



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

San Mateo County

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## Introduction

The County of San Mateo is a moderately sized County in California, with 455 square miles of land area and a population of 718,451. Located on the peninsula bounded by San Francisco Bay to the east, the Pacific Ocean to the west, the City/County of San Francisco to the north, and Santa Clara and Santa Cruz Counties to the south, San Mateo County is no stranger to disasters. The County currently employs 5,844 people, and has a total budget of \$1.7 Billion. It owns, occupies, and manages an extensive array of properties, facilities, and services that are both vulnerable to disasters and important to the way in which the County responds to disasters.

## The Regional Planning Process

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

- Six ABAG Regional Planning Committee meetings
- The ABAG Executive Board meeting on September 17, 2009
- The ABAG sponsored County/City Workshop conducted at the County Government Center in Redwood City

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 of San Mateo has provided information on facilities that are defined as “critical” to ABAG for ABAG’s use in developing the multi-jurisdictional plan.

## The Local Planning Process

Representatives from multiple County departments participated in the review and update of the mitigation strategies contained in the County’s 2005 Annex. Personnel involved in these discussions included senior management and staff from Planning and Building, Health, Public Works, Fire, and Emergency Services. The group was made up of planners, building department officials, facility managers, civil engineers, public health specialists, emergency coordinators and fire officials.

No formal meeting agendas, minutes, or sign in sheets were prepared during the staff team process. San Mateo County’s approach involved a collaborative, informal review and discussion of materials.

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

The San Mateo County General Plan contains land use and development policies that seek to avoid and minimize public exposure to human-induced and natural hazards. General Plan policies are implemented by the County’s Zoning, Building, and Subdivision Regulations, as well as through appendices to the General Plan such as this Annex. Together, these policies,

regulations, and appendices comprise the totality of the San Mateo County Local Hazard Mitigation Plan Annex.

Since 2005, the County has updated its Building Regulations to incorporate recent changes to state and federal building codes. As noted above, these amended regulations are incorporated as part of this plan, and ensure that new and remodeled structures are constructed in a manner that appropriately responds to reasonably foreseeable natural disasters such as floods, wildfires, landslides, and earthquakes.

The County is currently in the process of updating the General Plan to include an Energy Efficiency and Climate Change Element that will, among other things, help prepare the County to adapt to changing environmental conditions that may result from potential changes in climate. Research and discussions conducted to date validates the need for strategies and measures that will enable San Mateo County to adapt to changing climatic conditions and avoid the potential hazards that could otherwise be created.

The following documents were reviewed and incorporated into this annex in addition to those documents referenced in Appendix A of the regional plan.

<b>Existing plans, studies, reports, and technical information</b>	<b>Method of incorporation into the jurisdiction annex</b>
San Mateo County General Plan, including but not limited to the Man-made and Natural Hazards Chapters	Hazards Assessment and priority mitigation actions
Capital Improvements Plan	Priority mitigation actions and programs
San Mateo County Emergency Operations Plan (EOP)	Priority mitigation actions and programs

Maps and technical information generated by the Federal Emergency Management Agency and other governmental agencies provide additional tools that are regularly used by the County in its ongoing efforts to prevent and reduce the adverse impacts associated with disasters. New information released since the last annex that is applied by the County in the development review process, and in the creation of emergency response plans, include new fire zone severity and tsunami inundation maps.

***Process of Updating Plan Sections***

The code amendments incorporated within this Annex involved a significant amount of public outreach and engagement. Updates to the County’s building regulations were considered at public hearings conducted by the Planning Commission and the Board of Supervisors, during which verbal and written comments were received and considered. Notices of these hearings were published in local newspapers and mailed to interested parties.

Additionally, emergency training events conducted by the County, and actual emergency operations, provided valuable experience applying the strategies contained in this annex. The 2010 Glenview Natural Gas Pipeline Explosion and Fire Conflagration in San Bruno, and the

2011 tsunami, as well as a number of Emergency Operation Center exercises, provided an opportunity for the County to apply and evaluate many of these strategies.

Based on the information gained through these activities, it was determined that a major update to San Mateo County's 2005 Local Hazard Mitigation Plan Annex was not necessary. Most of the information contained in the 2005 Annex remains accurate and applicable, with exception to the Planning Process section, which has been updated to describe the process used to generate this 2010 Annex, and minor updates and corrections that have been made to the attached Mitigation Strategies Table.

### *Public Meetings*

The public had the opportunity to learn about and comment on the draft mitigation strategies at the San Mateo County Planning Commission meeting of February 22, 2012. Notice of this meeting, and copies of the draft strategies, were posted on the San Mateo County Planning and Building Department's website. Public notice was also published in the San Mateo County Times and the Half Moon Bay Review, and sent via email and first class mail to the Planning Commission mailing list. The draft mitigation strategies were also published on the ABAG website for public viewing. Copies of these notices and publications are attached as Exhibit A.

Comments received during the Planning Commission hearing, or in response to the information posted on the websites, will be considered and addressed during the public hearing to be conducted by the San Mateo County Board of Supervisors on March 13, 2012. This hearing will be preceded by additional public notice, and is anticipated to result in the Board's adoption of the Annex an implementation appendix of the San Mateo County General Plan.

### **Hazards Assessment**

The 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/>.

San Mateo County has reviewed and ranked the hazards identified by ABAG based on past disasters and expected future impacts. Based on this review, it was determined that earthquakes (particularly shaking), flooding (including dam failure), wildfire, and landslides (including unstable earth) pose significant risks for the unincorporated area. The County does not face any natural disasters not listed in the ABAG multi-jurisdictional plan and no new hazards have been identified since the original development of this plan in 2005.

The County has undertaken a number of general hazard mapping activities pursuant to the Natural Hazards Chapter of the General Plan and as part of other County programs. However, these maps are less detailed and are not as current as those shown on the ABAG website at <http://quake.abag.ca.gov/mitigation/>.

## Past Occurrences of Disasters (natural and human-induced)

San Mateo County has experienced a number of different disasters over the last 50 years, including numerous earthquakes, floods, droughts, wildfires, energy shortages, landslides, and severe storms. Periodic landslides, for example, have destroyed residences in the La Honda area and closed Highway One at Devil's Slide for extended periods of time.

More information on State and Federally declared disasters in San Mateo County can be found at <http://quake.abag.ca.gov/mitigation/ThePlan-D-Version-December09.pdf>

In addition to the declared disasters noted in Appendix D, locally significant incidents that have also impacted San Mateo County in the last several years include:

March 11, 2011 – Tsunami triggered by Japan Earthquake

Waves from a tsunami created by the major earthquake in Japan resulted in tsunami warnings for the entire western coast of the United States and Canada, the evacuation of low lying areas in Princeton-by-the-Sea, and minor damages to vessels and an abalone farm within Pillar Point Harbor.

September 9, 2010- San Bruno Fire

The explosion of a 30-inch high pressure natural gas pipeline and fire resulted in the death of 8 people, destroyed 38 homes, and damaged many more.

January 10, 2010 – Major Winter Storm

High winds, heavy rains, thunderstorms, and large ocean waves triggered the activation of Emergency Operation Centers and resulted in minor flooding and landslide damage.

May 12 through July 05, 2008 – Heat Wave

Unusually high temperatures caused cooling centers to be opened.

March 10, 2008 – Closure of Ocean Boulevard

Coastal bluff instability associated with wave activity and the presence of numerous local faults resulted in the closure of Ocean Boulevard between Los Banos and San Lucas streets.

## Risk Assessment

### *Urban Land Exposure*

San Mateo County examined the hazard exposure of its 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 general, the hazard exposure of the County has not increased over time, as the amount of urban land increases has remained essentially the same over the past five years. The following table described the exposure of urban land within the unincorporated County to the various hazards.

<b>Exposure (acres of urban land)</b>			
<b>Hazard</b>	<b>Plan Year 2005</b>	<b>Plan Year 2010</b>	<b>Change</b>
<i>Total Acres of Urban Land</i>	31,277	31,215	(62) <sup>1</sup>
Earthquake Faulting (within CGS zone)	1,380	1,404	24
Earthquake Shaking (within highest two shaking categories) <sup>2</sup>	25,959	26,099	140
Earthquake-Induced Landslides (within CGS study zone)	Not available <sup>3</sup>		
Liquefaction (within moderate, high, or very high liquefaction susceptibility)	6,089	6,197	108
Flooding (within 100 year floodplain)	1,084	1,108	124
Flooding (within 500 year floodplain)	238	243	5
Landslides (within areas of existing landslides)	5,932	5,999	67
Wildfire (subject to high, very high, or extreme wildfire threat)	13,078	13,989	911
Wildland-Urban Interface Fire Threat	10,838	11,242	922
Dam Inundation (within inundation zone)	811	832	21
Drought <sup>4</sup>	31,277	31,215	2,655

<sup>1</sup> The reduction in the amount of unincorporated urban land is attributed to ABAG mapping revisions intended to improve accuracy. There have been no changes to the urban land use designations established by the San Mateo County General Plan.

<sup>2</sup> In large part because the San Andreas fault system runs through the County.

<sup>3</sup> Maps have not yet been prepared for San Mateo County

<sup>4</sup> All urban areas of unincorporated San Mateo County are subject to drought.

### *Infrastructure Exposure*

San Mateo County also examined the hazard exposure of infrastructure within the unincorporated area based on the information on ABAG's website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. Of the 918 miles of roadway in San Mateo County, the following are exposed to the various hazards analyzed.

Exposure (miles of infrastructure)						
Hazard	Roadway		Transit		Rail	
	Plan Year 2005	Plan Year 2010	Plan Year 2005	Plan Year 2010	Plan Year 2005	Plan Year 2010
<i>Total Miles of Infrastructure</i>	1,075	918	3	4	4	4
Earthquake Shaking (within highest two shaking categories)	899	748	3	4	3	3
Liquefaction Susceptibility (within moderate, high, or very high liquefaction susceptibility)	174	185	1	2	3	3
Liquefaction Hazard (within CGS study zone) <sup>5</sup>	Not available	30	Not available	1	Not available	3
Earthquake-Induced Landslides (within CGS study zone) <sup>6</sup>	Not available	50	Not available	0	Not available	0
Earthquake Faulting (within CGS zone)	59	46	0	0	0	0
Flooding (within 100 year floodplain)	38	25	0	0	0	0
Flooding (within 500 year floodplain)	11	8	1	1	0	0
Landslides (within areas of existing landslides)	231	226	0	0	0	0
Wildfires (subject to high, very high, or extreme wildfire threat)	534	414	0	0	0	0
Wildland-Urban Interface Fire Threat	314	309	2	2	1	2
Dam Inundation (within inundation zone)	16	14	0	0	0	0
Drought <sup>7</sup>	not applicable					

<sup>5</sup> 888 miles of roadway, 3 miles of transit, and 1 mile of rail are outside the area that has been evaluated by CGS for this hazard

<sup>6</sup> 867 miles of roadway, 4 miles of transit, and 4 miles of rail are outside the area that has been evaluated by CGS for this hazard

<sup>7</sup> Drought is not a hazard for roadways.

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

Finally, San Mateo County examined the hazard exposure of critical health care facilities and schools located within the unincorporated area, and County-owned buildings based on the information on ABAG's website at <http://quake.abag.ca.gov/mitigation/pickcrit2010.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.



Exposure (number of facility types)								
Hazard	Health Care Facilities		Schools		County owned critical facilities		Locally owned bridges and interchanges	
	Plan Year 2005	Plan Year 2010	Plan Year 2005	Plan Year 2010	Plan Year 2005	Plan Year 2010	Plan Year 2005	Plan Year 2010
<i>Total Number of Facilities</i>	1	4	18	24	5	33	49	50
Earthquake Shaking (within highest two shaking categories)	1	4	15	21	5	32	43	45
Liquefaction Susceptibility (within moderate, high, or very high liquefaction susceptibility)	0	1	8	8	1	8	31	25
Liquefaction Hazard (within CGS study zone) <sup>8</sup>	0	0	0	3	0	2	0	
Earthquake-Induced Landslides (within CGS study zone) <sup>9</sup>	0	0	0	0	0	0	0	0
Earthquake Faulting (within CGS zone) <sup>10</sup>	0	0	0	0	0	0	1	1
Flooding (within 100 year floodplain)	0	0	0	1	1	1	8	4
Flooding (within 500 year floodplain)	0	0	0	2	0	1	1	0
Landslides (within areas of existing landslides)	0	0	1	4	3	7	10	16
Wildfires (subject to high, very high, or extreme wildfire threat)	0	0	1	3	3	8	12	19
Wildland-Urban Interface Fire Threat	1	3	15	17	3	13	7	22
Dam Inundation	0	0	0	1	0	0	3	3
Sea Level Rise (exposed to 16in sea level rise) <sup>11</sup>	-	0	-	0	-	2	-	0
Sea Level Rise (exposed to 55in sea level rise) <sup>12</sup>	-	0	-	0	-	0	-	18

<sup>8</sup> 1 health care facility, 18 schools, 5 County-owned Critical Facilities, and all 49 locally-owned bridges and interchanges were outside of the area evaluated by CGS for the 2005 Local Hazard Mitigation Plan. 4 health care facilities, 21 schools, 31 County-owned critical facilities, and all 50 locally owned bridges and interchanges were outside the area evaluated by CGS for the 2010 Local Hazard Mitigation Plan.

<sup>9</sup> 1 health care facility, 18 schools, 5 County-owned Critical Facilities, and all 49 locally-owned bridges and interchanges were outside of the area evaluated by CGS for the 2005 Local Hazard Mitigation Plan. 2 health care facilities, 18 schools, 29 County-owned critical facilities, and 48 locally owned bridges and interchanges were outside of the area evaluated by CGS for the 2010 Local Hazard Mitigation Plan.

