



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

VALLEJO SANITATION & FLOOD
CONTROL DISTRICT



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Introduction

The Vallejo Sanitation and Flood Control District (District) is an independent special district created by the State of California to collect and treat wastewater, and provide storm drainage for the protection of City of Vallejo and a small portion of the unincorporated area of Solano County, California from flooding. Since 1952, the District has protected public health and the San Francisco Bay by collecting and treating the wastewater generated from more than 115,000 residents of Vallejo and the surrounding area based on the 2000 census¹.

The District maintains some 685 miles of storm and sewer collection system pipes, hundreds of culverts and catch basins, as well as 40 lift stations throughout the District. In 2010-11, the District's budget is \$27,901,682. The District employs 87 people. A map of the District's jurisdictional boundary is provided in Exhibit A.

The Regional Planning Process

The District participated originally in the ABAG workshops in 2005 which developed the original Local Hazard Mitigation Plan Annex. The District's Board of Trustees formally approved the plan in June 2006.

During preparation of this five year update, District staff attended the initial kickoff meeting and attended two sub-regional workshops to review the strategies matrix developed by ABAG staff and consultants. The District proposed no changes to the list of critical facilities in our District boundaries.

The Local Planning Process

District staff met internally to review the draft strategies, rank their importance, and propose alternatives to ABAG staff. The District held a Public Meeting at our offices on September 30, 2009 to review the Local Hazard Mitigation Strategies Matrix. This matrix was also published on the ABAG website and the District website. Staff also attended the Flooding Workshop of July 7, 2009 and the Lifeline and Hazards Review Committee meeting of October 7, 2009. Zoanne Tafolla, Director of Safety and Risk Management was the lead staff for this 2010 Update.

Participating staff included:

Ron Matheson, District Manager
Rolf Ohlemutz, District Engineer
Daniel Tafolla, Director of Environmental Services
Barry Pomeroy, Director of Plant Operations
Andy Jannings, Field Operations Superintendent
Cathy Sparks, Clerk to the Board
Ken Spray, Director of Finance

¹ For complete Census information on this District, see <http://www.bayareacensus.ca.gov/>.



Public Meetings

Opportunity for public comments on the DRAFT mitigation strategies was provided at a public meeting at the District and advertised on the District website. The draft mitigation strategies were also published on the ABAG website for public viewing. No public comments were received from either the meeting or the internet posting. Copies of the internet posting are included as **Exhibit B** to the District's 2010 Annex.

The Board of Trustees will adopt the plan in a public meeting via an official Resolution upon approval by FEMA. The mitigation strategies will become an implementation appendix of the Health and Safety Element of the District 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/>**.

The District has reviewed the hazards identified and ranked the hazards based on past disasters and expected future impacts. The conclusion is that earthquakes (particularly shaking), flooding (including dam failure), wildfire, and landslides (including unstable earth) pose a significant risk for potential loss.

The District does not face any natural disasters not listed in the ABAG multi-jurisdictional plan and new hazards have been identified by the District since the original development of this plan in 2005.

While the District has undertaken a number of general hazard mapping activities since the first Safety Element was prepared by the District, all of these maps are less detailed and are not as current as those shown on the ABAG website at **<http://quake.abag.ca.gov/mitigation/>**.

Information on disasters declared in Solano County is at **<http://quake.abag.ca.gov/mitigation/disaster-history.html>**.



Past Occurrences Of Disasters (natural and human-induced)

Disaster in Vallejo's past have been relatively limited. The District did experience significant flooding in 1981 and 1986. In 1981, the District raised the level of the dam at Lake Chabot and widened the downstream creek for better flood control. In 1986, limited flooding was experienced at Lake Dalwigk and the Lemon Street ditch affecting local residents. This area continues to be susceptible to flooding as does the low lying area near Austin Creek, which flooded on December 31, 2005 impacting several city blocks. The rains of the 2005 floods also caused a landslide on Columbus Parkway that threatened the main water line feeding the east side of the District.

The District was not significantly impacted by the 1989 Loma Prieta Earthquake, but does have the Rodgers Creek fault running on the west side of the District's wastewater treatment facilities and the Concord Green Valley fault to the east of the District. Both could impact the facilities within the District.

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

Risk Assessment

Urban Land Exposure

The District examined the hazard exposure of the District's urban land based on information in ABAG's website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. Note that there is a 5 year lag in the data, so the 2010 plan is using 2005 data and the 2005 plan used 2000 data.

In general, the hazard exposure of the District is increasing over time as the amount of urban land increases (In the last 5 years, 130 acres of land has become urban). The following table described the exposure of urban land within the unincorporated county to the various hazards:



Exposure (acres of urban land)¹			
Hazard	Plan Year 2005	Plan Year 2010	Change
<i>Total Acres of Urban Land</i>	15,795	15,925	130
Earthquake Faulting (within CGS zone)	0	0	0
Earthquake Shaking (within highest two shaking categories) ²	1,151	1,186	35
Existing Landslides (within CGS study zone)	575	593	18
Liquefaction (within moderate, high, or very high liquefaction susceptibility)	4,744	4,730	(14)
Flooding (within 100 year floodplain)	4,465	4,477	12
Flooding (within 500 year floodplain)	167	167	0
Landslides (within areas of existing landslides)	575	593	18
Wildfire (subject to high, very high, or extreme wildfire threat)	2,095	2,130	35
Wildland-Urban Interface Fire Threat	5,753	5,802	49
Dam Inundation (within inundation zone)	670	727	57
Sea Level Rise ³	not applicable		
Tsunamis ⁴ (within inundation area)	not applicable		
Drought ⁵	15,795	15,925	130

¹ Data used for this table is limited to the District boundaries within the City of Vallejo and does not include the County portion of the District (less than 5%).

² In large part because the Rodgers Creek and Concord Green Valley fault systems run next to the District.

³ The sea level rise map is not a hazard map. It is not appropriate to assess infrastructure exposure to sea level rise.

⁴ Tsunami evacuation planning maps were not available inside the San Francisco Bay in 2005. This map became available in December 2009. Acres of exposed land are not an appropriate analysis for this hazard. 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.

⁵ The entire District is subject to drought.

Infrastructure Exposure

The District also examined the hazard exposure of infrastructure within the jurisdiction based on the information on ABAG's website at

<http://quake.abag.ca.gov/mitigation/pickdbh2.html>. The table below summarizes the exposure of infrastructure in the District, including roadway infrastructure, transit, and rail.



Exposure (miles of infrastructure) ¹						
Hazard	Roadway		Transit		Rail	
	Plan Year 2004	Plan Year 2009	Plan Year 2004	Plan Year 2009	Plan Year 2004	Plan Year 2009
<i>Total Miles of Infrastructure</i>	453	472	0	0	10	7
Earthquake Shaking (within highest two shaking categories)	16	11	0	0	0	0
Liquefaction Susceptibility (within moderate, high, or very high liquefaction susceptibility)	116	111	0	0	2	1
Earthquake Faulting (within CGS zone)	0	0	0	0	0	0
Flooding (within 100 year floodplain)	76	31	0	0	4	1
Flooding (within 500 year floodplain)	8	8	0	0	1	0
Landslides (within areas of existing landslides)	17	17	0	0	0	0
Wildfires (subject to high, very high, or extreme wildfire threat)	40	11	0	0	0	0
Wildland-Urban Interface Fire Threat	164	183	0	0	3	2
Dam Inundation (within inundation zone)	21	27	0	0	2	2
Sea Level Rise ²	not applicable					
Tsunamis ³	not applicable					
Drought ⁴	not applicable					

¹ Data used for this table is limited to the District boundaries within the City of Vallejo and does not include the County portion of the District (less than 5%).

