions to the Annex. This group also represented the County at ABAG workshops, conferences, and various public meetings.



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- Disaster Mitigation Teams (DMT): Led by two Agency Representatives from each participating agency who report to the WG. This unit was further comprised of staff from various departments within each respective agency and responsible for performing research and developing recommendations for their respective agencies on a variety of subjects, among them being revisions to the Annex and the identification and prioritization of mitigation strategies. In addition, these staff members were also available to the WG as a resource to develop multi-disciplinary sub-committees for specialized research.

The Annex was adopted in 2007 under a process which followed FEMA guidelines, such that after approval by FEMA of the Annex, the County Board of Supervisors then adopted the plan in a public meeting via an official Board Resolution. Said resolution required the Annex and its mitigation strategies become an implementation appendix of the Safety Element in the County's General Plan. In addition, a subsequent resolution now requires that if the Board adopts any future FEMA-approved updates or amendments to the LHMP "...the revised document shall replace any previous version of the document." This insures the continued implementation of Annex updates and mitigation activities in perpetuity.

It was through this three-tiered structure that each agency participated in the development of the 2007 Alameda County Annex to the 2005 ABAG plan and, with the current exception that GSA alone chairs the Mitigation Planning Team, it has remained essentially unchanged to this day as the method used to develop the updated 2010 Annex.

### ***Review and Incorporation of Existing Information***

Below is a table of existing plans, reports, studies, and technical information that were used in the development of this Annex.

EXISTING PLANS, STUDIES, REPORTS, AND TECHNICAL INFORMATION	METHOD OF INCORPORATION INTO THE JURISDICTION ANNEX
Alameda County General Plan (with recent amendments from March 2010)	Hazards assessment and mitigation strategies
2010-2015 Alameda County Capital Improvement Plan	Mitigation projects
Grading Ordinance 0-2010-19	Risk assessment
Geotechnical Evaluations of County Dams (w/ the California Div. of Safety of Dams)	Risk assessment and mitigation strategies/projects
Geotechnical Evaluations of County Levees (w/ California Dept. of Water Resources)	Risk assessment and mitigation strategies/projects (levee certification is being done by FEMA)



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PWA-FCD Hydraulic & Hydrologic Studies.	Flood risk assessment
2007-2008 Alameda County Final Budget Report	Demographics and background data
2009-2010 Alameda County Final Budget Report	Demographics and background data
2010 ABAG Multi-Jurisdictional LHMP	Mapping, hazards assessment, strategies, risk data
1998 Seismic Evaluation of Eight Alameda County Fire Stations as “Essential Facilities” (cost estimates adjusted for local construction inflation)	Cost estimating for mitigation projects and historical data
2005 Alameda County Fire Department Program Budget Analysis New Construction and Seismic Retrofit and Remodeling – Fire Stations 1, 2, 4, 5, 6, 7, 8 (cost estimates adjusted for inflation)	Cost estimating for mitigation projects and historical data
Housing Repair and Reconstruction After Loma Prieta (from the UC Berkeley National Information Service for Earthquake Engineering)	Historical data

### ***Process for Updating Plan Sections in the 2010-2015 Update***

Under the auspices of the three-tiered structure and approval process noted above, subject-matter experts from the aforementioned County departments, made up of architects, planners, building department officials, facility managers, civil engineers, public health specialists, emergency managers, and sheriff and fire officials met on a regular basis to review the various plan sections as well as identify and prioritize appropriate mitigation strategies. Members of this group also participated in regional ABAG workshops, conferences, and meetings (see *Regional Planning Process* above).

At the first Working Group meeting, general priorities, a milestone schedule, and participants from appropriate County departments were confirmed along with beginning the review of ABAG’s regional mitigation strategies (Exhibit F). Subsequent meetings built upon this task, prioritized said strategies specifically for Alameda County, examined the cost/benefit of each strategy, and reviewed preliminary budgets and potential funding sources for strategies designated as “High” priority for County-owned-and-operated facilities.

In addition, various sections of the Annex also needed to be reviewed, expanded, and restructured by the Mitigation Planning Team based on new requirements, information and/or improved data, as follows:



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- Introduction: This section was revised and expanded to introduce key statistics and information about the origins of the County, its demographics, and the natural hazards prevalent in the area.
- The Planning Process: This section was revised and expanded to better depict the interface of regional and local planning efforts and reflect the activities that took place as part of the plan update process. In addition, this section includes the history and current structure of the County's Mitigation Planning Team, a brief review of resources and processes used to develop this Annex, and describes the goals and methodology of the public notification process.
- Hazards Assessment: This section was revised and expanded to include more history on the affects of natural hazards in Alameda County and tabulate more recent events that have occurred since the 2007 Annex. In addition, there are updates to the hazard maps referenced in the exhibits.
- Risk Assessment: This section was revised and expanded to include the most recent hazard mapping and land use data available, including easy-to-read charts tabulating differences between the 2007 and 2010 Annexes for hazard exposures to infrastructure and facilities.
- National Flood Insurance Program: This is a new section illustrating the County's partnering relationship with FEMA to modernize floodplain mapping and improve the County's CRS class rating for the benefit of County residents.
- Mitigation Activities and Priorities: This section was revised and expanded to include evaluation of progress from the 2007 Annex and development of mitigation strategies and projects for the next 5 years, both of which are tabulated in Exhibits D and E.
- Incorporation in Existing Planning Mechanisms: This is a new section delineating how hazard mitigation concepts are imported into standard County operations and planning initiatives for coordination purposes as well as to increase the visibility – and highlight the importance of – pre-disaster mitigation planning and emergency management.
- The Plan Update Process: This section was revised to include a means to monitor mitigation progress and a brief section on “lessons learned” regarding public participation enhancements for the next update cycle.

### **Public Meetings**

Opportunity for public comments on the DRAFT mitigation strategies was provided at a public meeting at GSA headquarters on September 28, 2009 in Oakland from 6pm to 8pm. Complimenting that event was a second invitation for public input posted on the County website with a comment period stretching from October 12 to October 19, 2010 inviting members of the public to offer questions, suggestions, and comments via email and phone. In both instances, the



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draft mitigation strategies and related links were published on the County website for public viewing.

The purpose of the public notifications was threefold: first, to educate local residents about hazard mitigation's importance to overall disaster preparedness for the community and region; secondly, to remind our residents about the hazards prevalent in our area; and third, to give them a voice in the development of the plan, especially with respect to developing and prioritizing the strategies to mitigate against said hazards.

The County's intent was to collate all public comments and suggestions received; have the Working Group and Executive Committee review them with the assistance of our emergency managers and ABAG; and then verify the congruency of the comments and suggestions with FEMA guidelines prior to inclusion in the Annex. However, no public comments were received from either the meeting or the internet posting. Copies of the text for the meeting invitation and the internet posting are included as **Exhibit B** to the Alameda County Annex. A brief "lessons learned" section at the end of this Annex notes possible methodologies to improve public participation for the 2015 Annex update (see the *Plan Update Process*).

## Hazards Assessment

The 2010-2015 ABAG Multi-Jurisdictional Local Hazard Mitigation Plan, to which this is an annex, lists nine hazards that impact the Bay Area, five related to earthquakes (faulting, shaking, earthquake-induced landslides, liquefaction, and tsunamis) and four related to weather (flooding, landslides, wildfires, and drought). Maps of these hazards and risks are shown on the ABAG website at <http://quake.abag.ca.gov/mitigation/>.

The County has reviewed the hazards identified and ranked the hazards based on a review of our current General Plan Safety Element, reports and studies noted earlier (see *Review of Existing Plans* above), past disasters, and risk assessments from recognized experts on expected future impacts. The conclusion is that earthquakes (particularly shaking and liquefaction), flooding (including dam failure), wildfire, and landslides (including unstable earth) pose the most significant risks for potential loss in Alameda County.

Based on the risk assessment in the following sections, tsunamis do not pose a significant threat to Alameda County's facilities, infrastructure, or in the unincorporated areas. In addition, the County does not face any natural disasters not listed in the ABAG multi-jurisdictional plan and no new hazards have been identified by the County since the original development of the County's 2007 Annex to ABAG's 2005 plan.

While the County has undertaken a number of general hazard mapping activities since its first Safety Element was prepared, most of these maps are less detailed and are not as current as those





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shown on the ABAG website at <http://quake.abag.ca.gov/mitigation/>. However, some additional maps developed by the County for earthquakes and wildfires are included as **Exhibit C**.

### **Past Occurrences Of Disasters (natural and human-induced)**

The County has experienced a number of different disasters over the course of its history, including numerous earthquakes, floods, droughts, wildfires, energy shortages, civil disturbances, landslides, and severe storms.

One of the great early disasters in Alameda County occurred just a scant 15 years after incorporation. The Great Hayward Quake of October 21, 1868, with an epicenter near the small town of Hayward, was estimated to be between 6.8 and 7.0 and was one of California's most destructive ever. Damage was extensive and widespread throughout the region with reports from as far south as Gilroy to Santa Rosa in the north. In San Francisco, many buildings were damaged and 5 persons were reported killed.

However, most of the deaths and destruction occurred in Alameda County, which at the time had a population of approximately 21,000 (a density of approximately 28 persons per mile). In Hayward, a small town of only 500 residents, every building was destroyed or damaged. In neighboring San Leandro, with a population of only 400, the second floor of the Alameda County courthouse collapsed, and many other buildings were also damaged. In Mission San Jose in southern Fremont, the old adobe church and other buildings were also severely damaged.

The Hayward quake was originally referred to as the "Great San Francisco Earthquake", but that distinction was supplanted by a magnitude 7.8 temblor along the San Andreas Fault on April 18 1906. This quake and the ensuing fire, with an epicenter approximately 2 miles offshore of San Francisco's Golden Gate Park, caused an estimated 3,000 deaths and \$524 million in property losses. Damage in the Alameda County cities Berkeley, Oakland, and Alameda also was severe. The Oakland Hills Fires of 1991, too, ranks as one of the worst wildland-urban firestorm disasters to ever strike the United States with 25 deaths, 150 injuries, and the displacement of over 10,000 persons. The blaze started when a 5-acre grass fire in the hills above Berkeley reignited after it was mistakenly thought to have been extinguished. With destruction and damage to over 3,400 family dwellings and 456 apartments, losses were approximately \$1.7 Billion.