<sup>10</sup> 1 health care facility, 18 schools, 5 County-owned Critical Facilities, and 48 locally-owned bridges and interchanges were outside of the area evaluated by CGS for the 2005 Local Hazard Mitigation Plan.. The location of these and all other critical facilities were evaluated by CGS for the 2010 Local Hazard Mitigation Plan.

<sup>11</sup> Sea level rise data was not available in 2005

Tsunamis <sup>13</sup> (within inundation area)	-	0	-	0	-	1	-	0
Drought <sup>14</sup>	-	-	-	-	-	-	-	-

<sup>12</sup> Sea level rise data was not available in 2005

<sup>13</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>14</sup> Drought will not affect locally owned facilities directly.

### *Repetitive Loss Properties*

There is one repetitive loss properties in the unincorporated area of San Mateo County based on the information at <http://quake.abag.ca.gov/mitigation/pickflood.html>. In 2004 the County did not have any repetitive loss properties located outside the flood plain. The one repetitive loss property noted above is located within the 100-year flood plain.

### *Other risks*

San Mateo County plans to continue to work with ABAG to improve the risk assessment information being compiled by ABAG, including developing ways to assess how many soft-story and unreinforced masonry buildings are located in the unincorporated areas of the County.

The County also 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**

San Mateo County has participated in the National Flood Insurance Program since 1975. The County also participates in the Community Rating System and is currently Class 9. The County was recently audited by FEMA, who conducted a Community Assisted Visit (CAV) on July 10, 2009. The results of this CAV put the County in good standing with FEMA and enabled the County to join FEMA's Community Rating System Program at Class 9.

In addition to using FEMA flood maps to regulate flood hazards, the County applies a number of policies and regulations to new development that are intended to avoid, minimize and mitigate the impacts and hazards of construction within flood plains. These include the policies of the General Plan and Local Coastal Program, as well as the County's zoning and building regulations. The County's building regulations are consistent with federal and state codes and are updated on a three year cycle that corresponds to the regular updates of the International ICC codes and the California State Building Code.

The process used by San Mateo County to implement the National Flood Insurance Program requires applicants within FEMA designated flood zones to demonstrate compliance with standards for development within these zones. This may include certification that all habitable areas of the project is at least one foot above the base flood elevation, limiting the use of all areas

below this elevation to utility purposes constructed with breakaway walls, and installing flood vents within the foundation.

The Elevation Certificate (EC) is a three step process that must be completed before a certificate of occupancy can be issued. The first EC needs to be provided at time of plan check. The next EC must be provided while the project is under construction during the framing inspection. The last EC needs to be provided and approved at time of final inspection or prior to issuance of a Certificate of Occupancy.

In addition to ensuring that the correct benchmark and Vertical Datum is being use, our review of Elevations certificates involves confirmation of the following elevations:

- a) Top of Bottom floor (including basement, crawlspace, or enclosure floor)
- b) Top of the next higher floor
- c) Bottom of the lowest horizontal structural member (V-Zones Only)
- d) Attached garage (top of slab)
- e) Lowest elevation of machinery or equipment servicing the building.
- f) Lowest adjacent (finished) grade next to the building (LAG)
- g) Highest adjacent (finished) grade next to the building (HAG)
- h) Lowest adjacent grade at the lowest elevation of deck or stairs, including structural support.

The primary challenge faced by the County is the need for updated FEMA Flood Insurance Rate Maps, the most recent of which were adopted in 1984 and 1986. Property owners within the County frequently express their interest in knowing the effects of these map updates.

## **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 is unchanged from the 2005 plan and continues to be the goal of San Mateo County in designing its mitigation program.

Additional goals and objectives contained in the San Mateo County General Plan include:

### Minimizing Risks from Natural Hazards

Minimize the potential risks resulting from natural hazards, including but not limited to, loss of life, injury, damage to property, litigation, high service and maintenance costs, and other social and economic dislocations.

### Public Information

Inform and educate the public of the areas of highest risk from human-induced and natural hazards, the methods available for their abatement and prevention, and appropriate procedures to follow during emergencies.

### Incorporate Information on Natural Hazards into Land Use and Development Decisions

Integrate data on natural hazards into review of land use and development proposals in order to identify hazardous areas, potential constraints to development and/or appropriate mitigation measures.

## **Mitigation Activities and Priorities**

### *Evaluation of Progress from 2005 Plan*

The mitigation strategies identified in the County's 2005 Annex have been reviewed and updated to reflect the progress that has been made since the last Annex was adopted. Some of the highlights include:

The County completed vulnerability assessments of critical facilities and infrastructure. For example, the Department of Public Works recently completed an assessment of the San Mateo Medical Center Administration Building and County Office Building #1.

The County retrofitted critical facilities that are vulnerable to damage from natural disasters. Specifically, the County completed a seismic retrofit to the Hall of Justice, which houses the County seat, County communications, and the Sheriff's Office Operations. Northern and Central Court Facilities have also been seismically strengthened. In addition, the aging Hillcrest facility was replaced with the new Youth Services Center, and County Fire Stations at Pescadero, Skylonda and Belmont have been programmed for replacement.

The County adopted a new set of building regulations that incorporate the most recent version of the California Building Code. These include regulations that address a large number of the strategies for fire hazards which were identified as priorities in the 2005 Annex. County Fire has also made improvements to its firefighting equipment, including a new tender purchased for La Honda, and has developed evacuation plans for the communities of Palomar Park and Emerald Lake Hills.

The County became a member of the Bay Area Flood Protection Agencies Association. The recently created association provides a forum for interagency cooperation on flood control issues.

The County activated a new emergency alert system called SMC Alert, which expanded and enhanced the County's ability to provide rapid notice to responders and the public regarding emergencies via SMS/Text messaging and email. In addition, the County has purchased a GIS based telephone emergency alert system, installed eight tsunami

warning sirens on coast, and expanded and enhanced its rain and stream gauges to enable online access to improve early and more accurate flood warnings.

### ***Future Mitigation Actions and Priorities***

As a participant in the 2010 ABAG multi-jurisdictional planning process, San Mateo County staff of helped in the development and review of the comprehensive list of mitigation strategies in the overall multi-jurisdictional plan. The decision on priority was made based on a variety of criteria, not simply on an economic cost-benefit analysis. These criteria include being technically and administratively feasible, politically acceptable, socially appropriate, legal, economically sound, and not harmful to the environment or our heritage.

Representatives from multiple departments subsequently discussed progress on the County's 2005 mitigation strategies, and prepared updates to these strategies for the review and approval of the County Planning Commission and Board of Supervisors.

The County planning team also prioritized specific mitigation tasks for the next 5 years. This list includes implementation process, funding strategy, responsible agency, and approximate time frame. Some examples of the mitigation projects currently being pursued by the County include:

#### Climate Change and Energy Efficiency General Plan Update

A Steering Committee and a Technical Advisory Group are helping the Planning and Building Department prepare the Update, which is scheduled to be completed before the end of 2012. Issues to be addressed by the Update include sea level rise, coastal erosion, and other environmental conditions that may be influenced by climate change.

Responsible Agency: San Mateo County Planning and Building Department

Funding Source: Federal Energy Efficiency Community Block Grant

Timeframe: To be completed in December 2012

Related Mitigation Strategy: ENVI-a-6 (Stay informed of emerging scientific information on the subject of rising sea levels, especially on additional actions that local governments can take to mitigate this hazard.)

#### Relocation of the County/Operational Area Emergency Operations Center

The overall purpose of this mitigation task allows the County of San Mateo to relocate and upgrade its current EOC from the Redwood City California Superior Courts Building to a County-owned building in the County Center government campus or alternative real property. The current EOC serves the County, 20 cities and many special districts. There is no date estimated for this project.

In December 2008, the County entered into transfer agreements with the State of California for the two court facilities located at the County's Redwood City campus. One of which is the Hall of Justice and Records, where the County EOC is shared with the Southern Superior Court Branch's Jury Assembly Room. Under an amended state/county

shared use agreement, the California Courts will be taking over the building at a future date.

Responsible Agency: San Mateo County Office of Emergency Services

Potential Funding: FEMA EOC Grant Program

Timeframe: TBA

Related Mitigation Strategy Number: 1 GOVT a. (Focus on Critical Facilities) and 1 GOVT b. (Enhance Local Government's Emergency Response and Recovery Capacity) and 10 (Maintain the local government's emergency operations center in a fully functional state of readiness)

#### Tsunami Hazard Alert and Warning

This mitigation task involves installation of the recently developed evacuation area map, to replace the 2009 map in the Telephone Emergency Notification System (contractor's) mapping database. Pre-loading this data will allow faster and more accurate warning ability.

It also involves the implementation of enhancements to the outdoor warning function. Replacement of the cellular-based way in which the sirens are operated currently with a radio-based feature will lead to improved functionality.

Responsible Agency: San Mateo County Office of Emergency Services

Potential Funding: Included in service contract with TENS Vendor, California Homeland Security Grants

Timeframe: TBA

Related Mitigation Strategy Number: Govt. 24 Develop procedures for the emergency evacuation of areas identified on tsunami maps as these maps become available.

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

San Mateo County has many on-going mitigation programs that help create a more disaster-resistant region. The following list highlights those programs identified as *Existing Programs* in the mitigation strategy spreadsheet.

Reliable water for fire suppression (INFR-c-1 and HSNG-g-8);

Defensible space and vegetation programs to reduce fire risks (INFR-c-3 and HSNG-g-9);

Development requirements for high fire hazard areas (INFR-c-6, HSNG-g-1, HSNG-g-5, and HSNG-g-13 through 15);

Support for flood control projects (INFR-d-4);

Maintenance and improvement of storm drain facilities (INFR-d-5 through 7, HSNG-h-3, ECON-f-3);

Public education (INFR-g-1 through 7, HSNG-k-1 and 2, HSNG-k-5, HSNG-k-9 and 10, ECON-j-1 through 3, ECON-j-7, EDUC-c-1);

Employee training (HEAL-a-6, HEAL-a-7, HSNG-b-4, HSNG-f-2, GOVT-c-9);

Development standards for retrofits of soft-story buildings, split level homes, and homes on steep hillsides (HSNG-b-2 and 3, HSNG-c-1, ECON-b-1, HSNG-c-2, HSNG-e-3, HSNG-f-1, ECON-b-2, ECON-d-2);

Provision of sandbags and relevant information to residents in advance of rainstorms (HSNG-h-4 and 5, ECON-f-4 and 5);

Standards for development and subdivisions within floodplains, floodways , and areas susceptible to landslides and erosion (HSNG-h-6 and 7, HSNG-i-1, ECON-f-6, ECON-g-1);

Adoption and application of the most recently adopted version of the California Building Code (ECON-h-1)

Maintenance of the Emergency Operations Center in a fully functional state of readiness (GOVT-b-10)

Participation in disaster exercises and mutual aide agreements (GOVT-b-11, GOVT-b-13)

Regulation and enforcement of street names and address numbers (GOVT-b-16)

Coordination of emergency planning and services with police, fire, and providers of water, food, energy, transportation, financial, information, and public health services (GOVT-c-2)

Participation in multi-agency efforts to mitigate fire threat (GOVT-c-6)

Application of CEQA and state mandated requirements to ensure adequate mitigation activities for hazards and to minimize air pollution (ENVI-a-1 and 3)

## | Incorporation into Existing Planning Mechanisms

The County has several planning mechanisms which seek to avoid, minimize, and mitigate the impacts of natural hazards on public health and safety. These include:

- The Natural Hazards Chapter of the San Mateo County General Plan
- The Hazards Chapter of the San Mateo County Local Coastal Program
- The Geologic Hazard District Regulations contained in the San Mateo County Zoning Regulations

This Annex serves as an implementation appendix to the San Mateo County General Plan. In addition, the County enforces the requirements of the California Environmental Quality Act (CEQA), which, since 1988, requires mitigation for identified natural hazards. 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

As required Disaster Mitigation Act of 2000, San Mateo County will update this plan annex at least once every five years, by participating in a multi-agency effort with ABAG and other agencies to develop a multi-jurisdictional plan.

The Planning and Building Department will ensure that monitoring of this Annex will occur. The plan will be monitored on an on-going basis. 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 discussion item on the agenda of the meeting of Department leaders at least once a year. 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 Planning and Building Department 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. Counties should then work together to identify another regional forum for developing a multi-jurisdictional 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.