² The sea level rise map is not a hazard map. It is not appropriate to assess infrastructure exposure to sea level rise.

³ Tsunami evacuation planning maps were not available inside the San Francisco Bay in 2005. This map became available in December 2009. Miles of exposed infrastructure is not an appropriate analysis for this hazard. 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.

⁴ Drought is not a hazard for roadways, railroads, or transit.

Exposure of Vallejo Sanitation & Flood Control District-Owned Buildings, Plus Critical Healthcare Facilities and Schools

Finally, the District examined the hazard exposure of critical health care facilities and schools located within the District and District-owned buildings based on the information on ABAG's website at <http://quake.abag.ca.gov/mitigation/pickcrit2010.html>. The District 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) ¹								
Hazard	Hospitals		Schools		Locally owned critical facilities ²		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>	15	19	35	40	0	35	27	31
Earthquake Shaking (within highest two shaking categories)	0		0		1	5	0	
Liquefaction Susceptibility (within moderate, high, or very high liquefaction susceptibility)	7	1	4	0	16	16	0	3
Earthquake Faulting (within CGS zone)	0	0	0	0	2	0	0	0
Flooding (within 100 year floodplain)	0	0	0	0	0	3	0	1
Flooding (within 500 year floodplain)	0	0	0	0	3	0	0	3
Landslides (within areas of existing landslides)	0	0	1	1	4	4	2	2
Wildfires (subject to high, very high, or extreme wildfire threat)	0	0	0	0	2	2	0	1
Wildland-Urban Interface Fire Threat	0	0	12	12	16	16	11	11
Dam Inundation	2	2	1	1	2	2	3	3
Sea Level Rise (exposed to 16in sea level rise) ³	-	0	-	0	-	1	-	1
Sea Level Rise (exposed to 55in sea level rise) ⁴	-	0	-	0	-	7	-	2
Tsunamis ⁵ (within inundation area)	-	0	-	0	-	0	-	0
Drought ⁶	-	-	-	-	-	-	-	-

¹ Data used for this table is limited to the District boundaries within the City of Vallejo and does not include the County portion of the District (less than 5%).

² Facilities owned by Vallejo Sanitation & Flood Control District as reported to ABAG

³ Sea level rise data was not available in 2005

⁴ Sea level rise data was not available in 2005

⁵ 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.

⁶ Drought will not affect locally owned facilities directly.



Repetitive Loss Properties

There are 11 repetitive loss properties in the District based on the information at <http://quake.abag.ca.gov/mitigation/pickflood.html>. There were no reported claims outside the flood plain. It is currently unknown if the new repetitive loss property is also outside the flood plain. It is also unknown whether this property is residential, commercial, or other.

Other risks

The District 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 buildings are located in the unincorporated areas of the County.

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

National Flood Insurance Program

The District participates through the City of Vallejo who is the caretaker of the national Flood Insurance Program in our community.

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 the District in designing its mitigation program.

Mitigation Activities and Priorities

Evaluation of Progress from 2005 Plan

The District continues to implement many of the “existing programs” identified in the 2005 Plan. Development review, building code, capital spending, and emergency procedures identified in the matrix are all geared toward reducing the impacts of natural or man-made disasters. Specific program activities include:

Infr a)8: Pre-position emergency power generation capacity at pump stations. We are currently working on placing the final emergency power generators at off-site lift stations on Mare Island.



Hsng h)4: Provide sandbags and plastic sheeting to residents. We have a sandbag station that is open during business hours and manned during storm events at our Wastewater Treatment Facility. During storm events, a portable sandbagging station is placed in the areas of the District that are prone to flooding. The portable station was implemented beginning in 2006 by the Field Operations Superintendent.

Hsng h)10: Encourage owners of properties in a floodplain to consider purchasing flood insurance. We have placed information on the NFIP on our website as well as providing flood information annually in our newsletter that is delivered to all rate payers with their bill.

Hsng k)1 & 13: Provide Information to residents on the availability of interactive hazard maps showing your community on ABAG's web site. Our Public Information Officer has prominently placed this information on our website. Our Director of Safety & Risk Management has given numerous talks on disaster preparedness to community groups and discussing this link at every talk.

Hsng k)5: Use disaster anniversaries to remind the public on safety and security mitigation activities. Our Public Information Officer has prominently placed this information on our website. Our Director of Safety & Risk Management has given numerous talks on disaster preparedness to community groups and discussing this link at every talk.

Econ j)1 & 2: Provide information to business owners and employees on the availability of interactive hazard maps on ABAG's website. Our Public Information Officer has prominently placed this information on our website. Our Director of Safety & Risk Management has given numerous talks on disaster preparedness to community groups and discussing this link at every talk.

Future Mitigation Actions and Priorities

As a participant in the 2010 ABAG multi-jurisdictional planning process, the staff of the District 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 then met on a regular basis to review progress on the District's 2005 strategies, to identify and prioritize additional mitigation strategies to update the list.

These draft priorities were submitted all Department Heads for review. The draft priorities will be provided to the Board of Trustees for adoption pending approval of this LHMP by FEMA. The District's priorities for these mitigation strategies are included in Exhibit C of this annex.

The District 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.



Infrastructure a-6 – Develop plan for speeding the repair and functional restoration of wastewater system through stockpiling tools and equipment necessary in the event of an emergency. We have become signatory to the CalWARN program for wastewater agencies. We will continue to work with CalWARN and update supplies and employees in their database.

Infrastructure a-8 & 11 – Pre-position emergency power generation in critical buildings to minimize power interruptions. When the current projects are completed, all critical locations will have a back-up power supply.

Infrastructure a-19 – Coordinate with other critical infrastructure facilities to establish plans for delivery of chemicals. The District’s Operations Supervisor is heading up a consortium for delivery of treatment chemicals to local agencies.

Infrastructure b-6 – Install portable facilities to allow pipelines to bypass. The District has purchased two large capacity pumps to divert pump stations or failed systems within the plant and 2 mobile generators that are trailer mounted. We are also signatory to several rental vendors in the event of an emergency and equipment is needed.

Infrastructure d-4 – Assist, support, and/or encourage the Army Corp of Engineers to locate and maintain funding for the development of flood control projects. The District’s Engineering staff will continue our on-going efforts with respect to White Slough Project, which is partially completed.

Infrastructure d-14 – Determine whether or not wastewater treatment plant is protected from rising waters. This issue has been considered with past improvements. Engineering staff is looking into conducting a plant wide analysis of the impact of the sea level rise.

Infrastructure g-4 – Provide materials to the public related to coping with disrupted storm drains, sewage lines such as ABAG’s Sewer Smart Program. Our PIO will continue to place articles in the newsletter and on our website.

Infrastructure g-6 – Sponsor the formation and training of CERT. Several District staff participated in the local CERT program. The District will continue to offer this training to District staff.

Housing h-4 – Provide sandbags and plastic sheeting to residents in anticipation of storm events. The District will continue to provide sandbags and sheeting free of charge to residents of our District for protection from storm events.

Housing k-11 – Develop a program to provide at-cost NOAA weather radios to residents. Our Environmental Services Department and our PIO has a hotline and automated system to notify those in flood prone areas of impending storms.



Government c-7 – Participate in developing and maintaining system of interoperable communications. The District’s Director of Safety & Risk Management will continue to work with City of Vallejo staff and County staff to maintain communications within the agencies.

On-Going Mitigation Strategy Programs

The District 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. Others are on-going programs that are currently underfunded. It is the District’s priority to find additional funding to sustain these on-going programs over time.