The Loma Prieta Earthquake of 1989 is yet another example of the kind of large scale disaster that can strike the Bay Area. Across the entire region it killed 63 persons, injured 3,757, displaced over 12,000 and caused approximately \$6 Billion of damage. Area-wide, there were approximately 12,000 housing units destroyed or significantly damaged and over 30,000 experiencing some level of minor damage.



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Within Alameda County itself, the quake significantly damaged the city halls of Oakland, Alameda, and Hayward. In addition, 42 of the 63 persons killed in the quake lost their lives at the Cypress Street Viaduct of the Nimitz 880 Freeway collapse. Finally, some 3,300 homes in Alameda County were destroyed or damaged, with total losses in Alameda County nearly \$1.5 Billion. Reconstruction continues over two decades later as the replacement for the Oakland-Bay Bridge is still several years from completion.

Floods, too, have repeatedly taken their toll on the County throughout its history. According to the US Army Corps of Engineers, major flooding of San Lorenzo Creek occurred in the 1860s, 1870s, and the early 1880s. This trend continued through the 20<sup>th</sup> century with major floods occurring in January 1911, January 1916, February 1919, February 1925, December 1931, February 1940, January 1942, December 1950, December 1955, and April 1958. While damage reports from these events are scant at best, we do know that during the storms of 1962, flooding took place in the unincorporated areas of Alameda County, which, in combination with mud slides and gale winds, caused the region to be declared an emergency area.

The County has had a number of lesser incidents as well, such as landslides in the hills on the east side of the County, including one that damaged 12 homes in 1980. More information on State and Federally declared disasters in Alameda County can be found at <http://quake.abag.ca.gov/wp-content/documents/ThePlan-D-2011.pdf>. There have only been a few locally significant incidents that have impacted Alameda County between the adoption of the 2007 Annex and this current update. Two are related to natural events but most were human-induced incidents, including:

- January 2009 – Mehserle Shooting. Civil Disturbance. City of Oakland activated their EOC. Alameda County monitored the situation.
- May 2009 Vehicle vs Tanker truck. Gasoline spill in city of Dublin. City had partial activation. Alameda County OES monitored the situation.
- November 2009 -Takeover of Wheeler Hall, UC Berkeley. Students protested Increased Fees. Law Enforcement Mutual Aid from surrounding cities and Alameda County. UC Berkeley activated their EOC, Alameda County OES monitored the situation.
- February 27, 2010 – Chile Earthquake/Tsunami. State EOC activated. Alameda County EOC monitored the situation.
- July 8, 2010 – Mehserle Verdict. Civil Disturbance. City of Oakland activated its command post and main staging areas and requested mutual aid from other law enforcement agencies within Alameda County (including AC Sheriff's Office).
- Weather – Summer Heat and Winter Cold. During weather extremes Alameda county OES monitors the situation with cities that are affected.



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### Risk Assessment

#### Urban Land Exposure

The County examined the hazard exposure of unincorporated Alameda County urban land based on information in ABAG's website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. The "2005 Existing Land Use with 2009 Mapping" file was used for this evaluation (in the existing plan, the file used was "Existing Land Use in 2000").

In general, the hazard exposure of the county is increasing over time as the amount of urban land increases (In the last 5 years, 2,655 acres of land has become urban) and in some cases where new and more accurate mapping has become available. Alameda County actually reduced the acres of urban land in the 100 year flood zone over the last 5 years due to certification of several levees in the County which removed those areas from the flood plain. The following table described the exposure of urban land within the unincorporated County to the various hazards.

<b>Exposure (acres of urban land – unincorporated area)</b>			
<b>Hazard</b>	<b>2005</b>	<b>2010</b>	<b>Change</b>
<i>Total Acres of Urban Land</i>	33,366	36,021	2,655
Earthquake Faulting (within CGS zone)	1,594	2,054	460
Earthquake Shaking (within highest two shaking categories) <sup>1</sup>	17,593	18,638	1,045
Earthquake-Induced Landslides (within CGS study zone) <sup>2</sup>	2,766	4,965	2,199
Liquefaction (within moderate, high, or very high liquefaction susceptibility)	9,095	11,212	2,117
Flooding <sup>3</sup> (within 100 year floodplain)	1,010	984	(26)
Flooding (within 500 year floodplain)	900	1,430	530
Landslides (within areas of existing landslides) <sup>4</sup>	3,999	4,466	467
Wildfire (subject to high, very high, or extreme wildfire threat) <sup>5</sup>	15,686	13,981	(1,705)
Wildland-Urban Interface Fire Threat	10,178	11,100	922
Dam Inundation (within inundation zone)	4,334	4,597	263
Tsunamis <sup>6</sup> (within inundation area)	not applicable		
Drought <sup>7</sup>	33,366	36,021	2,655

<sup>1</sup> In large part because the Hayward, Greenville, and Calaveras fault systems run through the County.

<sup>2</sup> The California Geological Survey continues to map Alameda County and added the Livermore-Altamont area in late 2009. Though some areas of the County have not yet been completely mapped, the densely populated areas in Alameda County are mostly done.

<sup>3</sup> The decrease of 26 acres is due to better and more accurate mapping.

<sup>4</sup> The California Geological Survey continues to map Alameda County and added the Livermore-Altamont area in late 2009. Though some areas of the County have not yet been completely mapped, the densely populated areas in Alameda County are mostly done.

<sup>5</sup> The decrease is due to better and more accurate mapping.

<sup>6</sup> Tsunami evacuation planning maps were not available inside the San Francisco Bay in 2005. This map became available in December 2009. It should be noted that this map is not a hazard map and should be used for evacuation planning purposes only. The inundation line represents the highest inundation at any particular location from a suite of tsunami sources. It is not representative of any single tsunami.

<sup>7</sup> The entire Alameda County unincorporated area is subject to drought.



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### **Infrastructure Exposure**

The County also examined the hazard exposure of infrastructure within the unincorporated County based on the information on ABAG's website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. The "Existing Infrastructure, 2004" file was used for this evaluation. It was determined that the infrastructure data did not need to be updated for this plan, but the data was re-evaluated against the newest hazard maps available.

<b>Exposure (miles of infrastructure – unincorporated area)</b>						
<b>Hazard</b>	<b>Roadway</b>		<b>Transit</b>		<b>Rail</b>	
	<b>2005</b>	<b>2010</b>	<b>2005</b>	<b>2010</b>	<b>2005</b>	<b>2010</b>
<i>Total Miles of Infrastructure</i>	1,524	947	11	34	38	52
Earthquake Shaking (within highest two shaking categories)	701	537	8	18	22	23
Liquefaction Susceptibility (within moderate, high, or very high liquefaction susceptibility)	333	360	2	18	21	6
Liquefaction Hazard (within CGS study zone) <sup>1</sup>	140	222	3	8	9	11
Earthquake-Induced Landslides (within CGS study zone) <sup>2</sup>	50	61	1	4	1	6
Earthquake Faulting (within CGS zone)	75	59	0	2	2	2
Flooding (within 100 year floodplain)	31	10	0	0	4	1
Flooding (within 500 year floodplain)	28	46	0	0	2	1
Landslides (within areas of existing landslides)	440	116	2	5	4	7
Wildfires (subject to high, very high, or extreme wildfire threat)	1140	359	5	16	24	30
Wildland-Urban Interface Fire Threat	280	283	3	7	10	12
Dam Inundation (within inundation zone)	143	123	1	9	18	21
Tsunamis <sup>3</sup> (within inundation area)	not applicable					
Drought <sup>4</sup>	not applicable					

<sup>1</sup> 1,083 miles of roadway, 3 miles of transit, and 21 miles of rail are outside the area that has been evaluated by CGS for this hazard

<sup>2</sup> The California Geological Survey continues to map Alameda County and added the Livermore-Altamont area in late 2009. Though some areas of the County have not yet been completely mapped, the densely populated areas in Alameda County are mostly done. 1,083 miles of roadway, 3 miles of transit, and 21 miles of rail are outside the area that has been evaluated by CGS for this hazard

<sup>3</sup> Tsunami evacuation planning maps were not available inside the San Francisco Bay in 2005. This map became available in December 2009. Miles of exposed infrastructure is not an appropriate analysis for this hazard. This map is not a hazard map and should be used for evacuation planning purposes only. The inundation line represents the highest inundation at any particular location from a suite of tsunami sources. It is not representative of any single tsunami.

<sup>4</sup> Miles of exposed infrastructure is not an appropriate analysis for this hazard.



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### ***Exposure of County-Owned Buildings, Critical Healthcare Facilities, and Schools***

Finally, the County examined the hazard exposure of critical health care facilities and schools located within the unincorporated County, and County-owned buildings based on the information on ABAG's website at <http://quake.abag.ca.gov/mitigation/pickcrit2010.html> and compared it to the data available from the 2005 plan year at <http://quake.abag.ca.gov/mitigation/pickcrit.html>. The County provided a list of the critical facilities it owns to ABAG. ABAG provided a detailed assessment of the hazard exposure of each of its facilities. The following number of facilities is exposed to the various hazards analyzed.