### Mitigation Plan Point of Contact

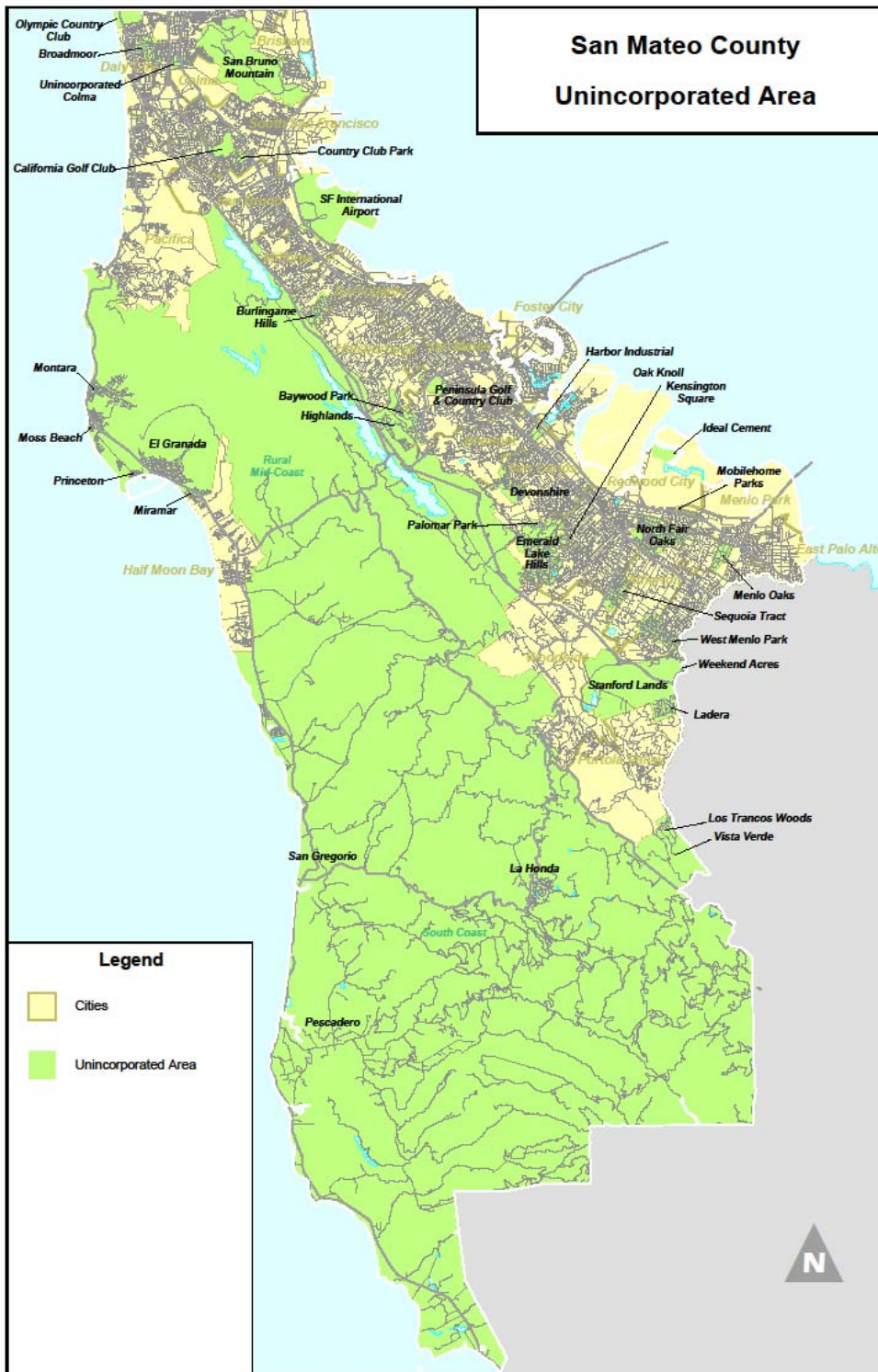
Name: Steve Monowitz  
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Telephone: (650) 363-1855  
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### *Alternate Point of Contact*

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# Exhibit A - Jurisdiction Boundary Map



Prepared by San Mateo County Planning and Building Division using Atlas GIS. Source: U.S. Census Bureau, 1992 Tiger/Line file. figr\_map\UNINCORPORATED AREA.ppt 11/08/01 9/25/00 11

## Exhibit B - Public Meeting Announcements

*To be attached later*

## Infrastructure Mitigation Strategies

	Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
		Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
<b>INFR - a - Multihazard</b>										
1)	Assess the vulnerability of critical facilities designated by lifeline operators to damage in natural disasters or security threats, including facilities owned outside of the Bay Area that can impact service delivery within the region. <b>Note</b> - Lifeline agencies, departments, and districts are those that operate transportation and utility facilities and networks.	X							San Mateo County Planning, Public Works, OES	
2)	Comply with State of California and federal requirements to assess the vulnerability of dams to damage from earthquakes, seiches, landslides, liquefaction, or security threats.						X			
3)	Encourage the cooperation of utility system providers and cities, counties, and other special districts to develop strong and effective mitigation strategies for infrastructure systems and facilities.						X			
4)	Retrofit or replace critical lifeline facilities and/or their backup facilities that are shown to be vulnerable to damage in natural disasters.			X					San Mateo County, Planning & Public Works, Office of Emergency Services	Replacement of County Emergency Operations Center (EOC) and back-up EOC cost TBD. Future FEMA EOC Grant may assist in funding toward facility enhancements or replacement.
5)	Support and encourage efforts of <b>other</b> (lifeline) agencies as they plan for and arrange financing for seismic retrofits and other disaster mitigation strategies. (For example, a city might pass a resolution in support of a transit agency's retrofit program.)						X			
6)	Plan for speeding the repair and functional restoration of lifeline systems through stockpiling of shoring materials, temporary pumps, surface pipelines, portable hydrants, and other supplies, such as those available through the Water Agency Response Network (WARN).	X							County Fire	No ordinance

7)	Engage in, support, and/or encourage research by others on measures to further strengthen transportation, water, sewer, and power systems so that they are less vulnerable to damage in disasters.						X		
8)	Pre-position emergency power generation capacity (or have rental/lease agreements for these generators) in critical buildings of cities, counties, and special districts to maintain continuity of government and services.	X						Office of Emergency Services, Public Works	4 portable generators positioned in North, Central, South and Coastside OES Zones in 2009
9)	Have back-up emergency power available for critical intersection traffic lights.						X		
10)	Develop unused or new pedestrian rights-of-way as walkways to serve as additional evacuation routes (such as fire roads in park lands).						X		
11)	Coordinate with PG&E and others to investigate ways of minimizing the likelihood that power interruptions will adversely impact vulnerable communities, such as the disabled and the elderly.	X						Office of Emergency Services	Coordination in place since 2000 implemented during PG&E rolling blackouts
12)	Encourage replacing aboveground electric and phone wires and other structures with underground facilities, and use the planning-approval process to ensure that all new phone and electrical utility lines are installed underground.						X		
13)	Coordinate with the State Division of Safety of Dams to ensure an adequate timeline for the maintenance and inspection of dams, as required of dam owners by State law.						X		
14)	Encourage communication between Cal EMA, FEMA, and utilities related to emergencies occurring outside of the Bay Area that can affect service delivery in the region.						X		
15)	Ensure that transit operators, private ambulance companies, cities, and/or counties have mechanisms in place for medical transport during and after disasters that take into consideration the potential for reduced capabilities of roads following these same disasters.	X						County Health Services, Emergency Medical Services	The County's 911-ambulance contractor has an internal disaster plan for continuity of operations during disasters. EMS has a resource directory that identifies alternative ambulance and transportation apparatus. Drivers and rigs have mapping capabilities to find alternative routes to destination points.

16)	Effectively utilize the Transportation Management Center (TMC), the staffing of which is provided by Caltrans, the CHP and MTC. The TMC is designed to maximize safety and efficiency throughout the highway system. It includes the Emergency Resource Center (ERC) which was created specifically for primary planning and procedural disaster management.	X							Cal EMA Coastal	Attend meetings and participate in exercises
INFR - b - Earthquakes										
1)	Expedite the funding and retrofit of seismically-deficient city- and county-owned bridges and road structures by working with Caltrans and other appropriate governmental agencies.						X			
2)	Establish a higher priority for funding seismic retrofit of existing transportation and infrastructure systems (such as BART) than for expansion of those systems.						X			
3)	Include "areas subject to high ground shaking, earthquake-induced ground failure, and surface fault rupture" in the list of criteria used for determining a replacement schedule for pipelines (along with importance, age, type of construction material, size, condition, and maintenance or repair history).						X			
4)	Install specially-engineered pipelines in areas subject to faulting, liquefaction, earthquake-induced landsliding, or other earthquake hazard.						X			
5)	Replace or retrofit water-retention structures that are determined to be structurally deficient.						X			
6)	Install portable facilities (such as hoses, pumps, emergency generators, or other equipment) to allow pipelines to bypass failure zones such as fault rupture areas, areas of liquefaction, and other ground failure areas (using a priority scheme if funds are not available for installation at all needed locations).						X			
7)	Install earthquake-resistant connections when pipes enter and exit bridges.						X			
8)	Comply with all applicable building and fire codes, as well as other regulations (such as state requirements for fault, landslide, and liquefaction investigations in particular mapped areas) when constructing or significantly remodeling infrastructure facilities.	X							Planning and Building	Division VII Building Regulations

9)	Clarify to workers in critical facilities and emergency personnel, as well as to elected officials and the public, the extent to which the facilities are expected to perform only at a life safety level (allowing for the safe evacuation of personnel) or are expected to remain functional following an earthquake.						X			
10)	Examine the feasibility of developing a water-borne transportation “system” – comprised mainly of relatively inexpensive barges – across the Bay for use in the event of major earthquakes. Implementation of such a system could prove extremely useful in the event of structural failure of either the road-bridge systems or BART and might serve as an adjunct to existing transportation system elements in the movement of large numbers of people and/or goods.						X			
INFR - c - Wildfire										
1)	Ensure a reliable source of water for fire suppression (meeting acceptable standards for minimum volume and duration of flow) for existing and new development.	X							County Fire	Division VII Building Regulations
2)	Develop a coordinated approach between fire jurisdictions and water supply agencies to identify needed improvements to the water distribution system, initially focusing on areas of highest wildfire hazard.	X							County Fire	Recently completed improvements to Pescadero and Skyline water systems
3)	Develop a defensible space vegetation program that includes the clearing or thinning of (a) non-fire resistive vegetation within 30 feet of access and evacuation roads and routes to critical facilities, or (b) all non-native species (such as eucalyptus and pine, but not necessarily oaks) within 30 feet of access and evacuation roads and routes to critical facilities.	X							County Fire	Division VII Building Regulations
4)	Ensure all dead-end segments of public roads in high hazard areas have at least a “T” intersection turn-around sufficient for typical wildland fire equipment.	X							County Fire	Division VII Building Regulations
5)	Enforce minimum road width of 20 feet with an additional 10-foot clearance on each shoulder on <b>all</b> driveways and road segments greater than 50 feet in length in wildfire hazard areas.	X							County Fire	Division VII Building Regulations

6)	Require that development in high fire hazard areas provide adequate access roads (with width and vertical clearance that meet the minimum standards of the <i>Fire Code</i> or relevant local ordinance), onsite fire protection systems, evacuation signage, and fire breaks.	X						County Fire	Division VII Building Regulations
7)	Ensure adequate fire equipment road or fire road access to developed and open space areas.	X						County Fire	Division VII Building Regulations (new roads only)
8)	Maintain fire roads and/or public right-of-way roads and keep them passable at all times.	X						County Fire, Public Works	County Roads - Road Fund, 1/2 cent Transportation Mitigation Fees County Fire lacks funds needed to maintain fire roads
INFR - d - Flooding									
1)	Conduct a watershed analysis of runoff and drainage systems to predict areas of insufficient capacity in the storm drain and natural creek system.					X		Public Works	
2)	Develop procedures for performing a watershed analysis to look at the impact of development on flooding potential downstream, including communities outside of the jurisdiction of proposed projects.	X						Public Works, Planning and Building	Development Review Process, CEQA
3)	Conduct a watershed analysis at least once every three years.					X			
4)	Assist, support, and/or encourage the U.S. Army Corp of Engineers, various Flood Control and Water Conservation Districts, and other responsible agencies to locate and maintain funding for the development of flood control projects that have high cost-benefit ratios (such as through the writing of letters of support and/or passing resolutions in support of these efforts).	X						Public Works	SFC General Investigation - No resolution yet, working on feasibility cost share study to move into feasibility phase
5)	Pursue funding for the design and construction of storm drainage projects to protect vulnerable properties, including property acquisitions, upstream storage such as detention basins, and channel widening with the associated right-of-way acquisitions, relocations, and environmental mitigations.	X						Public Works	SFC General Investigation - No resolution yet, working on feasibility cost share study to move into feasibility phase
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.	X						Public Works	Road funds, flood control zones
7)	Continue maintenance efforts to keep storm drains and creeks free of obstructions, while retaining vegetation in the channel (as appropriate), to allow for the free flow of water.	X						Public Works	

8)	Enforce provisions under creek protection, stormwater management, and discharge control ordinances designed to keep watercourses free of obstructions and to protect drainage facilities to conform with the Regional Water Quality Control Board's Best Management Practices.	X							Public Works, Planning and Building, Environmental Health	Local Coastal Program, Municipal Regional Permit, Chapter 4.100 of the County Code
9)	Develop an approach and locations for various watercourse bank protection strategies, including for example, (1) an assessment of banks to inventory areas that appear prone to failure, (2) bank stabilization, including installation of rip rap, (3) stream bed depth management using dredging, and (4) removal of out-of-date coffer dams in rivers and tributary streams.	X							Public Works	Existing studies on some watersheds performed as needed with potential road failure
10)	Use reservoir sediment removal as one way to increase storage for both flood control and water supply.				X				Public Works	May be considered for San Francisquito Creek. General investigation still pending.
11)	Elevate critical bridges affected by flooding to increase stream flow and maintain critical access and egress routes.	X							Public Works	Colma Creek - existing program. 50 year event with 2' freeboard. San Mateo Avenue Bridge recently raised.
12)	Provide a mechanism to expedite the repair or replacement of levees that are vulnerable to collapse from earthquake-induced shaking or liquefaction, rodents, and other concerns, particularly those protecting critical infrastructure.	X							Public Works	Maintain levees are along creeks. Routine inspection, maintenance, and emergency maintenance. San Carlos Airport levees recently raised and protocols for inspection and maintenance established.
13)	Ensure that utility systems in new developments are constructed in ways that reduce or eliminate flood damage.	X							Planning and Building	Development Review Procedures, CEQA
14)	Determine whether or not wastewater treatment plants are protected from floods, and if not, investigate the use of flood-control berms to not only protect from stream or river flooding, but also increasing plant security.					X				
15)	Work cooperatively with water agencies, flood control districts, Caltrans, and local transportation agencies to determine appropriate performance criteria for watershed analysis.	X							Public Works, Planning and Building	
16)	Work for better cooperation among the patchwork of agencies managing flood control issues.	X							Public Works	Bay Area Flood Protection Agencies Association member
17)	Work cooperatively with upstream communities to monitor creek and watercourse flows to predict potential for flooding downstream.	X							Public Works, Office of Emergency Services	Installed and contributed to a number of stream gauge programs and enhancements.