- Vulnerability assessments of County facilities and infrastructure (GOVT-a-1) :
- Non-structural mitigation for building contents (GOVT-a-4);
- Installation of micro and/or surveillance cameras at critical public assets tied to web-based software (GOVT-a-6);
- Coordination 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; (GOVT-a-8);
- Development of interoperable communications for first responders from cities, counties, special districts, state, and federal agencies. (GOVT-c-7);
- Maintain and update the District’s Standardized Emergency Management System Plan (GOVT-c-12);
- Participation in general mutual-aid agreements and agreements with adjoining jurisdictions for cooperative response to fires, floods, earthquakes, and other disasters (GOVT-c-13);
- Disaster plans and conduct mitigation activities in their own homes (HEAL-a-7);
- Incorporate FEMA guidelines and suggested activities into local government plans and procedures for managing flood hazards (LAND-c-2);
- Continue to repair and make structural improvements to storm drains, pipelines, and/or channels to enable them to perform to their design capacity in handling water flows as part of regular maintenance activities (INFR—d-6, INFR-d-7)

Incorporation into Existing Planning Mechanisms

The District has several planning mechanisms which include:

- ◆ General Health & Safety Manual, which includes the Emergency Preparedness Plan
- ◆ Capital Improvements Plan

The District has an Emergency Preparedness Plan in its Health and Safety Manual that includes a discussion of fire, earthquake, flooding, and landslide hazards. In addition, the District enforces the requirements of the California Environmental Quality Act (CEQA), which, since 1988, requires mitigation for identified natural hazards. The District 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, the Vallejo Sanitation & Flood Control District 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 Safety & Risk Management 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 District, 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 in April. At that meeting, the department heads will focus on evaluating the Annex in light of technological and political changes during the past year or other significant events. The Department leaders will be responsible for determining if the plan should be updated.

The District 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 Safety & Risk Management 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 District 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 District 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

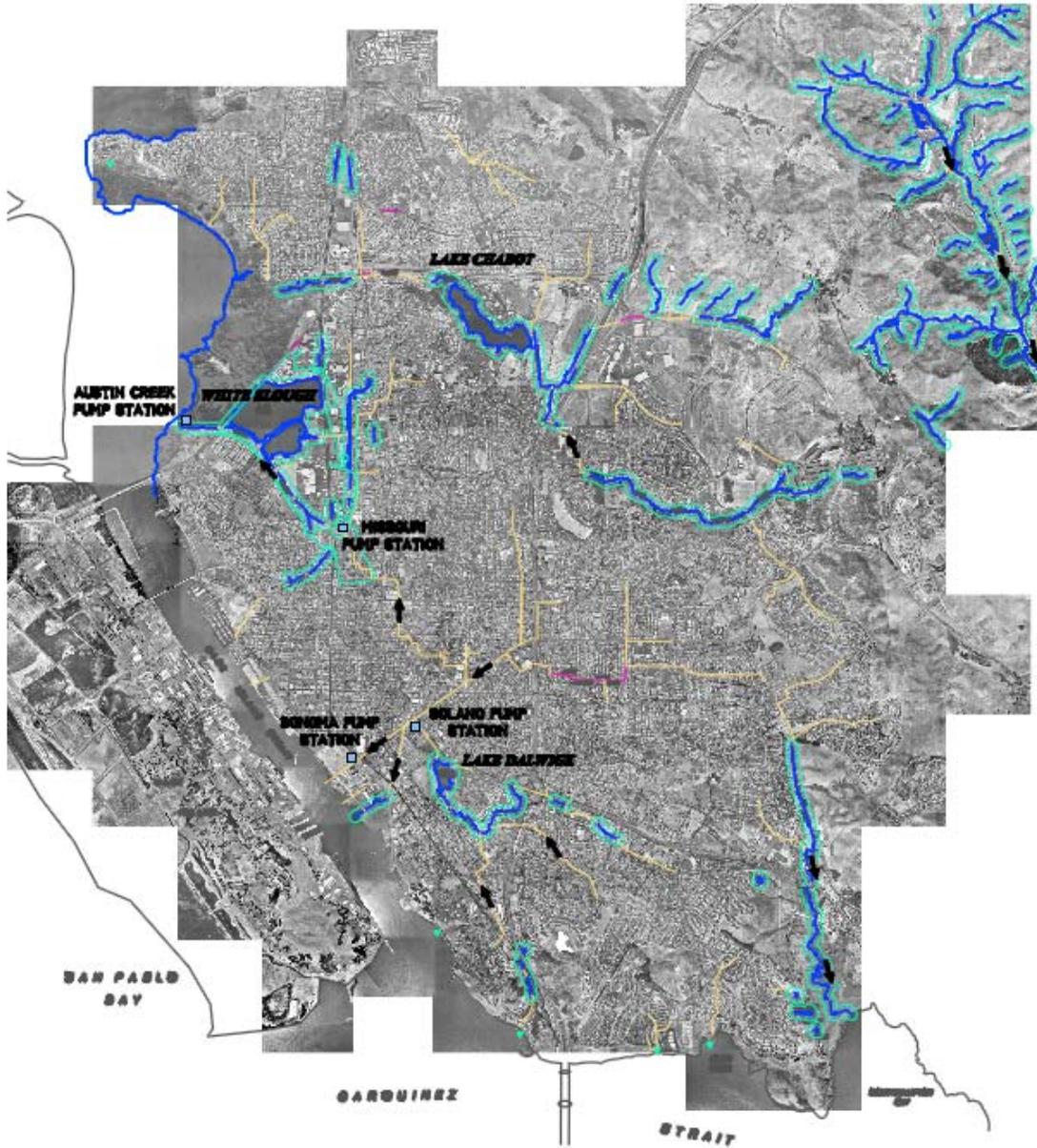
Name: Zoanne Tafolla
Title: Director of Safety & Risk Management
Mailing Address: 450 Ryder St., Vallejo, CA 94590
Telephone: 707.644.8949, ex. 281
Email: ztafolla@vsfcd.com

Alternate Point of Contact

Name: Ron Matheson
Title: District Manager
Mailing Address: 450 Ryder St., Vallejo, CA 94590
Telephone: 707.644.8949, ex. 211
Email: rmatheson@vsfcd.com



Exhibit A - Jurisdiction Boundary Map



Vallejo Sanitation and Flood Control District

DISTRICT BOUNDARY





Exhibit B - Public Meeting Announcements on Website



- ▶ ABOUT US
- ▶ THE BOARD
- ▶ DEPARTMENTS
- ▶ HOT TOPICS
- ▶ ENVIRONMENTAL ISSUES
- ▶ CUSTOMER SERVICES
- ▶ WASTEWATER TREATMENT
- ▶ FORMS
- ▶ LINKS
- ▶ ONLINE BILL PAYMENTS



Serving you since 1952

The Vallejo Sanitation & Flood Control District is an independent special district created by the State of California to collect and treat wastewater, and protect the Vallejo community from flooding. Since 1952, the District has protected public health and the San Francisco Bay by collecting and treating the wastewater generated by more than 115,000 residents of Vallejo and the surrounding area. In addition, the District helps save lives and protects property from storm water damage.

Every day of the year, the District helps protect our health and environment with advanced treatment methods and skilled, dedicated employees.

The mission of the Vallejo Sanitation & Flood Control District is to provide quality wastewater and flood control services to the community in order to protect the public's health, safety, and the environment.

You may want to visit the edition of **Currents**, a newsletter for customers of the Vallejo Sanitation & Flood Control District. **Currents** comes with your sewer bill, and contains information about issues that may affect you.



©2009 Vallejo Sanitation and Flood Control District

**Report
FLOODING OR
SEWER BACKUP
Here!**

Hot Topics

EMERGENCY PREPAREDNESS

VSFCD and the Association of Bay Area Governments (ABAG) are updating our **2005 Multi-Jurisdictional Local Hazard Mitigation Plan**. A public meeting will be held to discuss our local mitigation strategies. This meeting will take place in our Administrative offices located at 450 Ryder St., Vallejo, CA on Wednesday, September 30, 2009 at 10:00am. Below is a copy of the presentation and our proposed strategies. You may e-mail any comments regarding these strategies to: Ziafolia@vsfcd.com.