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<b>Exposure (number of facility types)</b>								
<b>Hazard</b>	<b>Hospitals (Total County Area)</b>		<b>Schools (Total County Area)</b>		<b>County-owned bridges and interchanges (Unincorporated Area)</b>		<b>County-owned critical facilities (Total County Area)</b>	
	<b>Plan Year 2007</b>	<b>Plan Year 2010</b>	<b>Plan Year 2007</b>	<b>Plan Year 2010</b>	<b>Plan Year 2007</b>	<b>Plan Year 2010</b>	<b>Plan Year 2007</b>	<b>Plan Year 2010</b>
<i>Total Number of Facilities</i>	3	4	36	53	53	54	15	22
Earthquake Shaking (within highest two shaking categories)	3	4	31	38	29	22	6	9
Liquefaction Susceptibility (within moderate, high, or very high liquefaction susceptibility)	0	3	16	28	25	4	2	10
Liquefaction Hazard (within CGS study zone) <sup>1</sup>	2	2	15	23	15	17	2	5
Earthquake-Induced Landslides (within CGS study zone) <sup>2</sup>	0	4	0	43	2	34	6	11
Earthquake Faulting (within CGS zone)	0	1	0	0	2	2	0	5
Flooding (within 100 year floodplain)	1	0	1	0	3	3	0	1
Flooding (within 500 year floodplain)	1	1	0	7	0	2	0	0
Landslides (within areas of existing landslides)	0	0	0	0	4	7	2	2
Wildfires (subject to high, very high, or extreme wildfire threat)	0	0	3	3	25	25	3	9
Wildland-Urban Interface Fire Threat	0	0	16	6	10	6	2	1
Dam Inundation	0	0	4	4	8	1	0	6
Sea Level Rise (within 16 in inundation zone)	-	0	-	0	-	0	-	0
Sea Level Rise (within 55 in inundation zone)	-	0	-	0	-	0	-	0
Tsunamis <sup>3</sup> (within inundation area)	-	0	-	0	-	0	-	0
Drought <sup>4</sup>	-	-	-	-	-	-	-	-

<sup>1</sup> Two county-owned critical facilities are outside the area that has been evaluated by CGS for this hazard

<sup>2</sup> The California Geological Survey continues to map Alameda County and added the Livermore-Altamont area in late 2009. Though some areas of the County have not yet been completely mapped, the densely populated areas in Alameda County are mostly done.

<sup>3</sup> Tsunami evacuation planning maps were not available inside the San Francisco Bay in 2005. This map became available in December 2009. It should be noted that this map is not a hazard map and should be used for evacuation planning purposes only. The inundation line represents the highest inundation at any particular location from a suite of tsunami sources. It is not representative of any single tsunami.

<sup>4</sup> Drought will not affect locally owned facilities directly.



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### ***Repetitive Loss Properties***

Based on FEMA data, as of March 2, 2011, and information from ABAG (refer to <http://quake.abag.ca.gov/mitigation/pickflood.html>), there are two repetitive loss properties on record for the unincorporated areas of the County (both residential). As of 2004, the County has had one repetitive loss property in the unincorporated area (residential) that was outside the floodplain.

### ***Other Risks***

The County has used HAZUS to depict in map form several additional risks, including distribution of *In Home Supportive Service* (IHSS) cases, estimated concrete, steel debris and highway damage in a Hayward fault earthquake scenario, estimated highway infrastructure damage in a Hayward fault earthquake scenario, estimated impaired hospitals in a Hayward fault earthquake based on hospital beds and highway functionality. These maps, attached as Exhibit C, are used by the Sheriff and Fire Departments for emergency planning purposes. ABAG has evaluated hospitals and infrastructure which are located in areas of high shaking and given that information to the county for each facility. The data is summarized in the Risk Assessment section of this annex.

The County plans to work with ABAG to develop specific information about the kind and level of damage to buildings, infrastructure, and critical facilities which might result from any of the hazards previously noted.

### **National Flood Insurance Program**

The Alameda County PWA Flood Control District (PWAFCDD) has participated in the National Flood Insurance Program since 1981. Since 1992, the County has also participated in the Community Rating System and is currently rated Class 7. The County is striving to reach the highest possible rating under the Community Rating System by undertaking additional studies and/or programs such as floodplain analysis and delineation, and rainfall and stream flow monitoring, in addition to complying with all FEMA NFIP requirements.

In June of 2009, the County entered into an agreement with FEMA to become a FEMA Cooperating Technical Partner. PWAFCDD has developed a cooperative relationship with FEMA allowing for the sharing of hydrologic/hydraulic data for flood insurance rate maps and detailed topographic data for floodplain map modernization and map corrections.

The PWAFCDD's dedicated participation in the program beyond the standard requirements of NFIP's Floodplain Management means property owners of the unincorporated areas of the County who are located within FEMA-designated Special Flood Hazard Areas have been qualified by FEMA for a reduction in their flood insurance premium.



## County of Alameda

The PWAFCDD's currently uses FEMA digital flood insurance rate maps available on the ABAG website at: <http://www.abag.ca.gov/bayarea/eqmaps/eqfloods/floods.html>. In addition, the County also uses PWAFCDD's hydrology and hydraulic studies. Both sources of information are used to assess the flood risk potential that may impact new development.

Alameda County has several existing mitigation strategies aimed at reducing flood losses:

- ◆ Balance the housing needs of residents and the need for private commercial and industrial development against the risk from potential flood-related hazards. (HSNG-h-2, ECON-f-2)
- ◆ Ensure that new private development pays its fair share of improvements to the storm drainage system necessary to accommodate increased flows from the development, or does not increase runoff by draining water to pervious areas or detention facilities. (HSNG-h-3, ECON-f-3)
- ◆ Apply floodplain management regulations for private development in the floodplain and floodway. (HSNG-h-6, ECON-f-6)
- ◆ Ensure that new subdivisions are designed to reduce or eliminate flood damage by requiring lots and rights-of-way be laid out for the provision of approved sewer and drainage facilities, providing on-site detention facilities whenever practicable. (HSNG-h-7)
- ◆ Encourage home and apartment owners to participate in home elevation programs within flood hazard areas. (HSNG-h-8)
- ◆ Require an annual inspection of approved flood-proofed privately-owned buildings to ensure that (a) all flood-proofing components will operate properly under flood conditions and (b) all responsible personnel are aware of their duties and responsibilities as described in their building's Flood Emergency Operation Plan and Inspection & Maintenance Plan. (ECON-f-9).

## Mitigation Goals and Objectives

The goal of the ABAG MJ-LHMP is to maintain and enhance a disaster-resistant region by reducing the potential for loss of life, property damage, and environmental degradation from natural disasters, while accelerating economic recovery from those disasters. This goal remains unchanged for the 2010 plan.





## County of Alameda

In addition, the County has the specific objective of reducing the number of public and private buildings within the County that are vulnerable to the effects of earthquakes.

## Mitigation Activities and Priorities

### *Evaluation of Progress from the 2007 Annex*

In 2006 and 2007, mitigation actions and priorities were identified and incorporated into the 2007 County Annex. The attached list, *Status of 2007-2010 Mitigation Projects*, Exhibit D in the Alameda County 2010 Annex, indicates each of the strategies identified, along with responsible party, action taken, and current status, or result, of mitigation activities undertaken in the previous plan period.

Given that the development of the 2007 Annex was a public process, implementation of the mitigation strategies from that plan also engaged the public. For example, the County's Public Works Agency (PWA) conducted project information meetings to inform the public of the mitigation projects (see Appendix D) and posted project information on the Agency's website. Project information sheets were also mailed to the community in the immediate areas. For projects along Alameda Creek which impacted the Alameda Creek Regional Trail, the East Bay Regional Parks District also posted project information on their website as well.

PWA also engages in Community Rating System outreach efforts on a regular basis. Every year a letter containing information on the National Flood Insurance Program is sent to property owners and renters living within the Special Flood Hazard Areas, as well as to those in the immediate vicinity. When FEMA published the new Flood Insurance Rate Maps in 2009, that information along with the maps' effective dates were also disseminated to the public. Yearly notifications as well as informational brochures are also distributed to local insurance companies, lending institutions, real estate offices and libraries.

For Mitigation projects and activities that were not listed in the 2007 Annex but developed later, public input is also sought. For instance, on a regular basis the Public Health Emergency Planning Coordinator and the Health Officer and others involved in emergency preparedness participate in numerous emergency preparedness planning groups. These groups include internal partners in addition to the public, private, governmental and nongovernmental constituents.

### *Future Mitigation Actions and Priorities*

As a participant in the 2010 ABAG multi-jurisdictional planning process with other jurisdictions, the staff of Alameda County assisted in the development and review of the comprehensive list of mitigation strategies in the overall ABAG multi-jurisdictional plan (**Exhibit F**). The decision on



## County of Alameda

priority was made based on the STAPLEE criteria, not simply on an economic cost-benefit analysis. These criteria include being socially appropriate, technically and administratively feasible, politically acceptable, legal, economically sound, and not harmful to the environment or our heritage.

Upon completion of ABAG's regional process the County Planning team, utilizing the three-tiered structure noted earlier (see the *Local Planning Process* section) met on a regular basis to review and prioritize specific mitigation tasks for Alameda County in the current plan period (2010-2015). Disaster Mitigation Teams from within the various agencies nominated projects to be included on the list, which were then evaluated by members of the Working Group and senior management members of the Executive Committee. This list, *2010-2015 Mitigation Projects (Exhibit E)*, includes implementation process, funding strategy, and approximate time frame. Prioritization of the specific mitigation tasks was done using the STAPLEE criteria and then submitted to County Agency Directors and the County Administrator's Office for review and approval. All of the tasks identified appear to have benefits that outweigh the costs of implementation. The draft priorities will be provided to the County Board of Supervisors for adoption pending approval of this LHMP Annex by FEMA.

### ***On-Going Mitigation Strategy Programs***

The County has many on-going mitigation programs which help create a more disaster-resistant region. The following list highlights those programs identified as *Existing Programs* in the mitigation strategy spreadsheet. Others are on-going programs that are currently underfunded. It is the County's priority to find additional funding to sustain these on-going programs over time.