INFR - e - Landslides										
1)	Include "areas subject to ground failure" in the list of criteria used for determining a replacement schedule (along with importance, age, and type of construction material, size, condition, and maintenance or repair history) for pipelines.						X			
2)	Establish requirements in zoning ordinances to address hillside development constraints in areas of steep slopes that are likely to lead to excessive road maintenance or where roads will be difficult to maintain during winter storms due to landsliding.	X							Planning and Building	Geologic Hazard Zoning District Regulations
INFR - f - Building Reoccupancy										
1)	Ensure that critical buildings owned or leased by special districts or private utility companies participate in a program similar to San Francisco's Building Occupancy Resumption Program (BORP). The BORP program permits owners of buildings to hire qualified structural <del>engineers</del> <u>engineers</u> [1] to create facility-specific post-disaster inspection plans and allows these engineers to become automatically deputized as City/County inspectors for these buildings in the event of an earthquake or other disaster. This program allows rapid reoccupancy of the buildings. <b>Note</b> - A qualified structural engineer is a California licensed structural engineer with relevant experience.						X			
INFR - g - Public Education										
1)	Provide materials to the public related to planning for power outages.	X							Office of Emergency Services	OES web page <a href="http://smcready.org/">http://smcready.org/</a> In support of PG&E
2)	Provide materials to the public related to family and personal planning for delays due to traffic or road closures.	X							Office of Emergency Services	OES promotes use of 5-1-1, County's email/text system called SMC ALERT for these notifications. In support of Cal EMA, MTC and CHP
3)	Provide materials to the public related to coping with reductions in water supply or contamination of that supply.	X							Public Works, Office of Emergency Services	Information provided as needed / Have an emergency water plan
4)	Provide materials to the public related to coping with disrupted storm drains, sewage lines, and wastewater treatment.	X							Office of Emergency Services	In support of Public Works, Health Services on an event by event basis.

5)	Facilitate and/or coordinate the distribution of materials that are prepared by others, such as by placing materials in city or utility newsletters, or on community access channels, as appropriate.	X							Office of Emergency Services	Support special districts such as water
6)	Earthquakes	X							Office of Emergency Services	Work with USGS and Cal EMA Coastal Region
7)	Tsunamis	X							Office of Emergency Services	Ongoing program with Cal EMA. Jan 19, 2012, County designated as NOAA / National Weather Service as a Tsunami Ready Community

## Health Mitigation Strategies

		Priority (CHECK ONLY ONE)								
	Specific Mitigation Strategy	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
<b>HEAL - a - Hospitals and Other Critical Health Care Facilities</b>										
1)	Work with critical health care facilities operators to ensure that critical facilities are structurally sound and have nonstructural systems designed to remain functional following disasters (as required for acute-care hospitals for earthquakes by State law).	X							Office of Statewide Health Planning and Development, & County Public Health Agency	
2)	Encourage hospitals to work with the California Office of Statewide Health Planning and Development (OSHPD) to formalize arrangements with structural engineers to report to the hospital, assess damage, and determine if the buildings can be reoccupied. The program should be similar to San Francisco's Building Occupancy Resumption Program (BORP) that permits owners of buildings to hire qualified structural engineers to create building-specific post-disaster inspection plans and allows these engineers to become automatically deputized as inspectors for these buildings in the event of an earthquake or other disaster. OSHPD, rather than city/county building departments, has the authority and responsibility for the structural integrity of hospital structures.	X							Office of Statewide Health Planning and Development & County Public Health Agency	
3)	Ensure health care facilities are adequately prepared to care for victims with respiratory problems related to smoke and/or particulate matter inhalation.	X							County Emergency Medical Services Agency	Hostpitals, through the Federal Hospital Preparedness Program (HPP) grant (formerly HRSA) and the State Homeland Security Grant Program (SHSGP), have for the past 10 years purchased emergency portable ventilators and disposable ventilators to

												complement existing equipment to meet the surge needs of an event or disaster. In addition, the County has a centrally located cache available for deployment to the most hard to hit areas.
4)	Ensure these health care facilities have the capacity to shut off outside air and be self-contained.									X		
5)	Ensure that hospitals and other major health care facilities have auxiliary water and power sources.									X		
6)	Work with health care facilities to institute isolation capacity should a need for them arise following a communicable disease epidemic.	X									Public Health and Emergency Medical Services	Hospitals, through the Federal Hospital Preparedness Program (HPP) grant (formerly HRSA), have for the past 10 years purchased surge equipment that enables hospital safety and engineering personnel to convert beds and small hospital wings into negative air flow pressure rooms (i.e., isolation capacity).
7)	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.	X									Emergency Medical Services Agency and County Office of Emergency Services	Since 2005, County OES and the Board of Supervisors have held an annual Disaster Preparedness Day event. The past 2 years this event has been held in conjunction with the County Fair. Many County Departments and city town and special district response agencies and/or related response support affiliates participate. In addition, Hospital safety officers/emergency managers conduct internal safety trainings to staff regarding disaster preparedness at home with various materials from sources including the American Red Cross.

HEAL - b - Ancillary Health-Related Facilities										
1)	Work with State of California licensing agencies to identify these ancillary facilities in your community.	X							Health Services Agency	EMS works with the CA Department of Public Health's Emergency Preparedness Office (CDPH - EPO) to identify and coordinate with healthcare facilities in San Mateo County including clinics and long term care facilities that participate in the County's Healthcare Working Group and the Hospital Preparedness Program (HPP) grant.
2)	Encourage these facility operators to develop disaster mitigation plans.	X							Health Services Agency	All County Hospital Preparedness Program (HPP) grant participating facilities have disaster plans in place.
3)	Encourage these facility operators to create, maintain, and/or continue partnerships with local governments to develop response and recovery plans.	X							Health Services Agency	All County Hospital Preparedness Program (HPP) grant participating facilities partner with the San Mateo County EMS Agency through the Healthcare Working Group to ensure their disaster and recovery plans are consistent with the County.

HEAL - c - Interface with National and State Health Care Initiatives									
1)	Designate locations for the distribution of antibiotics to large numbers of people should the need arise, as required to be included in each county's Strategic National Stockpile Plan.	X						County Public Health	Existing Plan through Neighborhood Emergency Triage Vaccination Antibiotic Centers (NETVAC)
2)	Ensure that you know the Metropolitan Medical Response System (MMRS) cities in your area. For example, Oakland and Fremont are the MMRS cities in Alameda County. MMRS cities are those cities that are provided with additional federal funds for organizing, equipping, and training groups of local fire, rescue, medical, and other emergency management personnel.	X						County Public Health - Emergency Medical Services	Existing Plan
3)	Know if any National Disaster Medical System (NDMS) uniformed or non-uniformed personnel are within one-to-four hours of your community. These federal resources include veterinary, mortuary, and medical personnel.	X						County Public Health - Emergency Medical Services	EMS partners with the Palo Alto Veterans Affairs Health Care System (PAVAHCS) and Mills-Peninsula Health Services (MPHS), both of which are dedicated NDMS systems, through the San Mateo County Healthcare Working Group (HWG).
4)	Plan to utilize the State of California Department of Health Services laboratory in Richmond for confirmation of biological agencies and Department of Defense laboratories in Berkeley (Lawrence Berkeley National Laboratory) or Livermore (Lawrence Livermore National Laboratory and Sandia) for confirmation of radiological agents.	X						County Public Health - Laboratory	Existing Plan

HEAL - d - Environmental Health										
1)	Create discussion forums for food and health personnel, including, for example, medical professionals, veterinarians, and plant pathologists, to develop safety, security, and response strategies for food supply contamination.	X							County Environmental Health	Existing Program
2)	Train appropriate personnel to understand that the Metropolitan Medical Response System (MMRS) cities in your area. For example, Oakland and Fremont are the MMRS cities in Alameda County. MMRS cities are those cities that are provided with additional federal funds for organizing, equipping, and training groups of local fire, rescue, medical, and other emergency management personnel.				X				Public Health - Emergency Medical Services	
3)	Train appropriate personnel to know if any National Disaster Medical System (NDMS) uniformed or non-uniformed personnel are within one-to-four hours of your community. These federal resources include veterinary, mortuary, and medical personnel.	X							Public Health - Emergency Medical Services	EMS, designated as the Medical Health Operational Area Coordinator (MHOAC) for major events and disasters, partners and trains with NDMS dedicated Palo Alto Veterans Affairs Health Care System (PAVAHCS) and Mills-Peninsula Health Services (MPHS) through the San Mateo County Healthcare Working Group.
4)	Train appropriate personnel to know to utilize the State of California Department of Health Services laboratory in Richmond for confirmation of biological agents and Department of Defense laboratories in Berkeley (Lawrence Berkeley National Laboratory) or Livermore (Lawrence Livermore National Laboratory and Sandia) for confirmation of radiological agents.	X							County Public Health - Laboratory	Existing Plan

### Housing Mitigation Strategies

		Priority (CHECK ONLY ONE)								
	Specific Mitigation Strategy	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
<b>HSNG - a - Multi-Hazard</b>										
1)	Be aware of past problems of inadequate hazard disclosure and work with real estate agents to improve enforcement of real estate disclosure requirements for those hazards covered by this plan, for example, by making those agents and the disclosure firms aware of the hazard maps incorporated in this plan and available on the ABAG web site at <a href="http://quake.abag.ca.gov/mitigation">http://quake.abag.ca.gov/mitigation</a> , as well as locally developed maps.						X			
2)	Create incentives for owners of historic or architecturally significant residential buildings to undertake mitigation to levels that will minimize the likelihood that these buildings will need to be demolished after a disaster, particularly if those alterations conform to the federal Secretary of the Interior's <i>Guidelines for Rehabilitation</i> .							X	Planning and Building	



HSNG - b - Single-Family Homes Vulnerable to Earthquakes											
1) Utilize or recommend adoption of a retrofit standard that includes standard plan sets and construction details for voluntary bolting of homes to their foundations and bracing of outside walls of crawl spaces ("cripple" walls), such as that being developed by a committee representing the East Bay-Peninsula-Monterey Chapters of the International Code Council (ICC), California Building Officials (CALBO), the Structural Engineers Association of Northern California (SEAONC), the Northern California Chapter of the Earthquake Engineering Research Institute (EERI-NC), and ABAG's Earthquake Program.									X	Planning and Building	
2) Require engineered plan sets for retrofitting of heavy two-story homes with living areas over garages, as well as for split level homes, until standard plan sets and construction details become available.	X									Planning and Building	San Mateo County Building Regulations
3) Require engineered plan sets for retrofitting of homes on steep hillsides.	X									Planning and Building	San Mateo County Building Regulations
4) Encourage local government building inspectors to take classes on a periodic basis (such as the FEMA-developed training classes offered by ABAG) on retrofitting of single-family homes.	X									Planning and Building	Health & Safety Code Section 18965 through 18971, AB717
5) Encourage private retrofit contractors and home inspectors doing work in your area to take retrofit classes on a periodic basis (such as the FEMA-developed training classes offered by ABAG) on retrofitting of single-family homes.								X			
6) Conduct demonstration projects on common existing housing types demonstrating structural and nonstructural mitigation techniques as community models for earthquake mitigation.								X			
7) Provide retrofit classes or workshops for homeowners.								X			

8)	Establish tool-lending libraries with common tools needed for retrofitting for use by homeowners with appropriate training.								X		
9)	Provide financial incentives to owners of applicable homes to retrofit.								X		
HSNG - c - Soft-Story Multifamily Residential Structures Vulnerable to Earthquakes											
1)	Require engineered plan sets for voluntary or mandatory soft-story retrofits until a standard plan set and construction details become available.	X								Planning and Building	San Mateo County Building Regulations
2)	Adopt the 2003 International Existing Building Code, the 1997 UBC, or the latest applicable code standard for the design of voluntary or mandatory soft-story building retrofits.	X								Planning and Building	San Mateo County Building Regulations
3)	Work to educate condominium and apartment owners, local government staff, engineers, and contractors on soft-story retrofit procedures and incentives using materials such as those developed by ABAG (see <a href="http://quake.abag.ca.gov/fixit">http://quake.abag.ca.gov/fixit</a> ) and the City of San Jose.								X		
4)	Conduct an inventory of existing or suspected soft-story residential structures.								X		
5)	Use the soft-story inventory to require owners to inform all existing tenants that they live in this type of building and the standard to which it may have been retrofitted, as well as require owners to inform tenants that they will live in this type of building prior to signing a lease.								X		
6)	Use the soft-story inventory to require owners to inform all existing tenants that they should be prepared to live elsewhere following an earthquake if the building has not been retrofitted.								X		