FLOOD INFORMATION [Click here](#) for Vallejo flood information.

WATERSHED MAP [Click here](#) to download your free copy of the our Vallejo area watershed map.

BILLING INFORMATION [Click here](#) for information about billing changes.

PROJECTS UP FOR BIDDING Check the current projects up for bidding at the engineering department.

NOTICES Check here for public hearings.

Hazardous Waste Safety, use and disposal locations.

Sand Bags Where to get them when you need them.

Free RV Dumpsite Empty the wastewater/septic tanks on your RV at our treatment plant.

Less Toxic Gardening Tips and tools for creating a healthier home and yard for people and pets.

Diazinon Phase Out The sale of diazinon products for home use was prohibited by law after 12/31/04. To find out how to return or properly dispose of home and garden products that contain Diazinon, [click here...](#)



Exhibit B - Proof of Public Meeting Announcements

PROOF OF PUBLICATION (2015.5 C.C.P.)

STATE OF CALIFORNIA
COUNTY OF SOLANO, s.s.

I am a citizen of the United States and a resident of the county of Solano. I am over the age of 18 years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of TIMES-HERALD, P.O. Box 3188 (440 Curtola Parkway), a newspaper of general circulation, printed and published mornings, daily and Sunday in the cities of Vallejo and throughout the county of Solano, and which has been adjudged by the Superior Court of the County of Solano, State of California. The notice of which the attached is a printed copy has been published in each regular and entire issue of said newspaper. And not in any supplement thereof, on the following dates, to wit:

SEPTEMBER 16, 2009

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at Vallejo, California this
16 TH day OF SEPTEMBER 2009


(Signature)

CYNTHIA REED

PROOF OF PUBLICATION
VALLEJO TIMES-HERALD

NOTICE OF PUBLIC MEETING

NOTICE IS HEREBY GIVEN

that a public meeting will be held by Vallejo Sanitation and Flood Control District (VSFCD) and the Association of Bay Area Governments (ABAG) regarding the update of our 2005 Multi-Jurisdictional Local Hazard Mitigation Plan. The public meeting will include a presentation and we invite the citizens of Vallejo and our District to participate in a discussion of our local mitigation strategies. The presentation is also available on the VSFCD website: www.vsfcd.com.

NOTICE IS HEREBY FURTHER GIVEN

that said meeting will be held on the 30th day of September, 2009 at the hour of 10:00 a.m., in the Boardroom of the Vallejo Sanitation and Flood Control District, 450 Ryder Street, Vallejo, CA, at which time and place any and all persons interested may be heard thereon.

Catherine C. Sparks
District Clerk

Dated: September
11, 2009



Exhibit C - Local Hazard Mitigation Strategies

Infrastructure Mitigation Strategies

X	Local VSFCDC Strategies	Priority (CHECK ONLY ONE)											
2009-2010 Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Existing Program under funded, 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), WHY if not same as regional priority, OR Other Comments	
INFR - a - Multi-Hazard (owned by the infrastructure provider filling out this form, including a city, county, or special district)													
a-1	Assess the vulnerability of critical facilities owned by infrastructure operators subject to damage in natural disasters or security threats, including fuel tanks and facilities owned outside of the Bay Area that can impact service delivery within the region. Note - Infrastructure agencies, departments, and districts are those that operate transportation and utility facilities and networks.	EQ LS WF FL SEC	X								Engineering & Facility Maintenance	On-going. We did a system-wide analysis of the collection system as part of the SSOEP. We have started a review of all pump stations.	
a-2	If a dam owner, comply with State of California and federal requirements to assess the vulnerability of dams to damage from earthquakes, seiches, landslides, liquefaction, or security threats.	EQ LS WF FL SEC							X				
a-3	Encourage the cooperation of utility system providers and cities, counties, and special districts, and PG&E to develop strong and effective mitigation strategies for infrastructure systems and facilities.	EQ LS WF FL DR SEC	X								Engineering & Facility Maintenance	We have a written agreement with American Canyon for lines traveling through Napa Co.	
a-4	Retrofit or replace critical lifeline infrastructure facilities and/or their backup facilities that are shown to be vulnerable to damage in natural disasters.	EQ LS WF FL SEC		X							Facility Maintenance	\$100-500 Million would be required for retrofit and /or replacement of critical pump stations, sewer lines, and flood control facilities.	
a-5	Support and encourage efforts of <i>other</i> (lifeline infrastructure) 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.)	EQ LS WF FL DR SEC	X								Engineering	Meets regularly with City and other agencies to stay abreast of joint efforts.	

Infrastructure Mitigation Strategies

2009-2010 Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Existing Program under funded, 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), WHY if not same as regional priority, OR Other Comments
a-6	Develop a plan for speeding the repair and functional restoration of water and wastewater systems through stockpiling of shoring materials, temporary pumps, surface pipelines, portable hydrants, and other supplies, such as those available through the Water /Wastewater Agency Response Network (WARN). Communicate that plan to local governments and critical facility operators.	EQ LS WF FL DR SEC	X								Safety/Risk Management	We are members of WARN and sit on the County Disaster Council which meets quarterly.
a-7	Engage in, support, and/or encourage research by others (such as USGS, universities, or Pacific Earthquake Engineering Research Center-PEER) on measures to further strengthen transportation, water, sewer, and power systems so that they are less vulnerable to damage in disasters.	EQ LS WF FL DR SEC	X								All Departments	
a-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.	EQ LS WF FL SEC	X								Facility Maintenance	all pump stations are equipped with back up generators.
a-9	Ensure that critical intersection traffic lights function following loss of power by installing battery back-ups, emergency generators, or lights powered by alternative energy sources such as solar. Proper functioning of these lights is essential for rapid evacuation, such as with hazmat releases resulting from natural disasters.	EQ LS WF FL SEC	X					X				
a-10	Develop unused or new pedestrian rights-of-way as walkways to serve as additional evacuation routes (such as fire roads in park lands).	EQ LS WF FL SEC	X					X				
a-11	Minimize the likelihood that power interruptions will adversely impact lifeline utility systems or critical facilities by ensuring that they have adequate back-up power.	EQ LS WF FL SEC	X								Facility Maintenance	all pump stations are equipped with back up generators.

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a-12	Encourage replacing above ground 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.	EQ LS WF FL SEC							X			
a-13	If you own a dam, 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, and communicate this information to local governments and the public.	EQ LS WF FL SEC							X			
a-14	Encourage communication between State Emergency Management Agency (CalEMA), FEMA, and utilities related to emergencies occurring outside of the Bay Area that can affect service delivery in the region.	EQ LS WF FL DR SEC	X								Safety/Risk Management	We are members of WARN
a-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.	EQ LS WF FL SEC							X			
a-16	Recognize that heat emergencies produce the need for non-medical transport of people to cooling centers by ensuring that (1) transit operators have plans for non-medical transport of people during and after such emergencies including the use of paratransit and (2) cities, counties, and transit agencies have developed ways to communicate the plan to the public.	Heat							X			
a-17	Effectively utilize the Regional Transportation Management Center (TMC) in Oakland, 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. RESPONSIBLE AGENCY: MTC only.	EQ LS WF FL SEC								X		