- Vulnerability assessments of County facilities and infrastructure (GOVT-a-1) – Ongoing, but underfunded;
- Non-structural mitigation for building contents (GOVT-a-4) – Underfunded;
- Installation of micro and/or surveillance cameras at critical public assets tied to web-based software (GOVT-a-6) – Ongoing, but underfunded;
- The County continues to develop interoperability of communications for first responders via the East Bay Regional Communications Systems and the Communications Interoperability Plan, and coordinates these activities with the State of California. (GOVT-c-7) – Ongoing;
- The County operates under the auspices of SEMS and provides ongoing training for staff when appropriate. (GOVT-c-12) – Ongoing;
- The County operates under the auspices of the Mutual Aid Agreement. (GOVT-c-13);



## County of Alameda

- The County PWA is going through a FEMA accreditation process for its levees. Part of this process has included the geotechnical evaluation of the levees to determine their stability. The County has received funds from the California Department of Water Resources to help offset the cost of this work. Actual levee rehabilitation work began this year (2010) at 4 locations along the Alameda Creek and Lines B and C (Zone No. 6) levees. Along the creek, work has been already completed at two locations, a third is expected to be completed in the Summer of 2011, and a fourth in 2012. Zone 6 work, started as a 3-phase project in 2009, is nearly finished and scheduled for completion in 2011. During the geotechnical evaluation of the County's levee system, these locations were determined to be at risk. This work is expected to be completed in 2012. (Infra-b-2);
- The County conducts watershed analysis to predict areas of insufficient capacity in the storm drain and natural creek systems (INFR-d-1, INFR-d-2, INFR-d-3);
- The County continues to make repairs and structural improvements to the storm drain system as needed to ensure their adequacy to convey the design stormwater flows. (INFR-d-6, INFR-d-7);
- Alameda County participates in FEMA's National Flood Insurance Program and works to reduce flood risk. (GOVT-d-5) ;
- The County has updated the Grading Ordinance (HSNG-h-2, ECON-g-2);
- The County conducts training for Community Emergency Response Teams 6 times a year (GOVT-c-3, ECON-J-5, HSNG-K-6);
- The County has developed Family Plan Templates and posted information on the Public Health website for public and private preparedness for health emergencies (HEAL-a-7);
- Annual inspections of the County's three dams are conducted by the State Division of Safety of Dams. Annual inspection reports are then provided to the County. In addition, the County submits to the State Division of Safety of Dams semi-annual status reports for Cull Creek Dam. This dam has been determined to be at risk during a seismic event. Presently, the County does not have funds available for dam upgrades. In the interim, until funding is secured, a discharge pipe has been added to the outlet works to lower the lake level to reduce flood hazard due to dam failure. (Infra-a-2, Infra-a-13, Infra-b-5).



## County of Alameda

### Incorporation into Existing Planning Mechanisms

The County has a number of planning and operational mechanisms which have had disaster and mitigation concepts incorporated into their development in order to ensure that disaster awareness and mitigation becomes embedded in standard County practice. For example:

- ◆ **Alameda County Capital Improvements Plan (CIP):** In order to meet its service and facility requirements in the most responsive and efficient manner possible, the County GSA developed the CIP to identify the County's capital needs and provide a method through which the County can take a planned and programmed approach to development. It is a 5-year projection that indicates timing and estimated cost as well as identifying responsible parties and stakeholders. It is updated annually and includes a number of structural mitigation projects, including the *Highland Hospital Acute Tower Replacement* and the *Peralta Oaks Seismic Retrofit and Reassignment to Sheriff and Healthcare* (see Exhibit E).
  
- ◆ **Alameda County Climate Action Plan:** Recognizing the need to take action now to protect our climate in order to maintain the quality of life in our communities, the Alameda County's Board of Supervisors directed County staff to develop a comprehensive climate protection strategy. The resulting Climate Action Plan provides the blueprint for meeting our greenhouse gas (GHG) reduction goals through specific policies, programs, and actions. Working in conjunction with other local governments, businesses, and residents the Climate Action Plan is comprised of two parts - one covering the unincorporated private sector communities in Alameda County and the other covering County government operations and services. By taking specific steps to reduce our GHG emissions, such as updating mitigation and emergency operations plans related to climatic issues, the County's long-term goal is to reduce our impact on the climate to mitigate against the following:
  - Flooding from sea level rise and increased storm intensities that would otherwise have an impact on local buildings and infrastructure;
  - Water shortages from summer droughts that will impact residential, commercial, and agricultural water users;
  - Increased risk of wildfires from drier conditions;
  - Community health impacts from warmer temperatures that allow tropical and subtropical diseases to spread.

In addition to the comprehensive strategies in the *Climate Action Plan*, the County has also embarked on complementary initiatives such as the multi-jurisdictional *County and City Climate Coordination* initiative and the nationwide *Cool Counties* initiative (Alameda County is a founding member). The intent is to work with other local



## County of Alameda

governments across the region and nation to address climate change in our communities. See the County's website for more information at <http://acgov.org/sustain/what/climate/index.htm>.

Since October 2010, PWA-FCD is also an active participant in a new state program, the "Adapting to Rising Tides" (ART) project which is managed and organized by the San Francisco Bay Conservation and Development Commission (BCDC) in partnership with the National Oceanic and Atmospheric Administration Coastal Services Center (NOAA CSC). The purpose is to examine how sea level rise and other climate change will affect the future of Bay Area communities, ecosystems, infrastructure, and economy. The ART project is working with Bay Area communities to:

- Identify current and future vulnerabilities within a sub-region of the Bay Area.
- Evaluate strategies and tools to support community-based adaptation planning.
- Use the lessons learned to develop a regional adaptation planning process.

The goal of the ART project is to increase the preparedness and resilience of Bay Area communities to sea level rise and other climate change impacts while protecting ecosystem and community services

- ◆ **Alameda County Strategic Visioning:** This "broad brush" planning process, which includes senior management and elected officials, first occurred in 2006 and was last updated in 2008. The intent was to chart the County's path and its environmental and economic sustainability over the course of the next 5 years. The plan is a multi-year, comprehensive and far-reaching roadmap for our County with five strategic priorities identified as follows: (1) Environment / Sustainability, (2) Safe and Livable Communities, (3) Healthy and Thriving Populations, (4) Housing, and (5) Transportation. Included in this planning process were natural hazards and their impact in item 2, the *Safe and Livable Communities* section. See the County's website for more information at <http://acgov.org/strategic.htm>
- ◆ **Multi-agency incorporation of mitigation and preparedness concepts into day-to-day operations:** Mitigation planning and cross referencing of the current mitigation plan with daily operations is done to enhance disaster resiliency in various planning efforts as well as in the design, procurement, construction, and maintenance of County facilities and infrastructure. For example...
  - *Corrective Maintenance Inspection and Repair:* As noted above in "On Going Mitigation Strategies Programs", Alameda County's Building Maintenance Department conducts a variety of non-structural mitigation projects as part of its normal operation and maintenance of facilities. This includes, for example, the



## County of Alameda

bracing and retrofitting of equipment, shelves, cabinets, and piping to make them less susceptible to damage from earthquakes.

- *Inter-Agency Coordination for Private and Public Sector Development:* The Planning Department of Alameda County's Community Development Agency routinely refers projects under consideration for discretionary approval to the Alameda County Public Works Agency, Flood Control and Water Conservation District, and the Fire Department for review and comment to ensure consistency with various ordinances, including but not limited to the Building, Grading, and Watercourse ordinances.
- *The Safety Element in the County's General Plan:* This includes a discussion of fire, earthquake, flooding, and landslide hazards. This plan was adopted as an implementation appendix to the Safety Element. In addition, the County enforces the requirements of the California Environmental Quality Act (CEQA), which, since 1988, requires mitigation for identified natural hazards. The Safety Element of the Alameda County General Plan was updated in 2010 in accordance with the California Disaster Assistance Act. Another update is anticipated to begin in 2011.
- *Building Code Ordinance:* Imposes design standards to increase the ability of buildings to better withstand the forces of earthquakes so as to minimize loss of life and property.
- *Grading Ordinance:* Requires grading activities do not create or enhance soil instability, landslides, or erosion.
- *Watercourse Ordinance:* Imposes setbacks on new developments to prevent or lessen the likelihood of property damage due to flooding and to ensure that new creek side development does not occur on unstable creek bank areas.

The County has used these pre-existing programs as a basis for identifying gaps that may lead to disaster vulnerabilities in order to work on ways to address these risks through mitigation.

## Plan Update Process

The County General Services Agency will ensure that monitoring of this Annex during the 5-year period will occur. The plan will be monitored on an on-going basis, with members of the Working Group meeting 3 to 4 times a year to ensure ongoing implementation of the mitigation strategies and for coordination with other agencies and departments on specific projects. However, the major disasters affecting our County, legal changes, notices from ABAG as the lead agency in this process, and other triggers will be used. Finally, the Annex will be a



## County of Alameda

discussion item on the agenda of the meeting of Department leaders at least once a year in April. At that meeting, the department heads will focus on evaluating the Annex in light of technological and political changes during the past year or other significant events. The Department leaders will be responsible for determining if the plan should be updated.

The County is committed to reviewing and updating this plan annex at least once every five years, as required by the Disaster Mitigation Act of 2000. The County General Services Agency Director will contact ABAG four years after this plan is approved to ensure that ABAG plans to undertake the plan update process. If so, the County again plans to participate in the multi-jurisdictional plan. If ABAG is unwilling or unable to act as the lead agency in the multi-jurisdictional effort, other agencies will be contacted, including the County's Office of Emergency Services. The County will then determine if it will work together with other local jurisdictions to identify another regional forum for developing a multi-jurisdictional plan or develop its own mitigation plan.

The public will continue to be involved whenever the plan is updated and as appropriate during the monitoring and evaluation process. Prior to adoption of updates, the County will provide the opportunity for the public to comment on the updates. A public notice will be posted prior to the meeting to announce the comment period and meeting logistics. In addition, given the lack of response from the public in this and previous plans, the County is exploring alternative means of communication and outreach. Among the ideas being considered for the 2015 Annex update are the following:

- County Library System: Educational displays at Libraries throughout the county complete with forms for resident input can provide another venue for residents to participate in the development of the plan.
- County PIO: Partner with the County Public Information Officer to tap into pre-existing channels of communication.
- Existing Community Forums: Participate in Regional Community Advisory Groups, Town Hall meetings at Board of Supervisor districts, and other pre-existing public forums to inform residents about mitigation and how they can get involved.
- Transit Organizations: Display information posters at key transit centers, such as Bay Area Rapid Transit stations, bus stations, and similar types of facilities.