7)	Investigate and adopt appropriate financial, procedural, and land use incentives for owners of soft-story buildings to facilitate retrofit such as those developed by ABAG (see <a href="http://quake.abag.ca.gov/fixit">http://quake.abag.ca.gov/fixit</a> .								X		
8)	Explore development of local ordinances or State regulations to require or encourage owners of soft-story structures to strengthen them.								X		
9)	Provide technical assistance in seismically strengthening soft-story structures.								X		
HSNG - d - Unreinforced Masonry Housing Stock											
1)	Continue to actively implement existing State law that requires cities and counties to maintain lists of the addresses of unreinforced masonry buildings and inform property owners that they own this type of hazardous structure.	X								Planning and Building	San Mateo County Seismic Hazards Mitigation Program
2)	Accelerate retrofitting of unreinforced masonry structures that have not been retrofitted, for example, by (a) actively working with owners to obtain structural analyses of their buildings, (b) helping owners obtain retrofit funding, (c) adopting a mandatory versus voluntary, retrofit program, and/or (d) applying penalties to owners who show inadequate efforts to upgrade these buildings.	X								Planning and Building	
3)	Require owners to inform all existing tenants that they live in this type of building and the standard to which it may have been retrofitted, as well as require owners to inform tenants that they will live in this type of building prior to signing a lease.	X								Planning and Building	
4)	Require owners to inform all existing tenants that they should be prepared to live elsewhere following an earthquake even if the building has been retrofitted, for it has probably been retrofitted to a life-safety standard, not to a standard that will allow occupancy following major earthquakes.	X								Planning and Building	
HSNG - e - Other Privately-Owned Structurally Suspicious Residential Buildings and											

Earthquakes										
1)	Identify and work toward tying down mobile homes used as year-round permanent residences using an appropriate cost-sharing basis (for example, 75% grant, and 25% owners).	X							Planning and Building	Title 25 - Mobile Home Park Act covered by permit fees, ongoing
2)	Inventory non-ductile concrete, tilt-up concrete, and other privately-owned structurally suspicious residential buildings.						X			
3)	Adopt the 2003 International Existing Building Code, the 1997 UBC, or the latest applicable code standard for the design of voluntary or mandatory retrofit of seismically vulnerable buildings.	X							Planning and Building	San Mateo County Building Regulations
4)	Adopt one or more of the following strategies as incentives to encourage retrofitting of privately-owned structurally deficient residential buildings: (a) waivers or reductions of permit fees, (b) below-market loans, (c) local tax breaks, (d) grants to cover the cost of retrofitting or of a structural analysis, (e) land use and procedural incentives, or (f) technical assistance.						X			
HSNG - f - New Construction and Earthquakes										
1)	Continue to require that all new housing be constructed in compliance with structural requirements of the most recently adopted version of the <i>California Building Code</i> .	X							Planning and Building	San Mateo County Building Regulations
2)	Conduct appropriate employee training and support continued education to ensure enforcement of building codes and construction standards, as well as identification of typical design inadequacies of housing and recommended improvements.	X							Planning and Building	AB717
HSNG - g - Wildfire and Structural Fires										

1)	Increase efforts to reduce hazards in existing development in high wildfire hazard areas (identified as wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat) through improving engineering design and vegetation management for mitigation, appropriate code enforcement, and public education on defensible space mitigation strategies.	X							County Fire, Building	San Mateo County Building Regulations San Mateo County FireSafe Council
2)	Tie public education on defensible space and a comprehensive defensible space ordinance to a field program of enforcement.	X								San Mateo County FireSafe Council
3)	Require that new homes in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat be constructed of fire-resistant building materials (including roofing and exterior walls) and incorporate fire-resistant design features (such as minimal use of eaves, internal corners, and open first floors) to increase structural survivability and reduce ignitability. <b>Note</b> - See Structural Fire Prevention Field Guide for Mitigation of Wildfires at <a href="http://osfm.fire.ca.gov/structural.html">http://osfm.fire.ca.gov/structural.html</a> .	X							County Fire, Building	San Mateo County Building Regulations
4)	Develop financial incentives for homeowners to be "model" defensible space homes in neighborhoods that are wildland-urban- interface fire-threatened communities or in areas exposed to high-to-extreme fire threat.						X			
5)	Consider fire safety, evacuation, and emergency vehicle access when reviewing proposals to add secondary units or additional residential units in wildland-urban- interface fire-threatened communities or in areas exposed to high-to-extreme fire threat.	X							County Fire	San Mateo County Building Regulations

6)	Adopt and/or amend, as needed, updated versions of the <i>California Building and Fire Codes</i> so that optimal fire-protection standards are used in construction and renovation projects.	X							County Fire, Planning and Building	San Mateo County Building Regulations
7)	Create a mechanism to enforce provisions of the <i>California Building and Fire Codes</i> and local housing codes that require the installation of smoke detectors and/or fire-extinguishing systems by making installation a condition of (a) finalizing a permit for any work on existing properties valued at over a fixed amount, such as \$500 or \$1000, and/or (b) a condition for the transfer of property if these changes are determined cost-effective strategies.	X							County Fire, Planning and Building	San Mateo County Building Regulations
8)	Work to ensure a reliable source of water for fire suppression in rural-residential areas through the cooperative efforts of water districts, fire districts, and residents.	X							County Fire	San Mateo County Building Regulations
9)	Expand vegetation management programs in wildland-urban- interface fire-threatened communities or in areas exposed to high-to-extreme fire threat to more effectively manage the fuel load through roadside collection and chipping, mechanical fuel reduction equipment, selected harvesting, use of goats or other organic methods of fuel reduction, and selected use of controlled burning.	X							County Fire	San Mateo County FireSafe Council
10)	Promote the installation of early warning fire alarm systems in homes wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat connected to fire department communication systems.						X			
11)	Establish a Fire Hazard Abatement District to fund reduction in fire risk of existing properties through vegetation management that includes reduction of fuel loads, use of defensible space, and fuel breaks.							X		

12)	Work with residents in rural-residential areas to ensure adequate access and evacuation in wildland-urban- interface fire-threatened communities or in areas exposed to high-to-extreme fire threat.	X							County Fire	Evacuation plans for Emerald Lake Hills and Palomar Park recently developed
13)	Require fire sprinklers in new homes located more than 1.5 miles or a 5-minute response time from a fire station or in an identified high hazard wildland-urban-interface wildfire area.	X							County Fire, Planning and Building	San Mateo County Building Regulations
14)	Require fire sprinklers in all new or substantially remodeled multifamily housing, regardless of distance from a fire station.	X							County Fire, Planning and Building	San Mateo County Building Regulations
15)	Require sprinklers in all mixed use development to protect residential uses from fires started in non-residential areas.	X							County Fire, Planning and Building	San Mateo County Building Regulations
16)	Compile a list of high-rise and high-occupancy buildings which are deemed, due to their age or construction materials, to be particularly susceptible to fire hazards, and determine an expeditious timeline for the fire-safety inspection of all such structures.	X							County Fire	San Mateo County Fire Deployment Plan
17)	Conduct periodic fire-safety inspections of all multi-family buildings, as required by State law.	X							County Fire	Health and Safety Code
18)	Ensure that fire-preventive vegetation-management techniques and practices for creek sides and high-slope areas do not contribute to the landslide and erosion hazard.	X							County Fire	
19)	Create a mechanism to require the bracing of water heaters and flexible couplings on gas appliances, and/or (as specified under "a. Single-family homes vulnerable to earthquakes" above) the bolting of homes to their foundations and strengthening of cripple walls to reduce fire ignitions due to earthquakes.	X								San Mateo County Building Regulations

20)	Work with the State Fire Marshall, the California Seismic Safety, PEER, and other experts to identify and manage gas-related fire risks of soft-story residential or mixed use buildings that are prone to collapse and occupant entrapment consistent with the natural gas safety recommendations of Seismic Safety Commission Report SSC-02-03. <b>Note</b> - See <a href="http://www.seismic.ca.gov/pub/CSSC_2002-03_Natural%20Gas%20Safety.pdf">http://www.seismic.ca.gov/pub/CSSC_2002-03_Natural%20Gas%20Safety.pdf</a> . <b>Also note</b> - any values that are installed may need to have both excess flow and seismic triggers ("hybrid" valves).									County Fire		
HSNG - h - Flooding												
1)	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.									X		Jan 19, 2012 County/OES Received an all hazards recognition for being a StormReady™ and TsunamiReady™ community by NOAA/National Weather Service Monterey
2)	Balance the housing needs of residents against the risk from potential flood-related hazards.	X									Planning and Building	Development Review Procedures
3)	Ensure that new development pays its fair share of improvements to the storm drainage system necessary to accommodate increased flows from the development.	X									Public Works, Planning and Building	Mitigation fees Ordinance 2.54.010 (Fees for new development), MRP requirements and permit
4)	Provide sandbags and plastic sheeting to residents in anticipation of rainstorms, and deliver those materials to the disabled and elderly upon request.	X									Public Works	sandbags only, no delivery
5)	Provide public information on locations for obtaining sandbags and/or deliver those sandbags to those various locations throughout a city and/or county prior to and/or during the rainy season.	X									Public Works, Office of Emergency Services	Info available on website and by phone / Public works primary OES support role <a href="http://smcready.org">http://smcready.org</a>
6)	Apply floodplain management regulations for development in the floodplain and floodway.	X									Planning and Building	San Mateo County Building Regulations



7)	Ensure that new subdivisions are designed to reduce or eliminate flood damage by requiring lots and rights-of-way are laid out for the provision of approved sewer and drainage facilities, providing on-site detention facilities whenever practicable.	X							Planning and Building	SM County Ordinance Code Division VI, Planning Part 2, Subdivision Regulations
8)	Encourage home and apartment owners to participate in home elevation programs.							X		
9)	As funding opportunities become available, encourage home and apartment owners to participate in acquisition and relocation programs for areas within floodways.							X		
10)	Encourage owners of properties in a floodplain to consider purchasing flood insurance. For example, point out that most homeowners' insurance policies do not cover a property for flood damage.							X		
<b>HSNG - i - Landslides and Erosion</b>										
1)	Increase efforts to reduce landslides and erosion in existing and future development by improving appropriate code enforcement and use of applicable standards, such as those appearing in the <i>California Building Code</i> , <i>California Geological Survey Special Report 117 – Guidelines for Evaluating and Mitigating Seismic Hazards in California</i> , <i>American Society of Civil Engineers (ASCE) report Recommended Procedures for Implementation of DMG Special Publication 117: Guidelines for Analyzing and Mitigating Landslide Hazards in California</i> , and the <i>California Board for Geologists and Geophysicists Guidelines for Engineering Geologic Reports</i> . Such standards should cover excavation, fill placement, cut-fill transitions, slope stability, drainage and erosion control, slope setbacks, expansive soils, collapsible soils, environmental issues, geological and geotechnical investigations, grading plans and specifications, protection of adjacent properties, and review and permit issuance.	X							Planning and Building	SM County Ordinance Code, Div. VII, Bldg. Regulations, SM County Ordinance Code Section 8600, Grading Regulations

2)	Increase efforts to reduce landslides and erosion in existing and future development through continuing education of design professionals on mitigation strategies.								X		
<b>HSNG - j - Building Reoccupancy</b>											
1)	Develop and enforce an ordinance for disaster-damaged structures to ensure that residential buildings are repaired in an appropriate and timely manner and retrofitted concurrently to avoid a recurrence.								X		
<b>HSNG - k - Public Education</b>											
1)	Provide information to residents of your community on the availability of interactive hazard maps showing your community on ABAG's web site.	X								Office of Emergency Services	Ongoing public education activity <a href="http://smcready.org">http://smcready.org</a>
2)	Develop printed materials, utilize existing materials (such as developed by FEMA and the American Red Cross), conduct workshops, and/or provide outreach encouraging residents to have family disaster plans that include drop-cover-hold earthquake drills, fire and storm evacuation procedures, and shelter-in-place emergency guidelines.	X								County Fire, Office of Emergency Services	Office of Emergency Services - Utilize existing materials, conduct public awareness campaigns, County Fire - San Mateo County FireSafe Council and San Mateo County Fire Prevention Officers Association  OES and Board of Supervisors coordinate an annual Disaster Preparedness Event for disseminating all hazards information  OES markets participation in annual Cal EMA Great Shakeout – statewide preparedness drop-cover-hold event
3)	Better inform residents of comprehensive mitigation activities, including elevation of appliances above expected flood levels, use of fire-resistant roofing and defensible space in high wildfire threat and wildfire-urban-interface areas, structural retrofitting techniques for older homes, and use of intelligent grading practices through workshops, publications, and media announcements and events.	X								County Fire	
4)	Develop a public education campaign on the cost, risk, and benefits of earthquake, flood, and other hazard insurance.								X		

5)	Use disaster anniversaries, such as April (Earthquake Month and the 1906 earthquake), September (9/11), and October (Loma Prieta earthquake and Oakland Hills fire), to remind the public on safety and security mitigation activities.	X								Office of Emergency Services	Conduct public awareness campaigns, speak to community groups OES markets participation in annual Cal EMA Great Shakeout – statewide preparedness drop-cover-hold event  OES coordinates 2 countywide Emergency Operations Center exercises and communications tests annually.
6)	Sponsor the formation and training of Community Emergency Response Teams (CERT) training. [Note – these programs go by a variety of names in various cities and areas.]	X								Office of Emergency Services	Provide CERT instructors, and equipment for classes countywide. Supplies now sponsored by CalVol (California Volunteers) limited to a maximum of 50 units per course, per CERT program, per year.
7)	Include flood fighting technique session based on California Department of Water Resources training to the list of available public training classes offered by CERT.							X			
8)	Institute the neighborhood watch block captain and team programs outlined in the Citizen Corps program guide.							X			
9)	Assist residents 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.							X			
10)	Train homeowners to locate and shut off gas valves if they smell or hear gas leaking.	X								Office of Emergency Services	Ongoing community outreach <a href="http://smcready.org">http://smcready.org</a> And upon request in GetReady San Mateo County in Spanish and English
11)	Distribute NOAA weather radios to high-risk, limited-income families living in flood hazard areas.							X			
12)	Develop a program to provide at-cost NOAA weather radios to residents of flood hazard areas.							X			