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a-18	Develop (with the participation of paratransit providers, emergency responders, and public health professionals) plans and procedures for parasit system response and recovery from disasters.	EQ LS WF FL Heat SEC								X		
a-19	Coordinate with other critical infrastructure facilities to establish plans for delivery of water and wastewater treatment chemicals.	EQ LS WF FL SEC	X								Operations	We are part of a consortium for delivery of treatment chemicals.
a-20	Establish plans for delivery of fuel to critical infrastructure providers.	EQ LS WF FL SEC		X							Facility Maintenance	part of our Emergency Response Plan
a-21	As an infrastructure operator, designate a back-up Emergency Operations Center with redundant communications systems.	EQ LS WF FL SEC		X							Safety/Risk Management	part of our Emergency Response Plan
a-22	Monitor scientific studies of the Sacramento-San Joaquin Delta and policy decisions related to the long-term disaster resistance of that Delta system to ensure that decisions are made based on comprehensive analysis and in a scientifically-defensible manner. Levee failure due to earthquakes, flooding, and climate change (including sea level rise and more frequent and more severe flooding) are all of concern. The long-term health of the Delta area is critical to the Bay Area's water supply, is essential for the San Francisco Bay and estuary's environmental health, provides recreation opportunities for Bay Area residents, and provides the long-term sustainability of Delta communities. While only part of the Delta is within the nine Bay Area counties covered by this multi-jurisdictional LHMP, the Delta is tied to the infrastructure, water supply, and economy of the Bay Area.	EQ FL		X							Environmental Services	standard procedures
INFR - b - Earthquakes												

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b-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.	EQ							X			
b-2	Establish a higher priority for funding seismic retrofit of existing transportation and infrastructure systems (such as BART) than for expansion of those systems.	EQ							X			
b-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).	EQ	X								Engineering and Field Operations	We will include this criterion in future projects
b-4	Install specially-engineered pipelines in areas subject to faulting, liquefaction, earthquake-induced landsliding, or other earthquake hazard.	EQ		X							Engineering	VSFCD has replaced joined pipe with fused HDPE in may projects. Fused HDPE is very resistant to earthquake impacts
b-5	Replace or retrofit water-retention structures that are determined to be structurally deficient, including levees, dams, reservoirs and tanks.	EQ						X				
b-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).	EQ		X							Facility Maintenance and Field Operations	VSFCD has two large capacity pumps to divert pump stations or failed system within plant; and 2 mobile generators that are trailer mounted.
b-7	Install earthquake-resistant connections when pipes enter and exit bridges and work with bridge owners to encourage retrofit of these structures.	EQ		X							Engineering	standard procedure
b-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.	EQ	X								Engineering	standard procedure
b-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.	EQ	X								Safety and Risk Management and Environmental Services	Explained to all employees at NIMS training which buildings are on piles and likely to survive an earthquake

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b-10	Develop a water-based transportation "system" 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.	EQ						X				

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INFR - c - Wildfire												
c-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.	WF							X			
c-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 (including wildfire threat areas and in wildland-urban-interface areas).	WF							X			
c-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.	WF							X			
c-4	For new development, 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.	WF							X			
c-5	For new development, enforce minimum road width of 20 feet with an additional 10-foot clearance on each shoulder on all driveways and road segments greater than 50 feet in length in wildfire hazard areas.	WF							X			
c-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.	WF							X			
c-7	Ensure adequate fire equipment road or fire road access to developed and open space areas.	WF							X			
c-8	Maintain fire roads and/or public right-of-way roads and keep them passable at all times.	WF							X			
INFR - d - Flooding												
d-1	Conduct a watershed analysis of runoff and drainage systems to predict areas of insufficient capacity in the storm drain and natural creek system.	FL		X							Engineering	2003-4814 & 2002-4729 part of the Storm Water Master Plan
d-2	Develop procedures for performing a watershed analysis to examine the impact of development on flooding potential downstream, including communities outside of the jurisdiction of proposed projects.	FL		X							Engineering	2003-4814 & 2002-4729 part of the Storm Water Master Plan

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d-3	Conduct a watershed analysis at least once every ten years unless there is a <u>major</u> development in the watershed or a <u>major</u> change in the Land Use Element of the General Plan of the cities or counties within the watershed.	FL		X							Engineering	2003-4814 & 2002-4729 part of the Storm Water Master Plan
d-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).	FL	X								Engineering and Environmental Services	On-going efforts with respect to the White Slough project, which is partially completed.
d-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.	FL		X							Engineering	Current projects identified in the Master Plan amount to \$25-30 million.
d-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. (This strategy has the secondary benefit of addressing fuel, chemical, and cleaning product issues.)	FL		X							Engineering and Field Operations	standard procedures
d-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.	FL		X							Field Operations	standard procedures
d-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.	FL		X							Environmental Services	standard procedures
d-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, or whatever regulatory agencies allow (3) stream bed depth management using dredging, and (4) removal of out-of-date coffer dams in rivers and tributary streams.	FL		X							Engineering	standard procedures

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d-10	Use reservoir sediment or reed removal as one way to increase storage for both flood control and water supply.	FL	X								Field Operations	standard procedures
d-11	Identify critical locally-owned bridges affected by flooding and either elevate them to increase stream flow and maintain critical ingress and egress routes or modify the channel to achieve equivalent objectives.	FL	X								Engineering	standard procedures
d-12	Provide or support the 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.	FL	X								Environmental Services	standard procedures
d-13	Ensure that utility systems in new developments are constructed in ways that reduce or eliminate flood damage.	FL	X								Engineering	YES
d-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 increase plant security.	FL	X								Engineering	This issue has been considered with past improvements. District is thinking about doing a plant-wide analysis of the impact of sea level rise.
d-15	Work cooperatively with water agencies, flood control districts, Caltrans, and local transportation agencies to determine appropriate performance criteria for watershed analysis.	FL	X								Engineering and Environmental Services	standard procedures
d-16	Work for better cooperation among the patchwork of agencies managing flood control issues.	FL	X	X							Environmental Services and Field Operations	meet regularly with other agencies to build relationships
d-17	Improve monitoring of creek and watercourse flows to predict potential for flooding downstream by working cooperatively with land owners and the cities and counties in the watershed.	FL	X								Environmental Services	standard procedures
d-18	Using criteria developed by EPA for asset management, inventory existing assets, the condition of those assets, and improvements needed to protect and maintain those assets. Capture this information in a Geographic Information System (GIS) and use it to select locations for creek monitoring gauges.	FL							X			

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INFR - e - Landslides												
e-1	Include "areas subject to ground failure" in the list of criteria used for determining a replacement schedule (along with importance, age, type of construction material, size, condition, and maintenance or repair history) for pipelines.	LS	X								Engineering	City function
e-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.	LS						X				
INFR - f - Building Reoccupancy												
f-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 engineers 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. Note - A qualified (deleted structural) engineer is a California licensed engineer with relevant experience.	EQ LS WF FL SEC								X		
INFR - g - Public Education												
g-1	Provide materials to the public related to planning for power outages.	EQ LS WF FL SEC	X								Environmental Services	placed in newsletters and on internet
g-2	Provide materials to the public related to family and personal planning for delays due to traffic or road closures, or due to transit system disruption caused by disasters.	EQ LS WF FL SEC						X				

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g-3	Provide materials to the public related to coping with reductions in water supply or contamination of that supply BEYOND regulatory notification requirements.	EQ LS WF FL DR SEC	X										Environmental Services	placed in newsletters and on internet
g-4	Provide materials to the public related to coping with disrupted storm drains, sewage lines, and wastewater treatment (such as that developed by ABAG's Sewer Smart Program).	EQ LS WF FL DR SEC	X										Environmental Services	placed in newsletters and on internet
g-5	Facilitate and/or coordinate the distribution of emergency preparedness or mitigation materials that are prepared by others, such as by making the use of the internet or other electronic means, or placing materials on community access channels or in city or utility newsletters, as appropriate.	EQ LS WF FL DR SEC	X										Environmental Services and Safety/Risk Management	placed in newsletters and on internet and give presentations to service organizations in our area.
g-6	Sponsor the formation and training of Community Emergency Response Teams (CERT) for the employees of your agency. [Note – these programs go by a variety of names in various cities and areas.]	EQ LS WF FL DR SEC	X										Safety/Risk Management	placed in newsletters and on internet and give presentations to service organizations in our area.
g-7	Develop and distribute culturally appropriate materials related to disaster mitigation and preparedness, such as those on the http://www.preparenow.org website related to infrastructure issues.	EQ LS WF FL DR SEC	X										Environmental Services and Safety/Risk Management	placed in newsletters and on internet and give presentations to service organizations in our area.