## County of Alameda

### Mitigation Plan Point of Contact

#### **Mitigation Plan Point of Contact**

Name: Michael Cadrecha  
Title: Architect, General Services Agency  
Mailing Address: 1401 Lakeside Drive, Suite 800,  
Oakland, California 94612  
Telephone: 510-208-9589  
Email: michael.cadrecha@acgov.org

#### **Alternate Point of Contact**

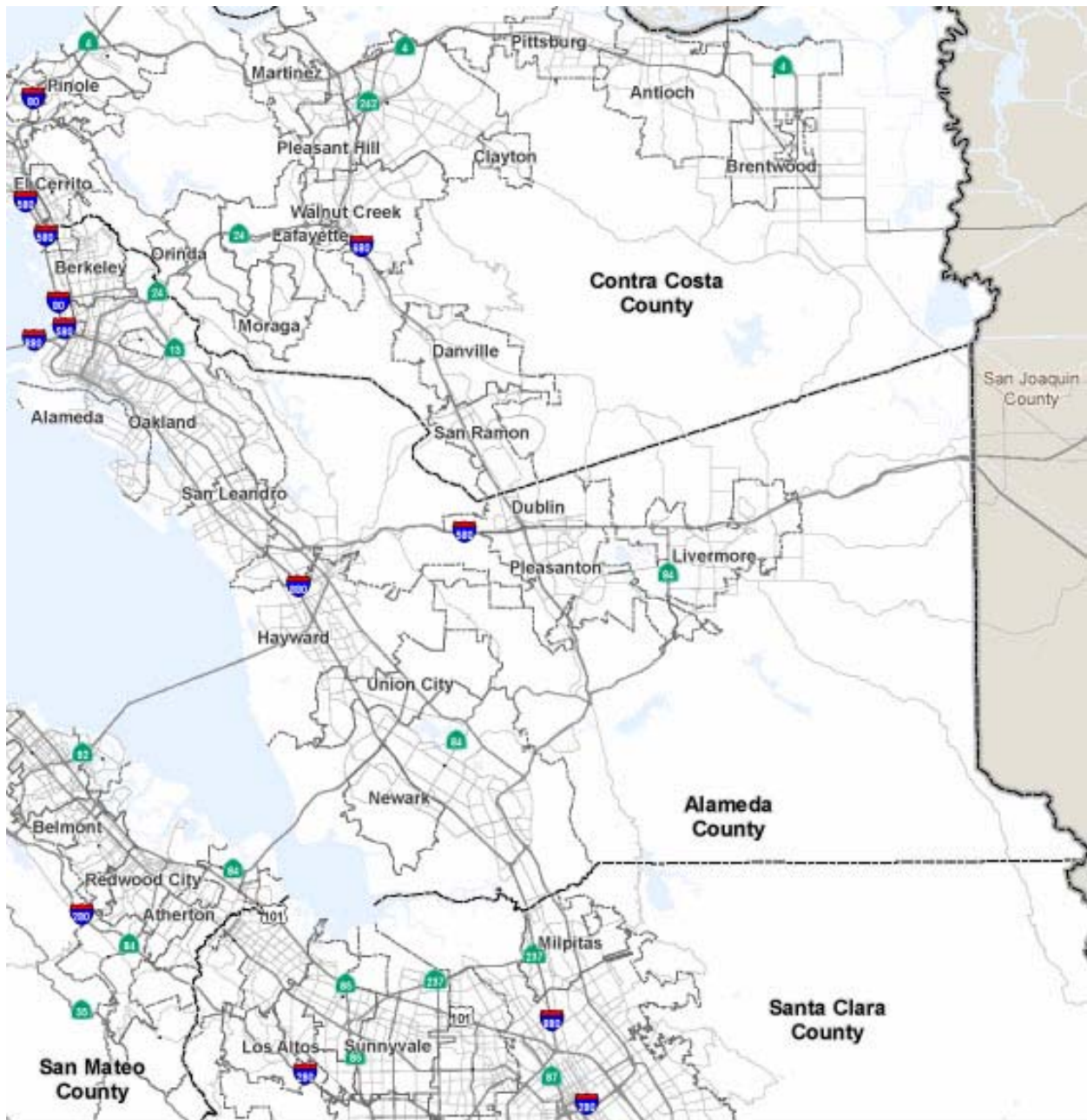
Name: Marla Blagg  
Title: Alameda County Fire  
Telephone: 510-618-3468  
Email: Marla.Blagg@acgov.org





## County of Alameda

### Exhibit A – Jurisdiction Boundary Map





## County of Alameda

### Exhibit B – Public Meeting Announcements

*(Internet Posting, original text, Sep 2009)*

#### LOCAL HAZARD MITIGATION PLAN

Major natural disasters strike the United States every year causing deaths and injuries to our residents and billions of dollars in property damage. Hurricanes, tornadoes, wildfires, floods, and earthquakes are some of the most common natural disasters we face. We know that the Bay Area will most likely suffer the effects of a major disaster in the coming years.

Disasters are not just events in a single point of time either. Rebuilding and recovery efforts last for many years, sapping the vitality out of local economies by diverting resources from other public and private endeavors. Disasters also have significant impacts on landfills and the environment, as enormous amounts of energy and natural resources are required to rebuild. This in turn stretches our landfills to their limits with the extensive amounts of debris and reconstruction waste generated.

Given the trend towards ever-increasing impacts of natural and human-induced disasters, experts in both the public and private sectors began promoting the concept of pre-disaster mitigation planning. Defined as “sustained activities to reduce or eliminate long-term risk to people and property from hazards and their effects”, its purpose is to reduce the potential loss of life, property damage, and environmental degradation from natural disasters and minimize the time and cost of response and recovery.

In light of these developments, the Disaster Mitigation Act of 2000 (Public Law 106-390) was signed into law by President Clinton in October of 2000. It reinforces the importance of mitigation activities at the local government level and emphasizes planning for disasters before they occur. As such, DMA 2000 enshrines pre-disaster hazard mitigation planning as its central core and has requirements for national post-disaster mitigation programs as well. The Act requires all state and local governments to develop a plan based on FEMA guidelines. Key components of a mitigation plan include hazard identification, asset inventory, risk analysis and loss estimation, and a plan to reduce the effects the identified hazards will have. In addition, these plans must be updated periodically with public input.

The following information and links show how Alameda County is working with the Association of Bay Area Governments (ABAG) and other local jurisdictions to update the current plan via ABAG’s multi-Jurisdictional Local Hazard Mitigation Plan (MJ-LHMP) for the Bay Area.

Public input for Alameda County’s plan is encouraged. As such, a public meeting to discuss Alameda County’s mitigation strategies will be held on **September 28** from 6pm to 8 pm at 1401 Lakeside Drive, Conference Room 1107, 11<sup>th</sup> Floor, in Oakland. Here is a map to the location:

<http://maps.yahoo.com/#mvt=m&lat=37.801157&lon=-122.262897&z=17&q=1401%20Lakeside%20Drive%2C%20Oakland%20Ca>.



## County of Alameda

- To view the mitigation strategy priorities Alameda County is considering, follow this link <http://quake.abag.ca.gov/mitigation/resources.html> and click on “New City and County Template.”
- <http://www.fema.gov/plan/mitplanning/index.shtm>
- To learn more about the State of California’s FEMA-approved mitigation plan, see [http://hazardmitigation.calema.ca.gov/plan/state\\_multi-hazard\\_mitigation\\_plan\\_shmp](http://hazardmitigation.calema.ca.gov/plan/state_multi-hazard_mitigation_plan_shmp)
- To see Alameda County’s current FEMA-approved plan that was part of ABAG’s multi-jurisdictional effort, see <http://quake.abag.ca.gov/mitigation/plan.html> . Scroll down to “Alameda County Local Governments” and click on Alameda County’s “Annex” and “Resolution.”
- To see ABAG’s informative power point presentation on mitigation, click on this link: <http://quake.abag.ca.gov/mitigation/resources.html> and scroll down to **NEW 2009 SAMPLE PowerPoint Slide Show** on LHMP and Development of LOCAL Mitigation Strategy Priorities.

*(Copy of internet post inviting public input via phone and email – 2 pages; 10/12/10 thru 10/19/10)*



# County of Alameda



Quick Links Citizens Business Government Emergencies

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## Online Services

### Online Payments

- Birth, Death, Marriage Certificates
- Business Licenses
- Central Collections Web Pay
- Public Records Copies
- View or Pay Property Taxes
- Traffic Tickets
- Wells Drilling Permit

### LIVE! Audio/Video Broadcasts

- Board of Supervisors Meetings
- Planning Commission Meeting

### Video

- Importance of Libraries
- Santa Rita Jail Photovoltaic Project
- Voting Videos

### Maps

- Election Results Maps
- Board of Supervisors Map
- Community Based Services
- County Geospatial Data Files
- Local Oversight Program (LOP)
- Records
- Restaurant Inspection Results

### Other Services

- Criminal Docket Finder
- Website Survey
- Inmate Locator
- Property Assessment
- Jury Reporting Instructions
- Supplemental Tax Estimator
- Lookup Fictitious Business Names
- Lookup Public Records
- Street Lighting - Questions / Concerns
- GSA Business Outreach Events
- District 5 Community Events
- Redevelopment Meetings
- CDA Planning Meetings
- Fire Department Events

More online services...

## News & Information

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### We Need Poll Workers!!

Alameda County needs poll workers for the November 2, 2010, General Election. Poll Workers are the backbone of our election system. It's an enjoyable and rewarding way to be part of our free democratic process. Apply online today!



### Hazard Mitigation Planning

Major natural disasters strike every year causing deaths and injuries and billions of dollars in damage to property and infrastructure. We know the Bay Area may suffer the effects of a major disaster in the coming years, so preparing now for whatever may come is the surest means of reducing the risks we all face. Learn more and participate in helping Alameda County become more prepared.



### Historic Halls Available For Special Events

Rent rooms of various sizes and capacities that are reasonably priced and ideal for: Graduation Parties, Weddings, Receptions, Banquets, or Quinceañeras.