13	Make use of the materials on the ABAG ) web site at <a href="http://quake.abag.ca.gov/fixit">http://quake.abag.ca.gov/fixit</a> and other web sites to increase residential mitigation activities related to earthquakes. (ABAG plans to continue to improve the quality of those materials over time.)							X		Link ABAG earthquake and tsunami information from our all hazards awareness web site: <a href="http://smcready.org/">http://smcready.org/</a>
14	Develop a "Maintain-a-Drain" campaign, ) similar to that of the City of Oakland, encouraging businesses and residents to keep storm drains in their neighborhood free of debris.							X		
15	Encourage the formation of a community- ) and neighborhood-based approach to wildfire education and action through local FireSafe Councils and the <i>Fire Wise Program</i> .	X							County Fire	San Mateo County FireSafe Council
16	Inform shoreline-property owners of the ) possible long-term economic threat posed by rising sea levels.							X		
17	Develop and distribute culturally ) appropriate materials related to disaster mitigation and preparedness, such as those on the <a href="http://www.preparenow.org">http://www.preparenow.org</a> website.							X		<a href="http://smcready.org">http://smcready.org</a> And upon request in Get Ready San Mateo County in Spanish

## Economy Mitigation Strategies

	Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments	
		Existing Program	Very High	High	Moderate	Under Study	Appropriate, or Not	Not Yet Considered			
<b>ECON - a - Multi-Hazard</b>											
1)	Be aware of past problems of inadequate hazard disclosure and work with real estate agents to improve enforcement of real estate disclosure requirements for those hazards covered by this plan, for example, by making those agents and the disclosure firms aware of the hazard maps incorporated in this plan and available on the ABAG web site at <a href="http://quake.abag.ca.gov/mitigation">http://quake.abag.ca.gov/mitigation</a> , as well as locally developed maps.							X			
2)	Create incentives for owners of historic or architecturally significant buildings to undertake mitigation to levels that will minimize the likelihood that these buildings will need to be demolished after a disaster, particularly if those alterations conform to the federal Secretary of the Interior's <i>Guidelines for Rehabilitation</i> .								X	Planning and Building	
<b>ECON - b - Soft-Story Commercial Buildings Vulnerable to Earthquakes</b>											
1)	Require engineered plan sets for voluntary or mandatory soft-story retrofits until a standard plan set and construction details become available.	X								Planning and Building	County & State Building regulation cost covered by permit fees
2)	Adopt the 2003 International Existing Building Code, the 1997 UBC, or the latest applicable code standard for the design of voluntary or mandatory soft-story building retrofits.	X								Planning and Building	San Mateo County Building Regulations

3)	Work to educate building owners, local government staff, engineers, and contractors on soft-story retrofit procedures and incentives using materials such as those developed by ABAG (see <a href="http://quake.abag.ca.gov/fixit">http://quake.abag.ca.gov/fixit</a> ) and the City of San Jose.							X	Planning and Building	
4)	Conduct an inventory of existing or suspected soft-story commercial and industrial structures.							X		
5)	Use the soft-story inventory to require owners to inform all existing tenants that they work in this type of building and the standard to which it may have been retrofitted, as well as require owners to inform tenants that they will work in this type of building prior to signing a lease.							X	Planning and Building	
6)	Use the soft-story inventory to require owners to inform all existing tenants that they should be prepared to work elsewhere following an earthquake if the building has not been retrofitted.							X	Planning and Building	
7)	Investigate and adopt appropriate financial, procedural, and land use incentives for owners of soft-story buildings to facilitate retrofit.							X	Planning and Building	
8)	Explore development of local ordinances or State regulations to require or encourage owners of soft-story structures to strengthen them.							X	Planning and Building	
9)	Provide technical assistance in seismically strengthening soft-story structures.							X	Planning and Building	
<b>ECON - c - Unreinforced Masonry Buildings in Older Downtown Areas</b>										
1)	Continue to actively implement existing State law that requires cities and counties to maintain lists of the addresses of unreinforced masonry buildings and inform property owners that they own this type of hazardous structure.	X							Planning and Building	NA
2)	Accelerate retrofitting of unreinforced masonry structures that have not been retrofitted, for example, by (a) actively working with owners to obtain structural analyses of their buildings, (b) helping owners obtain retrofit funding, (c) adopting a mandatory versus voluntary, retrofit program, and/or (d) applying penalties to owners who show inadequate efforts to upgrade these buildings.	X							Planning and Building	NA

3)	Require owners to inform all existing tenants that they work in this type of building and the standard to which it may have been retrofitted, as well as require owners to inform tenants that they will work in this type of building prior to signing a lease.	X								Planning and Building	NA
4)	Require owners to inform all existing tenants that they should be prepared to work elsewhere following an earthquake even if the building has been retrofitted, for it has probably been retrofitted to a life-safety standard, not to a standard that will allow occupancy following major earthquakes.							X		Planning and Building	
<b>ECON - d - Privately-Owned Structurally Suspicious Buildings</b>											
1)	Inventory non-ductile concrete, tilt-up concrete, and other privately-owned structurally suspicious buildings.							X		Planning and Building	
2)	Adopt the 2003 International Existing Building Code, the 1997 UBC, or the latest applicable code standard for the design of voluntary or mandatory retrofit of seismically vulnerable buildings.	X								Planning and Building	County Building Regulations
3)	Adopt one or more of the following strategies as incentives to encourage retrofitting of privately-owned structurally suspicious commercial and industrial buildings: (a) waivers or reductions of permit fees, (b) below-market loans, (c) local tax breaks, (d) grants to cover the cost of retrofitting or of a structural analysis, (e) land use and procedural incentives, or (f) technical assistance.							X		Planning and Building	
<b>ECON - e - Wildfire and Structural Fires</b>											
1)	Increase efforts to reduce fire in existing development through improving engineering design and vegetation management for mitigation, appropriate code enforcement, and public education on mitigation strategies.	X								County Fire	County Building Regulations
2)	Require that new business and office buildings in high fire hazard areas be constructed of fire-resistant building materials and incorporate fire-resistant design features (such as minimal use of eaves, internal corners, and open first floors) to increase structural survivability and reduce ignitability.	X								County Fire, Building	County Building Regulations

3)	Adopt and amend as needed updated versions of the <i>California Building and Fire Codes</i> so that optimal fire-protection standards are used in construction and renovation projects.	X							County Fire, Building	County Building Regulations
4)	Create a mechanism to enforce provisions of the <i>California Building and Fire Codes</i> and other local codes that require the installation of smoke detectors and fire-extinguishing systems by making installation a condition of (a) finalizing a permit for any work on existing properties valued at over a fixed amount, such as \$500 or \$1000, and/or (b) on any building over 75 feet in height, and/or (b) as a condition for the transfer of property.	X							County Fire	County Building Regulations
5)	Expand existing vegetation management programs in commercial and/or industrial areas.	X							County Fire	
6)	Establish a Fire Hazard Abatement District to fund reduction in fire risk of existing properties through vegetation management that includes reduction of fuel loads, use of defensible space, and fuel breaks.						X			
7)	Establish a Fire Hazard Abatement District to fund fire-safety inspections of private properties, roving firefighter patrols on high fire-hazard days, and public education efforts.						X			
8)	Compile a list of high-rise and high-occupancy buildings that are deemed, due to their age or construction materials, to be particularly susceptible to fire hazards, and determine an expeditious timeline for the fire-safety inspection of all such structures.	X							County Fire	Countywide Fire Deployment Plan
9)	Conduct periodic fire-safety inspections of all commercial and institutional buildings.	X							County Fire	Health and Safety Code



10)	Work with the State Fire Marshall, the California Seismic Safety, PEER, and other experts to identify and manage gas-related fire risks of soft-story mixed use buildings that are prone to collapse and occupant entrapment consistent with the natural gas safety recommendations of Seismic Safety Commission Report SSC-02-03. <b>Note</b> - See <a href="http://www.seismic.ca.gov/pub/CSSC_2002-03_Natural%20Gas%20Safety.pdf">http://www.seismic.ca.gov/pub/CSSC_2002-03_Natural%20Gas%20Safety.pdf</a> . <b>Also note</b> - any valves that are installed may need to have both excess flow and seismic triggers ("hybrid" valves).						X			County Fire, Planning and Building	Under study, no estimate of cost or completion
11)	Ensure that fire-preventive vegetation-management techniques and practices for creek sides and high-slope areas do not contribute to the landslide and erosion hazard.	X								County Fire	Environmental review procedures
12)	Work with insurance companies to create a public/private partnership to give a discount on fire insurance premiums to "Forester Certified" <i>Fire Wise</i> landscaping and fire-resistant building materials.							X			
<b>ECON - f - Flooding</b>											
1)	To reduce flood risk, thereby reducing 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.	X								Planning and Building	
2)	Balance the needs for commercial and industrial development against the risk from potential flood-related hazards.	X								Planning and Building	Development Review Procedures
3)	Ensure that new development pays its fair share of improvements to the storm drainage system necessary to accommodate increased flows from the development, <b>or</b> does not increase runoff by draining water to pervious areas or detention facilities.	X								Public Works	Mitigation fees Ordinance 2.54.010 (Fees for new development) MRP requirements and permit
4)	Provide sandbags and plastic sheeting to businesses in anticipation of rainstorms, and deliver those materials to the disabled and elderly upon request.	X								Public Works	Sandbags only, no delivery
5)	Provide public information on locations for obtaining sandbags and deliver those sandbags to those various locations throughout a city and/or county.	X								Public Works, Office of Emergency Services	Info available on website and by phone / email (SMC Alert)

6)	Apply floodplain management regulations for development in the floodplain and floodway.	X							Planning and Building	County Building Regulations
7)	Encourage business owners to participate in building elevation programs.				X				Planning and Building	
8)	Encourage business owners to participate in acquisition and relocation programs for areas within floodways.				X				Planning and Building	
9)	Require an annual inspection of approved flood-proofed 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 <i>Flood Emergency Operation Plan</i> and <i>Inspection &amp; Maintenance Plan</i> .						X			
ECON - g - Landslides and Erosion										
1)	Increase efforts to reduce landslides and erosion in existing and future development by improving appropriate code enforcement and use of applicable standards, such as those appearing in the <i>California Building Code</i> , <i>California Geological Survey Special Report 117 – Guidelines for Evaluating and Mitigating Seismic Hazards in California</i> , <i>American Society of Civil Engineers (ASCE) report Recommended Procedures for Implementation of DMG Special Publication 117: Guidelines for Analyzing and Mitigating Landslide Hazards in California</i> , and the <i>California Board for Geologists and Geophysicists Guidelines for Engineering Geologic Reports</i> . Such standards should cover excavation, fill placement, cut-fill transitions, slope stability, drainage and erosion control, slope setbacks, expansive soils, collapsible soils, environmental issues, geological and geotechnical investigations, grading plans and specifications, protection of adjacent properties, and review and permit issuance.	X							Planning and Building	County Building Regulations
2)	Increase efforts to reduce landslides and erosion in existing and future development through continuing education of design professionals on mitigation strategies.						X			



ECON - h - Construction									
1) Continue to require that all new commercial and industrial buildings be constructed in compliance with structural requirements of the most recently adopted version of the <i>California Building Code</i> .	X							Planning and Building	County Building Regulations
2) Conduct appropriate employee training and support continued education to ensure enforcement of construction standards.						X			
3) Recognize that many strategies that increase earthquake resistance also decrease damage in an explosion. In addition, recognize that ventilation systems can be designed to contain airborne biological agents.						X			
ECON - i - Building Reoccupancy									
1) Institute an aggressive program similar to San Francisco's Building Occupancy Resumption Program (BORP). This program permits owners of private buildings to hire qualified structural engineers to create building-specific post-disaster inspection plans and allows these engineers to become automatically deputized as City/County inspectors for these buildings in the event of an earthquake or other disaster.							X	Planning and Building	
2) Actively notify owners of historic or architecturally significant buildings of the availability of the local BORP-type program and encourage them to participate to ensure that appropriately qualified structural engineers are inspecting their buildings, thus reducing the likelihood that the buildings will be inappropriately evaluated following a disaster.							X	Planning and Building	
3) Actively notify owners of educational facility buildings of the availability of the local BORP-type program and encourage them to participate to ensure that appropriately qualified structural engineers are inspecting their buildings, thus reducing the likelihood that the buildings will be inappropriately evaluated following a disaster.							X	Planning and Building	

4) Allow owners to participate in a BORP-type program as described above, but not actively encourage them to do so.								X	Planning and Building	
5) Develop and enforce an ordinance for disaster-damaged structures to ensure that damaged buildings are repaired in an appropriate and timely manner.	X								Planning and Building	County Building Regulations
6) Establish preservation-sensitive measures for the repair and reoccupancy of historically significant structures, including requirements for temporary shoring or stabilization where needed, arrangements for consulting with preservationists and expedited permit procedures for suitable repair or rebuilding of historically or architecturally valuable structures.								X		
<b>ECON - j - Public Education</b>										
1) Provide information to business owners and employees on the availability of interactive hazard maps on ABAG's web site.	X								Office of Emergency Services	Ongoing program upon request and via Sheriff's OES <a href="http://smcready.org/">http://smcready.org/</a>
2) Develop printed materials, utilize existing materials (such as developed by FEMA and the American Red Cross), conduct workshops, and/or provide outreach encouraging businesses' employees to have family disaster plans that include drop-cover-hold earthquake drills, fire and storm evacuation procedures, and shelter-in-place emergency guidelines.	X								Office of Emergency Services	Use of preprinted materials, developing materials for tsunamis areas.  National Tsunami Awareness Week and annual full volume coastal sirens test in September.  Annual October Great Shakeout drop cover hold statewide drill.  OES posted link to CA updated tsunami hazard evacuation maps on website.
3) Develop printed materials, conduct workshops, and provide outreach to Bay Area businesses focusing on business continuity planning.	X								Office of Emergency Services	Two contractors hired in Jan 2012 to engage businesses in continuity planning and collaborating with the County/Op Area in emergency response support. Funded by 2010 State Homeland Security grant.