Health Mitigation Strategies

X	Local VSFCDC Strategies	Priority (CHECK ONLY ONE)											
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HEAL - a - Hospitals and Other Critical Health Care Facilities (including those facilities licensed by OSHPD, as well as water agencies, public & private hospitals as noted).													
To be filled out by cities, counties, and county health departments.													
a-1	Work to ensure that cities, counties, county health departments, and hospital operators coordinate with each other (and that hospitals cooperate with the California Office of Statewide Health Planning and Development - OSHPD) to comply with current state law that mandates that critical facilities are structurally sound and have nonstructural systems designed to remain functional following disasters by 2013. In particular, this coordination should include understanding any problems with obtaining needed funding. RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals	EQ LS WF FL SEC							X				
a-2	Encourage hospitals in your community to work with 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. RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals	EQ LS WF FL SEC							X				
a-3	Ensure health care facilities are adequately prepared to care for victims with respiratory problems related to smoke and/or particulate matter inhalation. RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals	EQ WF SEC							X				
a-4	Ensure these health care facilities have the capacity to shut off outside air and be self-contained. RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals	EQ WF SEC							X				

Health Mitigation Strategies

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a-5	Ensure that hospitals and other major health care facilities have auxiliary water and power sources. RESPONSIBLE AGENCIES: Cities, counties, county health departments, water suppliers, and hospitals	EQ LS WF FL SEC							X			
a-6	Work to ensure that county health departments work with health care facilities to institute isolation capacity should a need for them arise following a communicable disease epidemic. Isolation capacity varies from a section of the hospital for most communicable diseases to the entire hospital for a major pandemic flu. RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals	EQ WF FL SEC							X			
a-7	Develop printed materials, utilize existing materials (such as developed by FEMA, the American Red Cross, and others, including non-profit organizations), 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. RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals	EQ LS WF FL SEC							X			
HEAL - b - Ancillary Health-Related Facilities (including medical offices, pharmacies, free-standing or specialty clinics, etc.)												
b-1	Identify these ancillary facilities in your community. These facilities are not regulated by OSHPD in the same way as hospitals. RESPONSIBLE AGENCIES: Cities, counties, and county health departments	EQ LS WF FL SEC							X			
b-2	Encourage these facility operators to develop disaster mitigation plans. RESPONSIBLE AGENCIES: Cities, counties, and county health departments	EQ LS WF FL SEC							X			
b-3	Encourage these facility operators to create, maintain, and/or continue partnerships with local governments to develop response and business continuity plans for recovery. RESPONSIBLE AGENCIES: Cities, counties, and county health departments	EQ LS WF FL SEC							X			
HEAL Coordination Initiatives												
c-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. RESPONSIBLE AGENCIES: County Health Departments	FLU SEC							X			

Health Mitigation Strategies

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c-2	Ensure that you know the Metropolitan Medical Response System (MMRS) cities in your area. Fremont, Oakland, San Francisco, and San Jose (plus Sacramento and Stockton) are the MMRS cities in or near the Bay Area. MMRS cities are provided with additional federal funds for organizing, equipping, and training groups of local fire, rescue, medical, and other emergency management personnel to respond to a mass casualty event. (The coordination among public health, medical, emergency management, coroner, EMS, fire, and law enforcement is a model for all cities and counties.) RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals	EQ LS WF FL SEC							X			
c-3	Know that 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. Teams in or near the Bay Area are headquartered in the cities of Santa Clara and Sacramento. RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals	EQ LS WF FL SEC							X			
c-4	Plan for hazmat related-issues due to a natural or technological disaster. Hazmat teams should utilize the State of California Department of Health Services laboratory in Richmond for confirmation of biological agents and Lawrence Livermore National Laboratory or Sandia (both in Livermore) for confirmation of radiological agents. RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals.	EQ WF FL SEC							X			
c-5	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 (at the source, in processing facilities, in distribution centers, and in grocery stores). RESPONSIBLE AGENCIES: County environmental health departments	FL SEC							X			

Health Mitigation Strategies

2009-2010 Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Existing Program underfunded, 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), WHY if not same as regional priority, OR Other Comments
c-6	Ensure mental health continuity of operations and disaster planning is coordinated among county departments, (including Public Health and Emergency Services), private sector mental health organizations, professional associations, and national and community-based non-profit agencies involved in supporting community mental health programs. First, such planning should ensure that the capability exists to provide both immediate on-site mental health support at facilities such as evacuation centers, emergency shelters, and local assistance centers, as well as to coordinate on-going mental health support during the long-term recovery process. Second, this planning should ensure that mental health providers, in collaboration with the county agencies responsible for providing public information, are prepared to provide consistent post-disaster stress and other mental health guidance to the public impacted by the disaster.	EQ LS WF FL SEC							X			

Housing Mitigation Strategies

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HSNG - b - Single-Family Homes Vulnerable to Earthquakes												
b-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 Plan Set A 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.	EQ							X			
b-2	Require engineered plan sets for seismic retrofitting of heavy two-story homes with living areas over garages, as well as for split level homes (that is, homes not covered by Plan Set A), until standard plan sets and construction details become available.	EQ							X			
b-3	Require engineered plan sets for seismic retrofitting of homes on steep hillsides (because these homes are not covered by Plan Set A).	EQ							X			
b-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, including application of Plan Set A.	EQ							X			
b-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 or additional classes that might be offered by the CALBO Training Institute) on retrofitting of single-family homes.	EQ							X			
b-6	Conduct demonstration projects on common existing housing types demonstrating structural and nonstructural mitigation techniques as community models for earthquake mitigation.	EQ							X			
b-7	Provide retrofit classes or workshops for homeowners in your community, or help promote utilization of subregional workshops in the South Bay, East Bay, Peninsula, and North Bay as such workshops become available through outreach using existing community education programs.	EQ							X			
b-8	Establish tool-lending libraries with common tools needed for retrofitting for use by homeowners with appropriate training.	EQ							X			

Housing Mitigation Strategies

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b-9	(reworded) Provide financial incentives to owners of single-family homes to retrofit if those retrofits comply with Plan Set A or IEBC 2006 in addition to that provided by existing state law State law that makes such retrofits exempt from increases in property taxes.	EQ							X			
HSNG - c - Soft-Story Multifamily Residential Structures Vulnerable to Earthquakes												
c-1	Require engineered plan sets for voluntary or mandatory soft-story seismic retrofits by private owners until a standard plan set and construction details become available.	EQ							X			
c-2	Adopt the 2009 (changed date) International Existing Building Code or the latest applicable standard for the design of voluntary or mandatory soft-story building retrofits for use in city/county building department regulations. In addition, allow use of changes to that standard recommended by SEAOC for the 2012 IEBC.	EQ	X								Engineering	City responsibility
c-3	Work to educate building owners, local government staff, engineers, and contractors on privately-owned soft-story retrofit procedures and incentives using materials such as those developed by ABAG and the City of San Jose (see http://quake.abag.ca.gov/eqhouse.html .)	EQ							X			
c-4	Conduct an inventory of privately-owned existing or suspected soft-story residential structures as a first step in establishing voluntary or mandatory programs for retrofitting these buildings.	EQ							X			
c-5	Use the soft-story inventory to require private owners to inform all existing tenants (and prospective tenants prior to signing a lease agreement) that they may live in this type of building.	EQ							X			
c-6	Use the soft-story inventory to require private owners to inform all existing and prospective tenants that they may need to be prepared to live elsewhere following an earthquake if the building has not been retrofitted.	EQ							X			
c-7	Investigate and adopt appropriate financial, procedural, and land use incentives (such as parking waivers) for private owners of soft-story buildings to facilitate retrofit such as those described by ABAG (see http://quake.abag.ca.gov/fixit) .	EQ							X			
c-8	(reworded) Explore development of State regulations or legislation to require or encourage private owners of soft-story structures to strengthen them.	EQ							X			