## Your County Government

- Board of Supervisors
- County Administrator's Office
- Departments & Agencies
- Fair Political Practice Ticket Reporting Information
- County Budget

## Green Corner

Sustainability Website

Alameda County Community Climate Action Plan

Learn more...



## Doing Business With Us

- Small, Local & Emerging Business Program
- County Contract Compliance System: Elation
- Office of Acquisition Policy
- Awarded/Closed Contracts
- Current Contracting Opportunities
- Upcoming Contracting Opportunities
- Sole Source Procurements
- Vendor Application

## Popular Forms

County standard file format is Portable Document Format (PDF). Free Adobe Reader is required.

- Fictitious Business Name Statement
  - Informal Request for "Decline in Market Value" Reassessment
  - Unrestricted Copy of a Birth Certificate
  - Preliminary Change of Ownership Report
  - Application For Changed Assessment
- More forms...





# County of Alameda



Alameda County's Official Website

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## Alameda County Hazard Mitigation Planning

Major natural disasters strike the United States every year causing deaths and injuries to our citizens and billions of dollars in damage to property and infrastructure. Wildfires, floods, and earthquakes are some of the most common natural disasters we face. We know the Bay Area may suffer the effects of a major disaster in the coming years, so preparing now for whatever may come is the surest means of reducing the risks we all face.

### Alameda County Local Hazard Mitigation Plan

The rebuilding and recovery efforts following a disaster can last for many years, sapping the vitality out of local economies by diverting resources from other public and private endeavors. Disasters also have significant impacts on landfills and the environment, as debris is generated and enormous amounts of energy and natural resources are required to rebuild. This in turn stretches our landfills to their limits.



photo by LT. Craig Byron

Given the trend towards ever-increasing impacts of natural and human-induced disasters, experts in both the public and private sectors began promoting the concept of *pre-disaster mitigation planning*. Defined as "sustained activities to reduce or eliminate long-term risk to people and property from hazards and their effects", the purpose of mitigation planning is to reduce the potential loss of life, property damage, and environmental degradation from natural disasters as well as minimize the time and cost of response and recovery.

In light of these developments, the Disaster Mitigation Act of 2000 (Public Law 106-390) was signed into law by President Clinton in October of 2000. It reinforces the importance of mitigation activities at the state and local government levels and emphasizes planning for disasters *before they occur*. As such, DMA 2000 enshrines pre-disaster hazard mitigation planning as its central core idea and has requirements for national post-disaster mitigation programs as well. The Act requires all state and local governments to develop a plan based on FEMA guidelines. Key components of a mitigation plan include hazard identification, asset inventory, risk analysis, loss estimation, and a plan to reduce the effects the identified hazards will have. In addition, these plans must be updated periodically with public input.

The following information and links show how Alameda County is working with the Association of Bay Area Governments (ABAG) and other local jurisdictions to update the current plan via ABAG's Multi-Jurisdictional Local Hazard Mitigation Plan (MJ-LHMP) for the Bay Area.

Public input for Alameda County's plan Annex is encouraged. As such, citizens are encouraged to review the documents herein and provide their comments and suggestions. To view the County's 2010 Draft Annex and the mitigation strategy priorities we are considering, follow this link... <http://quake.abag.ca.gov/mitigation/local-materials.html> ...and then follow the link that says Alameda County Draft.

All comments on the Annex should be directed to Michael E. Cadrecha by [email](mailto:email) or by phone at 510-208-9589.

For general information on mitigation planning, here are some interesting links...

To learn more about pre-disaster mitigation planning, visit FEMA's website at <http://www.fema.gov/plan/mitplanning/index.shtml>

To see the State of California's FEMA-approved mitigation plan, see [http://hazardmitigation.ca.gov/plan/state\\_multi-hazard\\_mitigation\\_plan\\_shmp](http://hazardmitigation.ca.gov/plan/state_multi-hazard_mitigation_plan_shmp)

To see Alameda County's current FEMA-approved plan from 2007, see <http://quake.abag.ca.gov/mitigation/plan.html>. Scroll down to "Alameda County Local Governments" and click on Alameda County's "Annex" and "Resolution."

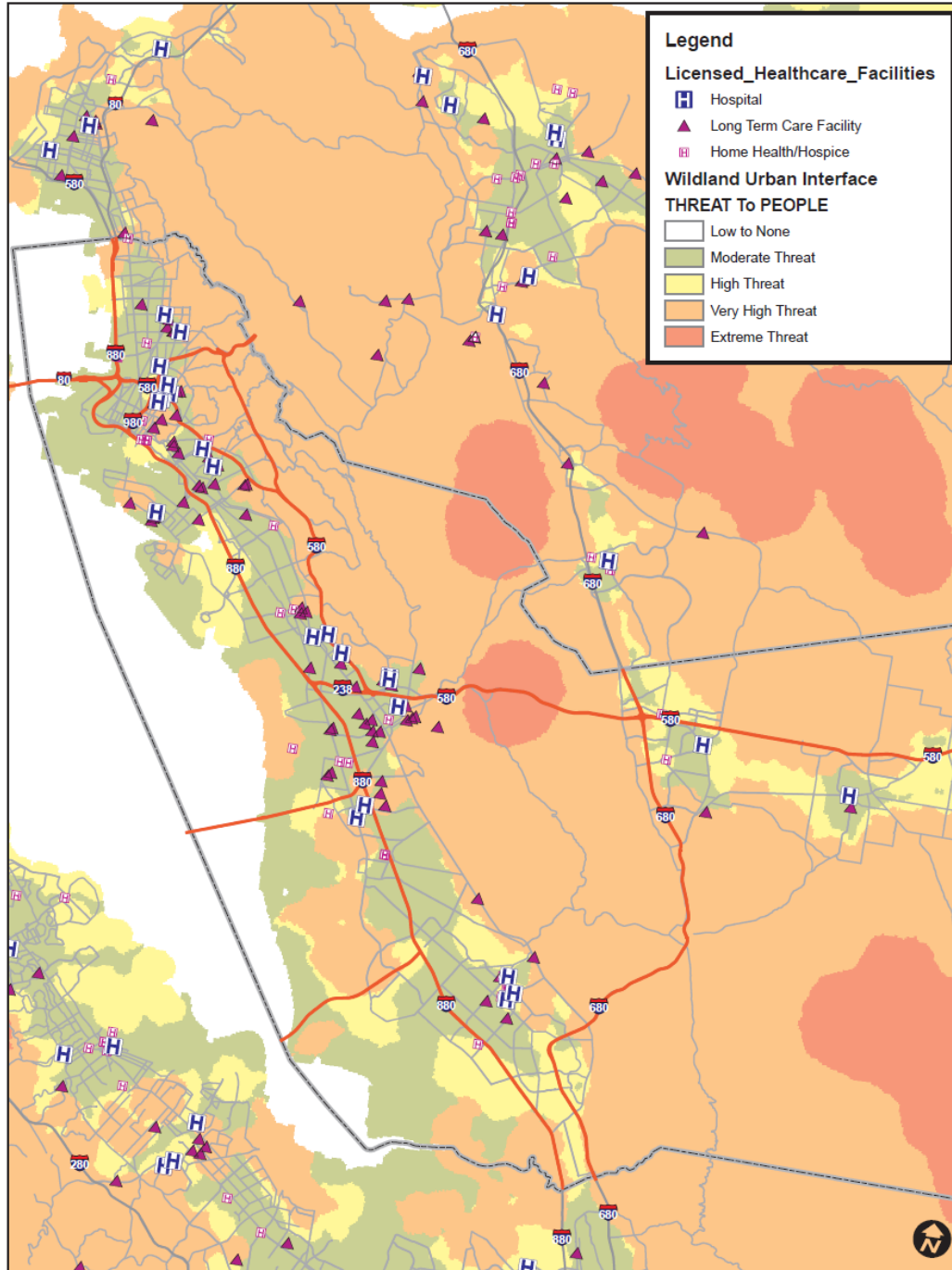
For a summary list of ABAG's Regional Mitigation Strategies upon which the County's strategies are based, click on this link: <http://quake.abag.ca.gov/mitigation/ThePlan-G-Version-August10.pdf> (PDF - 214kb) \*

\* Portable Document Format (PDF) file requires the free [Adobe Reader](#).