4) Better inform Bay Area business owners of mitigation activities, including elevation of appliances above expected flood levels, use of fire-resistant roofing and defensible space in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat, structural retrofitting techniques for older buildings, and use of intelligent grading practices through workshops, publications, and media announcements and events.						X			
5) Sponsor the formation and training of Community Emergency Response Teams (CERT) training through partnerships with local businesses. [Note – these programs go by a variety of names in various cities and areas.]	X							Office of Emergency Services	Ongoing program, OES provides support with instructors and equipment. Supplies sponsored by Cal Vol (California Volunteers) up to 50 units, per organization, per jurisdiction, per year – while CA supplies last.  Contractor hired to coordinate CERT Program support in 2009-10. Funded by a 2009 and 10 State Homeland Security Grant.
6) 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.						X			
7) Make use of the materials developed by others (such as found on ABAG’s web site at <a href="http://quake.abag.ca.gov/business">http://quake.abag.ca.gov/business</a> ) to increase mitigation activities related to earthquakes. ABAG plans to continue to improve the quality of those materials over time.	X							Office of Emergency Services	Private sector liaisons to refer businesses to ABAG website.
8) Develop a “Maintain-a-Drain” campaign, similar to that of the City of Oakland, encouraging businesses and residents to keep storm drains in their neighborhood free of debris.						X			

9)	Encourage the formation of a community-based approach to wildfire education and action through local Fire Safe Councils and the <i>Fire Wise Program</i> .	X							County Fire	San Mateo County FireSafe Council
10)	Encourage businesses and laboratories handling hazardous materials or pathogens increase security to a level high enough to create a deterrent to crime and terrorism, including active implementation of “cradle-to-grave” tracking systems.						X			
11)	Encourage joint meetings of security and operations personnel at major employers to develop innovative ways for these personnel to work together to increase safety and security.						X			
12)	Inform shoreline-property owners of the possible long-term economic threat posed by rising sea levels.						X			
13)	Develop and distribute culturally appropriate materials related to disaster mitigation and preparedness, such as those on the <a href="http://www.preparenow.org">http://www.preparenow.org</a> website.						X			

## Government Mitigation Strategies

		Priority (CHECK ONLY ONE)								
	Specific Mitigation Strategy	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
<b>GOVT - a - Focus on Critical Facilities</b>										
	1) Assess the vulnerability of critical facilities (such as city halls, fire stations, community service centers, seaports, and airports) to damage in natural disasters and make recommendations for appropriate mitigation.	X							Public Works	
	2) Retrofit or replace critical facilities that are shown to be vulnerable to damage in natural disasters.		X						Public Works, Office of Emergency Services	County EOC and/or back-up EOC infrastructure enhancement or replacement. Future FEMA EOC Improvement Grant TBA – may assist in funding
	3) Clarify to workers in critical facilities and emergency personnel, as well as to elected officials and the public, the extent to which the facilities are expected to perform only at a life safety level (allowing for the safe evacuation of personnel) or are expected to remain functional following an earthquake.	X							Risk Management	
	4) Conduct comprehensive programs to identify and mitigate problems with facility contents, architectural components, and equipment that will prevent critical buildings from being functional after major natural disasters.						X			
	5) Encourage joint meetings of security and operations personnel at critical facilities to develop innovative ways for these personnel to work together to increase safety and security.						X			



6)	Install micro and/or surveillance cameras around critical public assets tied to web-based software, and develop a surveillance protocol to monitor these cameras.						X		Office of Emergency Services	
7)	Identify and undertake cost-effective retrofit measures on critical facilities (such as moving and redesigning air intake vents and installing blast-resistant features) when these buildings undergo major renovations.						X			
8)	Coordinate with the State Division of Safety of Dams to ensure that cities and counties are aware of the timeline for the maintenance and inspection of dams whose failure would impact their jurisdiction.						X			
9)	As a secondary focus, assess the vulnerability of non-critical facilities to damage in natural disasters based on occupancy and structural type, make recommendations on priorities for structural improvements or occupancy reductions, and identify potential funding mechanisms.						X			
10)	Ensure that government-owned facilities are subject to the same or more stringent regulations as imposed on privately-owned development.						X			
11)	Comply with all applicable building and fire codes, as well as other regulations (such as state requirements for fault, landslide, and liquefaction investigations in particular mapped areas) when constructing or significantly remodeling government-owned facilities.	X							Planning and Building, County Fire	SM County Building Regulations, SM County Fire Code
12)	Prior to acquisition of property to be used as a critical facility, conduct a study to ensure the absence of significant hazards.						X			
<b>GOVT - b - Maintain and Enhance Local Government's Emergency Response and Recovery Capacity</b>										
1)	Establish a framework and process for pre-event planning for post-event recovery that specifies roles, priorities, and responsibilities of various departments within the local government organization, and that outlines a structure and process for policy-making involving elected officials and appointed advisory committees.	X							Office of Emergency Services	Ongoing through planning, training, and exercises with Jan 20 adoption of the County's updated Emergency Operations Plan (EOP)

2)	Prepare a basic Recovery Plan that outlines the major issues and tasks that are likely to be the key elements of community recovery, as well as integrate this planning into response planning.						X	Office of Emergency Services	
3)	Establish a goal for the resumption of local government services that may vary from function to function.	X						Office of Emergency Services	EOC Action Plan would be developed on an event by event basis to address critical issues re Governmental Business Continuity.
4)	Develop a plan for short-term and intermediate-term sheltering of impacted residents.	X						Human Services Agency	Supported by the Office of Emergency Services and American Red Cross.  MOU for mass care/sheltering has been signed with the Community College District for this impact.
5)	Periodically assess the need for new or relocated fire or police stations and other emergency facilities, changes in staffing levels, and additional or updated supplies, equipment, technologies, and in-service training classes.					X		County Fire	39448
6)	Ensure that fire and police department personnel have adequate radios, breathing apparatuses, protective gear, and other equipment to respond to a major disaster.	X						County Fire	No ordinance
7)	Develop and maintain a system of interoperable communications for first responders from cities, counties, special districts, state, and federal agencies.		X					County Fire Office of Emergency Services	
8)	Harden emergency response communications, including, for example, building redundant capacity into public safety alerting and/or answering points, replacing or hardening microwave and simulcast systems, adding digital encryption for programmable radios, and ensuring a plug-and-play capability for amateur radio.	X						Office of Emergency Services	3 additional amateur repeaters were purchased and installed for Sheriff's Communications Unit.
9)	Purchase command vehicles for use as mobile command/EOC vehicles if current vehicles are unsuitable or inadequate.	X						Office of Emergency Services	2 Mobile Communications Units were purchased and received. Grant: FY 2005 with Federal grant

10)	Maintain the local government's emergency operations center in a fully functional state of readiness.	X							Office of Emergency Services	Ongoing activity in State-owned Superior Court Jury Assembly Room. A new location for the EOC facility is being sought for relocation when CA assumes use of their building.
11)	Expand or participate in expanding traditional disaster exercises involving city and county emergency personnel to include airport and port personnel, transit and infrastructure providers, hospitals, schools, park districts, and major employers.	X							Office of Emergency Services	Coordinate, conduct and participate in exercises. Annual exercises include: Great Shakeout 2014 Golden Guardian Earthquake FSE.
12)	Maintain and update as necessary the local government's Standardized Emergency Management System Plan.	X							Office of Emergency Services	NIMS integrated in 2005 EOP. Updated EOP adopted Jan 20, 2012 also includes NIMS and changes since 2005 EOP was updated.
13)	Continue to participate not only in general mutual-aid agreements, but also in agreements with adjoining jurisdictions for cooperative response to fires, floods, earthquakes, and other disasters.	X							County Fire, Office of Emergency Services, ALS JPA	Office of Emergency Services - Agreements are in place, ongoing meetings to review, County Fire - No ordinance New agreement with Community College District for Mass Care and Sheltering at college facilities.
14)	Install an alert and warning system with outdoor sirens, coordinating them, to the extent possible, with those of neighboring jurisdictions.	X							Office of Emergency Services	8 Sirens installed 2009 in coastal communities.
15)	Conduct periodic tests of the alerting and warning system's outdoor sirens no less frequently than once per month.	X							Office of Emergency Services	Sirens are tested monthly at low volume on the first Wednesday of each month. Full volume test occurs on the first Wednesday in September for 3 minute signal – for National Tsunami Awareness Month.

16)	Regulate and enforce the location and design of street-address numbers on buildings and minimize the naming of short streets (that are actually driveways) to single homes.	X							Building	County Building Regulations
17)	Monitor weather during times of high fire risk using, for example, weather stations tied into police and fire dispatch centers.	X							County Fire Office of Emergency Services Sheriff's Office	No ordinance Offers OES Duty Officer to staff EOC as needed.  Sheriff's Office offers additional patrol units and air squadron units
18)	Establish regional protocols on how to respond to the NOAA Monterey weather forecasts, such as the identifying types of closures, limits on work that could cause ignitions, and repositioning of suppression forces. A multi-agency coordination of response also helps provide unified messages to the public about how they should respond to these periods of increased fire danger.	X							County Fire, Office of Emergency Services	Office of Emergency Services - Maintain close relationship with NOAA through meetings, agreements and annual tsunami protocol drills  2007 San Mateo County received initial designation as NOAA/National Weather Service StormReady™ and TsunamiReady™ Communities.  Jan 19 received renewal designation at the Emergency Services Council Meeting.  County Fire - No ordinance
19)	Increase local patrolling during periods of high fire weather.	X							County Fire in cooperation with CAL Fire	Sheriff's Office offers additional patrol units and air squadron units
20)	Create and maintain an automated system of rain and flood gauges that is web enabled and publicly accessible.	X							Office of Emergency Services	Upgraded
21)	Place remote sensors in strategic locations for early warning of hazmat releases or use of weapons of mass destruction.						X			
22)	Investigate the use of phone-based warning systems for selected geographic areas.	X							Office of Emergency Services	2009 contracted with FirstCall™ Telephone

										Emergency Notification System (TENS).  TENS also operates as a GIS based ENS system
23)	Review and update, as necessary, procedures pursuant to the <i>State Dam Safety Act</i> for the emergency evacuation of areas located below major water-storage facilities.						X			
24)	Develop procedures for the emergency evacuation of areas identified on tsunami evacuation maps as these maps become available.	X							Office of Emergency Services	Updated tsunami mapping has been reviewed to improve evacuation planning in coordination with use of TENS during tsunami.
25)	Develop a business continuity plan that includes back-up storage of vital records, such as essential medical records and financial information.						X			
<b>GOVT - c - Participate in National, State, Multi-Jurisdictional and Professional Society Efforts to Identify and Mitigate Hazards</b>										
1)	Promote information sharing among overlapping and neighboring local governments, including cities, counties, and special districts, as well as utilities.	X							Office of Emergency Services	Holds quarterly meetings of the Emergency Services Council, followed by quarterly meetings of Emergency Services Coordinators
2)	Recognize that emergency services is more than the coordination of police and fire response, for it also includes planning activities with providers of water, food, energy, transportation, financial, information, and public health services.	X							Office of Emergency Services	Ongoing all hazards for response and recovery activities
3)	Recognize that a multi-agency approach is needed to mitigate flooding by having flood control districts, cities, counties, and utilities meet at least annually to jointly discuss their a capital improvement programs for most effectively reducing the threat of storm-induced flooding.						X			
4)	As new flood-control projects are completed, request that FEMA revise its flood-insurance rate maps and digital geographic information system data to reflect flood risks as accurately as possible.						X			

5)	Participate in FEMA's National Flood Insurance Program.						X			
6)	Participate in multi-agency efforts to mitigate fire threat, such as the Hills Emergency Forum (in the east Bay), various <i>FireSafe</i> Council programs, and city-utility task forces.	X							County Fire, Fire Chiefs Association	
7)	Work with major employers and agencies that handle hazardous materials to coordinate mitigation efforts for the possible release of these materials due to a natural disaster such as an earthquake, flood, fire, or landslide.	X							County Environmental Health	
8)	Encourage staff to participate in efforts by professional organizations to mitigate earthquake and landslide disaster losses, such as the efforts of the Northern California Chapter of the Earthquake Engineering Research Institute, the East Bay-Peninsula Chapter of the International Code Council, the Structural Engineers Association of Northern California, and the American Society of Grading Officials.						X			
9)	Conduct and/or promote attendance at local or regional hazard conferences and workshops for elected officials to educate the officials on the critical need for programs in mitigating earthquake, wildfire, flood, and landslide hazards.	X							County Fire, Office of Emergency Services	Office of Emergency Services - Regular meetings and conferences scheduled. Quarterly meetings with the Emergency Services Council. Annual Disaster Preparedness Day Event, sponsored by the County Board of Supervisors, County Fire
10)	Cooperate with researchers working on government-funded projects to refine information on hazards, for example, by expediting the permit and approval process for installation of seismic arrays, gravity survey instruments, borehole drilling, fault trenching, landslide mapping, flood modeling, and/or damage data collection.	X							Office of Emergency Services	OES participates in periodic surveys i.e. Gas Pipeline Safety for First Responders and Cal-Tech San Mateo Area Tsunami Mapping/re-mapping Survey for evacuation planning