Housing Mitigation Strategies

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c-9	Provide technical assistance in seismically strengthening privately-owned soft-story structures.	EQ						X				
HSNG - d - Unreinforced Masonry Housing Stock												
d-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 private property owners that they own this type of hazardous structure.	EQ							X			
d-2	Accelerate retrofitting of privately-owned 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.	EQ							X			
d-3	Require private owners to inform all existing tenants (and prospective tenants prior to signing a lease agreement) that they live in an unreinforced masonry building and the standard to which it may have been retrofitted.	EQ							X			
d-4	As required by State law, require private owners to inform all existing tenants that they may need to be prepared to live elsewhere following an earthquake even if the building has been retrofitted, because it has probably been retrofitted to a life-safety standard, not to a standard that will allow occupancy following major earthquakes.	EQ							X			

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HSNG - e - Other Privately-Owned Structurally Vulnerable Residential Buildings and Earthquakes												
e-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, 25% owner).	EQ						X				
e-2	Inventory non-ductile concrete, tilt-up concrete (such as converted lofts), and other privately-owned potentially structurally vulnerable residential buildings.	EQ						X				
e-3	Adopt the 2009 International Existing Building Code or the latest applicable standard for the design of voluntary or mandatory retrofit of privately-owned seismically vulnerable buildings.	EQ						X				
e-4	Adopt one or more of the following strategies as incentives to encourage retrofit of privately-owned seismically vulnerable residential buildings: (a) waivers or reductions of permit fees, (b) below-market loans, (c) local tax breaks, (d) grants to cover the cost of retrofit or of a structural analysis, (e) land use (such as parking requirement waivers) and procedural incentives, or (f) technical assistance.	EQ						X				
HSNG - f - New Construction and Earthquakes												
f-1	Continue to require that all new housing be constructed in compliance with (deleted "structural") requirements of the most recently adopted version of the <i>California Building Code</i> .	EQ	X								Engineering	City responsibility
f-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.	EQ	X								Engineering	City responsibility
HSNG - g - Wildfire and Structural Fires												
g-1	Increase efforts to reduce hazards in existing private development in 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.	WF						X				
g-2	Tie public education on defensible space and a comprehensive defensible space ordinance to a field program of enforcement.	WF						X				

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g-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. Note - See Structural Fire Prevention Field Guide for Mitigation of Wildfires at http://osfm.fire.ca.gov/structural.html .	WF							X			
g-4	Create or identify "model" properties showing defensible space and structural survivability in neighborhoods that are wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat.	WF							X			
g-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.	WF							X			
g-6	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 of private buildings.	WF							X			
g-7	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 on existing residential buildings by making installation a condition of (a) finalizing a permit for any work valued at over a fixed amount and/or (b) on any building over 75 feet in height, and/or (b) as a condition for the transfer of property.	WF							X			
g-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.	WF							X			

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g-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.	WF							X			
g-10	Establish special funding mechanisms (such as Fire Hazard Abatement Districts or regional bond funding) 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.	WF							X			
g-11	Work with residents in rural-residential areas to ensure adequate plans are developed for appropriate access and evacuation in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat. For example, in some areas, additional roads can be created, and in other areas, the communities will need to focus on early warning and evacuation because additional roads are not feasible.	WF							X			
g-12	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.	WF							X			
g-13	Require fire sprinklers in all new or substantially remodeled multifamily housing, regardless of distance from a fire station.	WF							X			
g-14	Require sprinklers in all mixed use development to protect residential uses from fires started in non-residential areas.	WF							X			
g-15	Compile a list of privately-owned 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.	WF							X			
g-16	Conduct periodic fire-safety inspections of all multifamily buildings, as required by State law.	WF							X			

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g-17	Ensure that city/county-initiated fire-preventive vegetation-management techniques and practices for creek sides and high-slope areas do not contribute to the landslide and erosion hazard. For example, vegetation in these sensitive areas could be thinned, rather than removed, or replanted with less flammable materials. When thinning, the non-native species should be removed first. Other options would be to use structural mitigation, rather than vegetation management in the most sensitive areas.	WF LS							X			
g-18	Create a mechanism to require the bracing of water heaters and flexible couplings on gas appliances, and/or (as specified under "b. 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.	EQ WF							X			
g-19	Work with the State Fire Marshall, the California Seismic Safety Commission, Pacific Earthquake Engineering Research Center (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. Note - See http://www.seismic.ca.gov/pub/CSSC_2002-03_Natural%20Gas%20Safety.pdf . Also note - any valves that are installed may need to have both excess flow and seismic triggers ("hybrid" valves).	EQ WF							X			
g-20	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 on private property.	WF							X			
HSNG - h - Flooding												
h-1	To reduce flood risk, thereby reducing the cost of flood insurance to private property owners, work to qualify for the highest-feasible rating under the Community Rating System of the National Flood Insurance Program.	FL							X		Engineering	We assist, but this is a City function
h-2	Balance the housing needs of residents against the risk from potential flood-related hazards.	FL	X								Engineering	VSFCD reviews plans for adequacy

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h-3	Ensure that new private development pays its fair share of improvements to the storm drainage system necessary to accommodate increased flows from the development, or does not increase runoff by draining water to pervious areas or detention facilities.	FL	X										Engineering	Developers does "hydromodification" on site, makes necessary downstream improvements, AND buys into the existing system via the connection fee
h-4	Provide sandbags and plastic sheeting to residents in anticipation of rainstorms, and deliver those materials to vulnerable populations upon request.	FL	X										Field Operations	VSFCD provides sand and bags free to the public
h-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.	FL	X										Environmental Services	Via website, newsletter, radio & TV news
h-6	Apply floodplain management regulations for private development in the floodplain and floodway.	FL	X										Engineering	City responsibility
h-7	Ensure that new subdivisions are designed to reduce or eliminate flood damage by requiring lots and rights-of-way be laid out for the provision of approved sewer and drainage facilities, providing on-site detention facilities whenever practicable.	FL	X										Engineering	Yes!!!
h-8	Encourage home and apartment owners to participate in home elevation programs within flood hazard areas.	FL	X										Environmental Services	Via website, and newsletter
h-9	As funding opportunities become available, encourage home and apartment owners to participate in acquisition and relocation programs for areas within floodways.	FL						X					Environmental Services	
h-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.	FL	X										Environmental Services	Via website, and newsletter

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HSNG - i - Landslides and Erosion												
i-1	Increase efforts to reduce landslides and erosion in existing and future development by improving appropriate code enforcement and use of applicable standards for private property, 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.	LS						X			City of Vallejo is responsible for evaluation for landslides and erosion	
i-2	Increase efforts to reduce landslides and erosion in existing and future private development through continuing education of design professionals on mitigation strategies.	LS						X			City of Vallejo is responsible for evaluation for landslides and erosion	