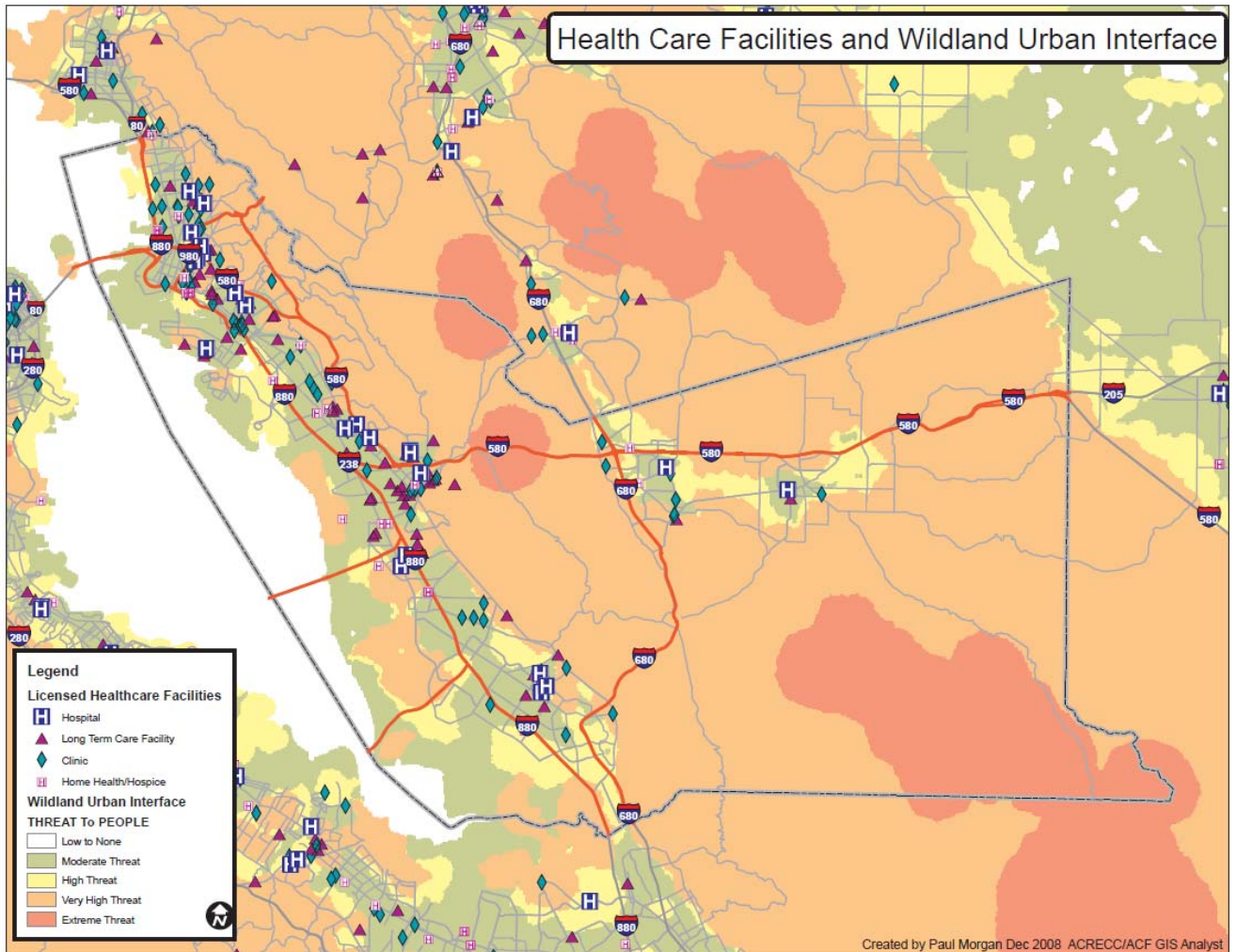
## County of Alameda

### Exhibit C – Additional Maps



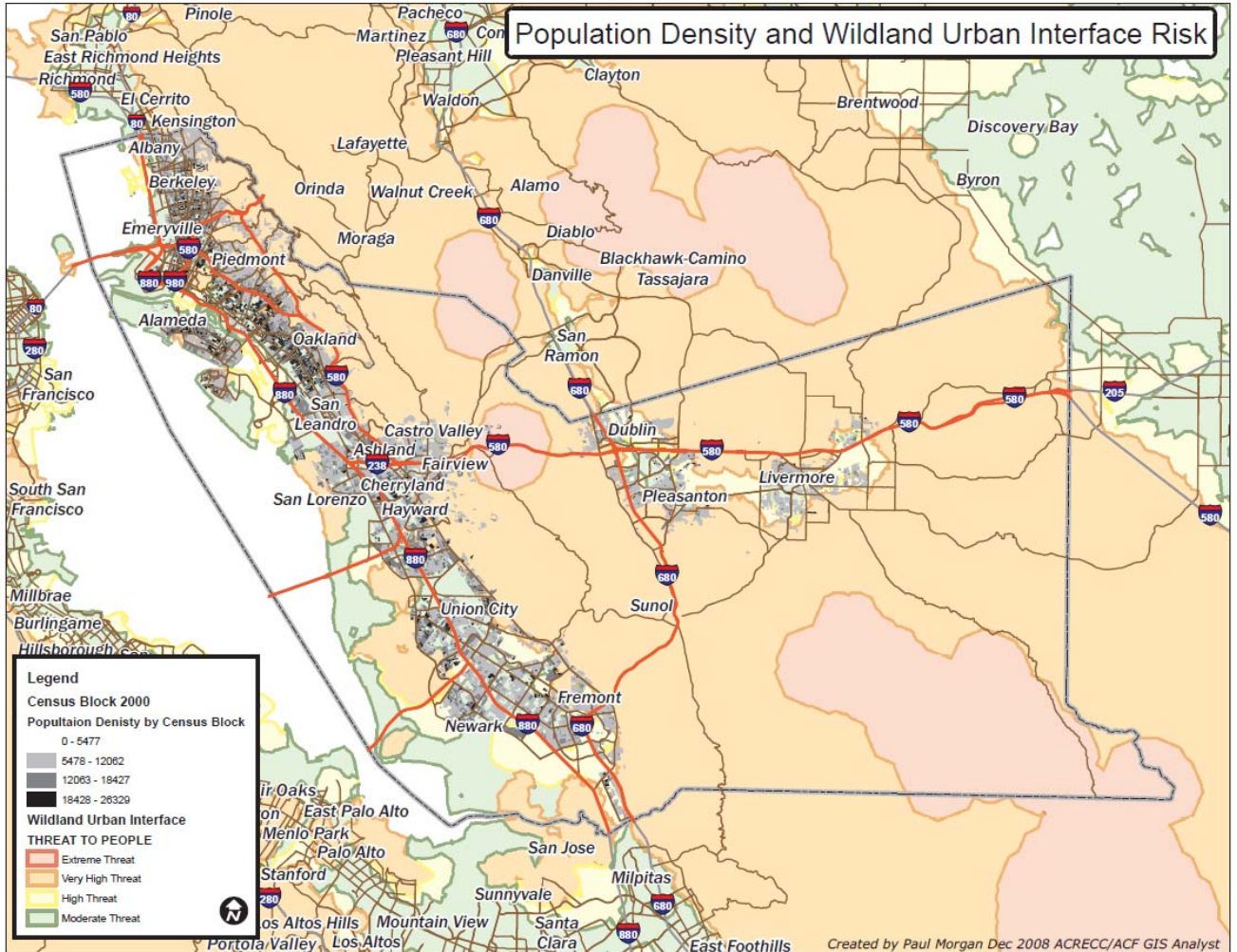


## County of Alameda





# County of Alameda







County of Alameda

**Exhibit D – Evaluation of Mitigation Progress from 2007 Plan**

No.	Mitigation Project	2010 MJ-LHMP Strategy Number	Responsible Agency	Action Taken	Status	Comments
1	Seismically Retrofit 3 Fire Stations	GOVT-a-2	GSA and ACFD	Submitted NOI to apply for ARRA (American Recovery and Reinvestment Act of 2009, or "the stimulus") July 2010 for FS 25.	ARRA grant ("stimulus") application not awarded in 2010.	Retrofit FS 24 (old #3), 25 (old #4), & 7 per Seismic Study dated September 2000.
2	Construct 4 new Replacement Fire Stations	GOVT-a-3	GSA and ACFD	Applied for ARRA 2009 Federal Grant	Not funded	Replace FS 22 (old #1), 23 (old #2), & 26 (old #5), and 8 per Seismic Study dated September 2000
3	Pre-Disaster Planning	GOVT-b-2	All Departments	underway	Planning Phase	Develop pre-disaster plans such as COG / COOP Plans, and Post-Disaster Recovery plans.
4	Upgrade the levee system	INFR-b-2	PWA	Underway	Planning grant awarded for design, design complete	Upgrade to Alameda Creek levee system -- construction starts in early August 2010.
5	Conduct a watershed analysis of runoff and drainage systems to predict areas of insufficient capacity in the storm drain and natural creek system.	INFR-d-1, INFR-d-2, INFR-d-3	PWA Flood Control District	Underway	Awarded	Completed Zone Nos. 3A and 4; awarded contract for Zone No. 6; Zone Nos. 2, 2A, 5, 9, 12 & 13 still in planning stage.
6	Continue to repair and make structural improvements to storm drains, pipelines, and/or channels to enable them to perform to their design capacity in handling water flows as part of regular maintenance activities	INFR-d-6, INFR-d-7	PWA Flood Control District	underway	ongoing program	This is financed via County funding.
7	Conduct an inventory of existing or suspected soft-story residential, commercial and industrial structures	HSNG-c-4, ECON-b-4	PWA	On Hold	Awaiting for funding	Due to lack of funding and staff resource, this project has been put on hold.



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<b>8</b>	Inventory non-ductile concrete, tilt-up concrete, and other privately-owned structurally suspicious buildings	HSNG-e-2, ECON-d-1	PWA	On Hold	Awaiting for funding	Due to lack of funding and staff resource, this project has been put on hold. This item will be merged with Item #7 for 2010 project.
<b>9</b>	To reduce flood risk, and thereby reduce the cost of flood insurance to property owners, work to qualify for the highest-feasible rating under the Community Rating System of the National Flood Insurance Program	HSNG-h-1, ECON-f-1	PWA Flood Control District	Ongoing	Class 7.	At current class level, 15% reduction for area residents. Should reach Class 6 in the next year or two. Ongoing work in this area is a County standard operating procedure.
<b>10</b>	Increase efforts to reduce landslides and erosion in existing and future development through continuing education of design professionals on mitigation strategies	HSNG-i-2, ECON-g-2	CDA and PWA	Reviewed & enhanced development processes implementing State and Local Ordinances. Developed guidelines for earthwork to reduce erosion and landslide.	DONE	Procedures are in place to enhanced the enforcement of Seismic Hazards Map Act, Alameda County Grading and Erosion Control, and watercourse protection ordinances in the development processes by coordinating with BID and CDA to advise developers and design professionals in the land use entitlement processes to evaluate developments in compliance with regulations. The 1978 Alameda County Grading Ordinance has been updated and was adopted by the County Board of Supervisors (O-2010-19) on May 4, 2010
<b>11</b>	Incorporate FEMA guidelines and suggested activities into local government plans and procedures for managing flood hazards	LAND-c-2	PWA Flood Control District	FEMA flood design guidelines has been incorporated into development process and building permit processes	Ongoing	Procedures are in place to track each building permit and development project in flood zone to ensure proposed project is in compliance with FEMA flood design guidelines and ASCE Standard 24-05 for flood design.
<b>12</b>	Establish and enforce regulations concerning new construction (and major improvements to existing structures) within flood zones in order to be in compliance with federal requirements and, thus, be a participant in the Community Rating System of the National Flood Insurance Program	HSNG-h-7	PWA Flood Control District	FEMA flood design guidelines has been incorporated into development process and building permit processes	Ongoing	Procedures are in place to track each building permit and development project in flood zone to ensure proposed project is in compliance with FEMA flood design guidelines and ASCE Standard 24-05 for flood design. (Same as Item 11 above)