## Education Mitigation Strategies

Education Mitigation Strategies										
		Priority (CHECK ONLY ONE)								
Specific Mitigation Strategy		Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
<b>EDUC - a - Focus on Critical Facilities</b>										
1)	Assess the vulnerability of critical education facilities to damage in natural disasters and make recommendations for appropriate mitigation.						X			
2)	Retrofit or replace critical education facilities that are shown to be vulnerable to damage in natural disasters.						X			
3)	Conduct comprehensive programs to identify and mitigate problems with facility contents, architectural components, and equipment that will prevent critical buildings from being functional after major disasters.						X			
4)	As a secondary focus, assess the vulnerability of non-critical educational facilities to damage in natural disasters based on occupancy and structural type, make recommendations on priorities for structural improvements or occupancy reductions, and identify potential funding mechanisms.						X			

<p>5) Participate in or facilitate adoption of a program to formalize arrangements with structural engineers to report to the district, assess damage, and determine if the buildings can be reoccupied. The program should be similar to San Francisco's Building Occupancy Resumption Program (BORP) that permits owners of buildings to hire qualified structural engineers to create building-specific post-disaster inspection plans and allows these engineers to become automatically deputized as inspectors for these buildings in the event of an earthquake or other disaster. Unlike the buildings of most special districts, however, these plans should be developed with the review and guidance of the Division of the State Architect because this agency has the authority and responsibility for the structural integrity of these structures.</p>								X		
<b>EDUC - b - Use of Educational Facilities as Emergency Shelters</b>										
<p>1) Work cooperatively with the American Red Cross and others to set up memoranda of understanding for use of education facilities as emergency shelters following disasters.</p>	X								Office of Emergency Services and County Human Services Agency (HSA).	MOU in place with Community College District.
<p>2) Work cooperatively to ensure that school district personnel and relevant staff understand and are trained that being designated by the American Red Cross or others as a potential emergency shelter does not mean that the school has had a hazard or structural evaluation to ensure that it can be used as a shelter following any specific disaster.</p>	X								Office of Emergency Services and HSA.	
<p>3) Work cooperatively to ensure that school district personnel understand and are trained that they are designated as disaster service workers and must remain at the school until released.</p>	X								County Office of Education, supported by the Office of Emergency Services	



EDUC - c - Use of Schools as Conduits for Information to Families About Emergencies									
1) Work on and/or support efforts by schools, local governments, and other agencies to utilize their unique ability to reach families through educational materials on hazards, mitigation, and preparedness, particularly after disasters and at the beginning of the school year. These efforts will not only make the entire community more disaster-resistant, but speed the return of schools from use as shelters to use as teaching facilities.	X						County Office of Education, supported by Office of Emergency Services	Office of Education is a member of the County's Emergency Services Council.	
2) Work on and/or support joint efforts of schools and fire jurisdictions to develop plans for evacuation or sheltering in place of school children during periods of high fire danger, thereby recognizing that overloading of streets near schools by parents attempting to pick up their children during these periods can restrict access by fire personnel and equipment.	X						County Fire		
3) Offer the 20-hour basic CERT training to teachers and after-school personnel.						X			
4) Offer the 20-hour basic CERT training to middle school and/or high school students as a part of the basic science or civics curriculum, as an after school club, or as a way to earn public service hours.						X			
5) Offer the 20-hour basic CERT training course through the Adult School system and/or through the Community College system.						X			
6) Develop and maintain the capacity for schools to take care of the students for the first 48 hours after a disaster, and notify parents that this capacity exists.						X			
7) Develop and distribute culturally appropriate materials related to disaster mitigation and preparedness, such as those on the <a href="http://www.preparenow.org">http://www.preparenow.org</a> website.						X			

## Environment Mitigation Strategies

		Priority (CHECK ONLY ONE)								
	Specific Mitigation Strategy	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
<b>ENVI - a - Environmental Sustainability and Pollution Reduction</b>										
1)	Continue to enforce State-mandated requirements, such as the <i>California Environmental Quality Act</i> , to ensure that mitigation activities for hazards, such as vegetation clearance programs for fire threat and seismic retrofits, are conducted in a way that reduces environmental degradation such as air quality impacts, noise during construction, and loss of sensitive habitats and species, while respecting the community value of historic preservation.	X							Planning and Building, County Fire	<b>CEQA</b>
2)	Encourage regulatory agencies to work collaboratively with safety professionals to develop creative mitigation strategies that effectively balance environmental and safety needs, particularly to meet critical wildfire, flood, and earthquake safety levels.	X							Planning and Building, County Fire	
3)	Continue to enforce and/or comply with State-mandated requirements, such as the <i>California Environmental Quality Act</i> and environmental regulations to ensure that urban development is conducted in a way to minimize air pollution. For example, air pollution levels can lead to global warming, and then to drought, increased vegetation susceptibility to disease (such as pine bark beetle infestations), and associated increased fire hazard.	X							Planning and Building	State & County CEQA Guidelines
4)	Develop and implement a comprehensive program for watershed maintenance, optimizing forest health with water yield to balance water supply, flooding, fire, and erosion concerns.				X				Planning and Building	

5)	Balance the need for the smooth flow of stormwaters versus the need to maintain wildlife habitat by developing and implementing a comprehensive Streambed Vegetation Management Plan that ensures the efficacy of flood control efforts and maintains the viability of living rivers.						X			
6)	Stay informed of emerging scientific information on the subject of rising sea levels, especially on additional actions that local governments can take to mitigate this hazard.	X							Office of Emergency Services, Planning and Building Department	Monitoring information and ongoing research in this area. New General Plan policies regarding adaptation to climate change to be completed in December 2012.
7)	Monitor the science associated with global warming to be able to act promptly when data become available to warrant special design and engineering of government-owned facilities located in low-lying areas, such as wastewater treatment plants, ports, and airports.						X			
8)	Comply with applicable performance standards of any <i>National Pollutant Discharge Elimination System</i> municipal stormwater permit that seeks to manage increases in stormwater run-off flows from new development and redevelopment construction projects.	X							Planning and Building	SM County Stormwater Management Plan, MRP requirements
9)	Enforce and/or comply with the grading, erosion, and sedimentation requirements by prohibiting the discharge of concentrated stormwater flows by other than approved methods that seek to minimize associated pollution.	X							Planning and Building	SM County Stormwater Management Plan, MRP Requirements
10)	Explore ways to require that hazardous materials stored in the flood zone be elevated or otherwise protected from flood waters.	X							Environmental Health	
11)	Enforce and/or comply with the hazardous materials requirements of the State of California Certified Unified Program Agency (CUPA).	X							Environmental Health	
12)	Provide information on hazardous waste disposal and/or drop off locations.	X							Environmental Health	

13)	Develop and implement a program to control invasive and exotic species that contribute to fire and flooding hazards (such as eucalyptus, cattails, and cordgrass).	X							County Fire, Planning and Building	FireSafe Council
14)	Enforce provisions under creek protection, stormwater management, and discharge control ordinances designed to keep watercourses free of obstructions and to protect drainage facilities to conform with the Regional Water Quality Control Board's Best Management Practices.	X							Planning and Building, Public Works	SM County Stormwater Management Pla, MRP Requirements
<b>ENVI - b - Agricultural and Aquaculture Resilience</b>										
1)	Maintain a variety of crops in rural areas of the region to increase agricultural diversity and crop resiliency.	X							Agricultural Commissioner	
2)	Promote and maintain the public-private partnerships dedicated to preventing the introduction of agricultural pests into regionally-significant crops, such as the glassy-winged sharpshooter into vineyards.	X							Agricultural Commissioner	
3)	Remove septic tanks and other sources of contamination adjacent to economically-significant aquacultural and agricultural resources.						X			
4)	Encourage livestock operators to develop an early-warning system to detect animals with communicable diseases (due to natural causes or bioterrorism).	X							Agricultural Commissioner	

## Land Use Mitigation Strategies

		Priority (CHECK ONLY ONE)								
	Specific Mitigation Strategy	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
<b>LAND - a - Earthquake Hazard Studies for New Developments</b>										
1)	Enforce and/or comply with the State-mandated requirement that site-specific geologic reports be prepared for development proposals within Alquist-Priolo Earthquake Fault Zones, and restrict the placement of structures for human occupancy. (This Act is intended to deal with the <b>specific</b> hazard of active faults that extend to the earth's surface, creating a surface rupture hazard.)	X							Planning and Building	SM County Ordinance Code, Zoning Regulations, Chapter 19.5 Geologic Hazard District and County Building Regulations
2)	Require preparation of site-specific geologic or geotechnical reports for development and redevelopment proposals in areas subject to earthquake-induced landslides or liquefaction as mandated by the State Seismic Hazard Mapping Act in selected portions of the Bay Area where these maps have been completed, and condition project approval on the incorporation of necessary mitigation measures related to site remediation, structure and foundation design, and/or avoidance.	X							Planning and Building	SM County Ordinance Code, Zoning Regulations, Chapter 19.5 Geologic Hazard District and County Building Regulations
3)	Recognizing that some faults may be a hazard for surface rupture, even though they do not meet the strict criteria imposed by the Alquist-Priolo Earthquake Fault Zoning Act, identify and require geologic reports in areas adjacent to locally-significant faults.	X							Planning and Building	CEQA

4)	Recognizing that the California Geological Survey has not completed earthquake-induced landslide and liquefaction mapping for much of the Bay Area, identify and require geologic reports in areas mapped by others as having significant liquefaction or landslide hazards.	X								Planning and Building	SM County Building Regulations
5)	Support and/or facilitate efforts by the California Geological Survey to complete the earthquake-induced landslide and liquefaction mapping for the Bay Area.						X				
6)	Require that local government reviews of geologic and engineering studies are conducted by appropriately trained and credentialed personnel.	X								Planning and Building, Public Works	
<b>LAND - b - Wildland and Structural Fires</b>											
1)	Review development proposals to ensure that they incorporate required and appropriate fire-mitigation measures, including adequate provisions for occupant evacuation and access by emergency response personnel and equipment.	X								County Fire	
2)	Develop a clear legislative and regulatory framework at both the state and local levels to manage the wildland-urban-interface consistent with <i>Fire Wise</i> and sustainable community principles.				X					County Fire	
<b>LAND - c - Flooding</b>											
1)	Establish and enforce requirements for new development so that site-specific designs and source-control techniques are used to manage peak stormwater runoff flows and impacts from increased runoff volumes.	X								Planning and Building	County Building Regulations, Storm Water Management Plan, MRP Requirements
2)	Incorporate FEMA guidelines and suggested activities into local government plans and procedures for managing flood hazards.	X								Planning and Building	County Building Regulations

3)	Provide an institutional mechanism to ensure that development proposals adjacent to floodways and in floodplains are referred to flood control districts and wastewater agencies for review and comment (consistent with the NPDES program).	X							Planning and Building	Development Review Procedures
4)	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 <i>National Flood Insurance Program</i> .	X							Planning and Building	County Building Regulations
LAND - d - Landslides and Erosion										
1)	Establish and enforce provisions (under subdivision ordinances or other means) that geotechnical and soil-hazard investigations be conducted and filed to prevent grading from creating unstable slopes, and that any necessary corrective actions be taken prior to development approval.	X							Planning and Building	Grading, Subdivision, Building and Zoning Regulations
2)	Require that local government reviews of these investigations are conducted by appropriately trained and credentialed personnel.	X							Planning and Building	Grading, Subdivision, Building and Zoning Regulations,
3)	Establish and enforce grading, erosion, and sedimentation ordinances by requiring, under certain conditions, grading permits and plans to control erosion and sedimentation prior to development approval.	X							Planning and Building	Grading, Subdivision, Building Regulations, SM County Storm Water Management Plan, MRP Requirements
4)	Establish and enforce provisions under the creek protection, storm water management, and discharge control ordinances designed to control erosion and sedimentation.	X							Planning and Building	Grading, Subdivision, Building Regulations, SM County Storm Water Management Plan, MRP Requirements
5)	Establish requirements in zoning ordinances to address hillside development constraints, especially in areas of existing landslides.	X							Planning and Building	VCounty Zoning Regulations

LAND - e - Hillside - Multi-Hazard									
1)	Establish a buffer zone between residential properties and landslide or wildfire hazard areas.						X		
2)	Discourage, add additional mitigation strategies, or prevent construction on slopes greater than a set percentage, such as 15%, due to landslide or wildfire hazard concerns.	X						Planning and Building	County Zoning Regulations
LAND - f - Smart Growth to Revitalize Urban Areas and Promote Sustainability									
1)	Prioritize retrofit of infrastructure that serves urban areas over constructing new infrastructure to serve outlying areas.						X		
2)	Work to retrofit homes in older areas to provide safe housing close to job centers.	X						Planning and Building /Housing	County Building. Regulations
3)	Work to retrofit older downtown areas to protect architectural diversity and promote disaster-resistance.						X		
4)	Protect as open space areas susceptible to extreme hazards.	X						Planning and Building	San Mateo County General Plan
5)	Provide new buffers and preserve existing buffers between development and existing users of large amounts of hazardous materials, such as major industry, due to the potential for catastrophic releases due to an earthquake or terrorism. (Flooding might also result in release or spread of these materials, however it is unlikely.)	X						Environmental Health	Hazardous Waste Management Plan Requirements