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<b>13</b>	Sponsor the formation and training of Community Emergency Response Teams (CERT) through partnerships with local businesses	GOVT-c-3, ECON-j-5, HSNG-k-6	ACFD	CERT program established in 2007	ongoing program	Conduct on average 3 classes/year in district
<b>14</b>	Assist businesses in the development of defensible space through the use of, for example, "tool libraries" for weed abatement tools, roadside collection and/or chipping services (for brush, weeds, and tree branches) in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat	ECON-e-1, HSNG-g-1, HSNG-g-4	ACFD		Deferred.	
<b>15</b>	Develop printed materials, utilize existing materials (such as developed by FEMA and the American Red Cross), conduct workshops, and/or provide outreach encouraging employees of these critical health care facilities to have family disaster plans and conduct mitigation activities in their own homes	HEAL-a-7	PHD	Family plan templates developed and posted on PH website.	ongoing	PH website is being redesigned to include additional resources for public and private agencies. Public Health emergency preparedness program has moved to all hazards planning and response.
<b>16</b>	Continue to develop response plans, exercises, and tools for public and private stakeholders to respond to natural and man made disasters.	HEAL-a-7	PHD	Ongoing	ongoing program	The County's Public Health Dept participates in numerous emergency preparedness planning groups. These groups include internal partners in addition to various public and private sector organizations and constituents. Alameda County BT/Public Health Emergency Response Program is recognized by the CDC and state for its innovative ideas and tool development. Currently products are shared with other health departments in the region.



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Exhibit E – Future Mitigation Projects

No.	Mitigation Project	2010 M-J-LHMP Strategy Number	Applies to New or Existing Assets	Primary Hazard Mitigation Target	Responsible Agencies	Implementation	Estimated Cost	Anticipated Funding Sources	Anticipated Schedule	Comments
1	Seismically Retrofit 3 Fire Stations	GOVT-a-2	Existing	Earthquake	GSA and ACFD	Seismic study completed which identified those fire stations needing retrofit. Design and construction will occur when funding becomes available.	\$8.6M	Submitted NOI to apply for Pre Disaster Mitigation Grant July 2010 for FS 25	18 to 24 months for each facility. Implementation will begin as soon as funding is awarded.	Retrofit Stations 6, 25 (old #4), & 7 per Seismic Study dated September 2000.
2	Construct 4 new Replacement Fire Stations	GOVT-a-2	New	Earthquakes	GSA and ACFD	Seismic study completed which identified those fire stations requiring replacement. Design and construction will occur when funding becomes available.	\$30M to \$35M	Applied for ARRA 2009 Federal Grant	Implementation will begin as soon as funding is awarded.	Replace FS 22 (old #1), 23 (old #2), & 26 (old #5), and 8 per Seismic Study dated September 2000.



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3	Pre-Disaster Planning	GOVT-b-2	New and Existing	All Hazards	All Departments	The County has undertaken a multi-agency effort to increase CERT training and complete numerous plans including medical and disaster operations plans, Debris Management, and Genset Refueling.	To Be Determined on a plan-by-plan basis	Various County agencies and departments will seek appropriate funding	Various plans are under way or planned for the near future.	Develop pre-disaster plans such as COG / COOP Plans, Post-Disaster Recovery, Medical and Health Disaster Ops Plan, PH DOC Plan, Surge/Alternate Care Site (ACS) Plan. In addition, develop Pediatric Disaster and ACS Regional Planning, training conferences, resources, and communications.
4	Conduct an inventory of existing or suspected soft-story, non-ductile concrete, tilt-up concrete, URM, and other publicly and privately-owned structurally suspicious buildings.	HSNG-c-4, ECON-b-4	Existing County-owned facilities and private-sector facilities in the unincorporated sections of Alameda County.	Earthquakes	PWA-BID	County has begun to identify multi-family buildings through Assessor's database and preparing list for buildings to investigate. County believes numbers of URM buildings still needing retrofit to be relatively small.	\$200K to \$300K	Plan to seek grant through FEMA or other appropriate sources	Implementation will begin as soon as funding is awarded.	County will seek ABAG assistance to identify potentially vulnerable structures and develop a plan for retrofitting them.
5	Conduct training for Community Emergency Response Teams (CERT) through partnerships with local community groups.	GOVT-c-3, ECON-j-5, HSNG-k-6	New and Existing	All Hazards	ACFD	CERT program established in 2007, additional funding needed for on-going training.		Plan to seek grant through FEMA or other appropriate sources	ongoing program	The ACFD conducts on average 6 classes/year within its jurisdiction.



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6	Adopt and enforce a repair and reconstruction ordinance to ensure that damaged buildings are repaired in an appropriate and timely manner and retrofitted concurrently.	HSNG-j-1, ECON-i-5, GOVT-a-13	Existing	All Hazards	PWA-BID	County in process of evaluating ordinance	no funding needed	no outside funding needed	Plan to adopt January 2011 with CVC adoption	Language has been adopted and became effective on Jan. 1, 2011
7	Alameda County Acute Care Hospital Tower	GOVT-a-2; HEAL-a-1	New Facility on existing hospital campus	Earthquakes	GSA and HCS	Design complete and construction contract awarded, start construction 2011	\$650M-\$700M	County funding	Construction duration from 2011 to 2015.	Per California State Assembly Bills 1953 and 306 -- replace existing Acute Care tower with seismically safe facility.
8	Peralta Oaks Seismic Retrofit and Reassignment to Sheriff and Healthcare	GOVT-a-2	Existing	Earthquakes	GSA, ACSO, and PHD	Original tenant has vacated, initial structural analysis and report complete, architectural programming and design underway.	\$15M to \$18	County funding	Completion projected for Fall 2012	This project, when complete, will house the ACSO Coroner, Crime Lab, and Public Health Lab



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9	Update Alameda County Watercourse Protection Ordinance to include provisions to prevent erosion and bank failure caused by flooding to meet FEMA Guidelines	GOVT-d-9	New and Existing	Flooding	PWA-Grading	Rough draft has been prepared. Board-appointed task force is reviewing.	To Be Determined	No funding needed	Expecting long (1+ year) review and approval process. The process to update the Watercourse Protection Ordinance began in 2006. There is no firm expectation as to when the updated ordinance will be completed; although PWA-FCD would like the updated ordinance to be approved by the Board of Supervisors at the earliest time.	There is high sensitivity on the part of the public with regard to the updating of this ordinance. Implementation may significantly affect future development of properties along watercourses. We have received input from the community in the form of comments by the County Board of Supervisors appointed Creeks Task Force. The new Watercourse Protection Ordinance is currently being drafted and will be circulated for initial internal (ACPWA) review.
10	Don Castro reservoir dam & outlet modification.	INFR-b-5, INFR-d-10	Existing	Flooding	PWA Flood Control District	Preliminary studies indicate that the modifications will help reduce sedimentation of the reservoir and reduce peak flows to areas downstream of the dam.	\$25M	Plan to seek grant funding from appropriate sources	Final design and then construction to commence once funding has been secured	This project is one component of the County's effort to remove downstream areas along San Lorenzo Creek from FEMA Special Flood Hazard Areas. Currently, there are approximately 2800 properties located within Special Flood Hazard Areas. No available funding at this time.



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11	San Lorenzo Creek floodwall.	INFR-d-4, INFR-d-9	Existing	Flooding	PWA Flood Control District	A detailed engineering study is underway to determine the locations and extent of proposed floodwalls to contain the 1% chance flows in San Lorenzo Creek.	\$10M	Plan to seek grant funding from appropriate sources	Once the study is completed and funding has been secured, construction of the floodwalls will commence.	This project is one component of the County's effort to remove areas along San Lorenzo Creek from FEMA Special Flood Hazard Areas. No available funding at this time.
12	Alameda Creek Federal Project, Old Alameda Creek levee improvements, and Lines B and C (Zone No. 6) Levees(?)	INFR-d-12	Existing	Flooding	PWA Flood Control District	Engineering and scientific studies are underway to identify ways to improve sediment transport capabilities of these facilities which in turn will improve flood conveyance capacity and reduce potential for flooding.	\$20M	Plan to seek grant funding from appropriate sources	The related South Bay Salt Pond Restoration Project is already underway; the channel improvements to be constructed from 2013 to 2015.	This project is related to the ongoing South Bay Salt Pond Restoration Project. The flood control facilities will be hydraulically connected to the former salt production ponds. State acquisition of the Cargill Salt properties and restoration of the salt ponds provided a great opportunity to reduce flood hazard in the nearby urban areas by lowering or breaching the levee systems along the common borders between the salt ponds and flood control channels. Therefore, the District is seeking grants to help reduce flooding and also restore wetland habitat. PWA has contracted with a consultant who is initiating the evaluation of how best to integrate the flood control channels with the restored former salt ponds





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13	Cull Creek Dam Retrofit/Upgrade Project	INFR-a-2, INFR-d-10	Existing	Earthquakes and Flooding	PWA	Seismic study has concluded that Cull Creek Dam is seismically unstable. In addition, the flood storage capacity of the reservoir behind the dam is significantly reduced due to sedimentation. PWA-FCD is exploring options to address both seismic and siltation problems.	Preliminary estimated costs are: Dam seismic retrofit ~ \$12M Spillway modification ~ \$11.5M Sediment removal ~ \$13M Fish passage ~ \$5.8M Total estimate ~ \$42.3M	awaiting funding	Design and construction will commence once funding has been secured.	Due to lack of funding, this project has been put on hold. Measures have been taken to draw down the water level in the reservoir to reduce flood hazard in the event of a seismic event.
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## County of Alameda

### Exhibit F – Regional Mitigation Strategies

[Included on Multi-Jurisdictional Plan CD and at <http://quake.abag.ca.gov/mitigation/strategy.html>]