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HSNG - j - Building Reoccupancy												
j-1	Develop and enforce a repair and reconstruction ordinance to ensure that damaged buildings are repaired in an appropriate and timely manner and retrofitted concurrently. This repair and reconstruction ordinance should apply to all public and private buildings, and also apply to repair of all damage, regardless of cause. See http://quake.abag.ca.gov/recovery/info-repair-ord.html .	EQ WF FL SEC							X			
j-2	Establish preservation-sensitive measures for the repair and reoccupancy of historically significant privately-owned 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.	EQ WF FL SEC							X			
HSNG - k - Public Education												
k-1	Provide information to residents of your community on the availability of interactive hazard maps showing your community on ABAG's web site.	EQ WF FL SEC	X								Environmental Services	Through Newsletter and website
k-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.	EQ WF FL SEC		X							Environmental Services and Safety/Risk Management	Through Newsletter and website and speaking at various auxiliary clubs.
k-3	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.	EQ WF FL SEC		X							Environmental Services	Through Newsletter and website
k-4	Develop a public education campaign on the cost, risk, and benefits of earthquake, flood, and other hazard insurance as compared to mitigation.	EQ WF FL SEC								X		

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k-5	Use disaster anniversaries, such as April (the 1906 earthquake), September (9/11), and October (Loma Prieta earthquake and Oakland Hills fire), to remind the public of safety and security mitigation activities.	EQ LS WF FL SEC	X											Environmental Services	Through Newsletter and website
k-6	Sponsor the formation and training of Community Emergency Response Teams (CERT) for residents in your community. [Note – these programs go by a variety of names in various cities and areas.]	EQ LS WF FL SEC										X			
k-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.	FL										X			
k-8	Institute the neighborhood watch block captain and team programs outlined in the Citizen Corps program guide.	EQ LS WF FL SEC										X			
k-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.	WF										X			
k-10	Train homeowners to locate and shut off gas valves if they smell or hear gas leaking.	EQ LS WF FL SEC	X											Environmental Services	Through Newsletter and website
k-11	Develop a program to provide at-cost NOAA weather radios to residents of flood hazard areas that request them, with priority to neighborhood watch captains and others trained in their use.	FL	X											Environmental Services	VSFCD has a flood alert hotline and automated system to notify those in low areas of flooding potential.
k-12	Make use of the materials on the ABAG web site at http://quake.abag.ca.gov/fixit 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.)	EQ	X											Environmental Services	Through Newsletter and website
k-13	Develop a "Maintain-a-Drain" campaign, similar to that of the City of Oakland, encouraging private businesses and residents to keep storm drains in their neighborhood free of debris.	FL							X					Environmental Services	Through Newsletter and website

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k-14	Encourage the formation of a community- and neighborhood-based approach to wildfire education and action through local Fire Safe Councils and the <i>Fire Wise Program</i> . This effort is important because grant funds are currently available to offset costs of specific council-supported projects.	WF							X			
k-15	Inform shoreline-property owners of the possible long-term economic threat posed by rising sea levels.	FL						X			Environmental Services	Through Newsletter and website
k-16	Distribute appropriate materials related to disaster mitigation and preparedness to residents. Appropriate materials are (1) culturally appropriate and (2) suitable for special needs populations. For example, such materials are available on the http://www.preparenow.org website and from non-governmental organizations that work with these communities on an on-going basis.	EQ LS WF FL SEC	X								Environmental Services	Through Newsletter and website

Economy Mitigation Strategies

X	Local VSFCDC Strategies	Priority (CHECK ONLY ONE)													
2009-2010 Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, underfunded	Very High - Unofficial Program-Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Existing Program under funded, 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), WHY if not same as regional priority, OR Other Comments			
ECON - a - Multi-Hazard															
a-1	Assist in ensuring adequate hazard disclosure by working with real estate agents to improve enforcement of real estate disclosure requirements for commercial and industrial properties with regard to seven official natural hazard zones: 1) Special Flood Hazard Areas (designated by FEMA), 2) Areas of Potential Flooding from dam failure inundation, 3) Very High Fire Hazard Severity Zones, 4) Wildland Fire Zones, 5) Earthquake Fault Zones (designated under the Alquist-Priolo Earthquake Fault Zoning Act), and the 6) Liquefaction and Landslide Hazard Zones (designated under the Seismic Hazard Mapping Act).	EQ LS WF FL SEC	X								Environmental Services	Through the newsletter and website			
a-2	Create incentives for private owners of historic or architecturally significant commercial and industrial 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> .	EQ LS WF FL SEC		X						X					
ECON - b - Soft-Story Commercial Buildings Vulnerable to Earthquakes															
b-1	Require engineered plan sets for voluntary or mandatory soft-story seismic retrofits by private owners until a standard plan set and construction details become available.	EQ	X							X					
b-2	Adopt the 2009 (changed date) International Existing Building Code or the latest applicable standard for the design of voluntary or mandatory soft-story building retrofits for use in city/county building department regulations. In addition, allow use of changes to that standard recommended by SEAOC for the 2012 IEBC.	EQ	X								Engineering	Vallejo's adopted code for our own buildings, but do not enforce it for other buildings via the development review process			
b-3	Work to educate building owners, local government staff, engineers, and contractors on privately-owned soft-story retrofit procedures and incentives using materials such as those developed by ABAG and the City of San Jose (see http://quake.abag.ca.gov/eqhouse.html .)	EQ					X			X					
b-4	Conduct an inventory of privately-owned existing or suspected soft-story commercial or industrial structures as a first step in establishing voluntary or mandatory programs for retrofitting these buildings.	EQ				X				X					

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b-5	Use the soft-story inventory to require private owners to inform all existing tenants (and prospective tenants prior to signing a lease agreement) that they may work in this type of building.	EQ													
b-6	Use the soft-story inventory to require private owners to inform all existing and prospective tenants that they may need to be prepared to work elsewhere following an earthquake if the building has not been retrofitted.	EQ									X				
b-7	Investigate and adopt appropriate financial, procedural, and land use incentives (such as parking waivers) for private owners of soft-story buildings to facilitate retrofit such as those described by ABAG (see http://quake.abag.ca.gov/fixit).	EQ									X				
b-8	(reworded) Explore development of State regulations or legislation to require or encourage private owners of soft-story structures to strengthen them.	EQ									X				
b-9	Provide technical assistance in seismically strengthening privately-owned soft-story structures.	EQ									X				

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ECON - c - Unreinforced Masonry Buildings in Older Downtown Areas												
c-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 private property owners that they own this type of hazardous structure.	EQ							X			
c-2	Accelerate retrofitting of privately-owned 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 (rather than voluntary) retrofit program, and/or (d) applying penalties to owners who show inadequate efforts to upgrade these buildings.	EQ							X			
c-3	Require private owners to inform all existing tenants (and prospective tenants prior to signing a lease agreement) that they work in an unreinforced masonry building and the standard to which it may have been retrofitted.	EQ							X			
c-4	As required by State law, require private owners to inform all existing tenants that they may need to be prepared to work elsewhere following an earthquake even if the building has been retrofitted, because it has probably been retrofitted to a life-safety standard, not to a standard that will allow occupancy following major earthquakes.	EQ							X			
ECON - d - Privately-Owned Structurally Vulnerable Buildings												
d-1	Inventory non-ductile concrete, tilt-up concrete, and other privately-owned structurally vulnerable buildings.	EQ							X			
d-2	Adopt the 2009 International Existing Building Code or the latest applicable standard for the design of voluntary or mandatory retrofit of privately-owned seismically vulnerable buildings.	EQ							X			
d-3	Adopt one or more of the following strategies as incentives to encourage retrofitting of privately-owned seismically vulnerable 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 (such as parking requirement waivers) and procedural incentives, or (f) technical assistance.	EQ							X			
ECON - e - Wildfire and Structural Fires												

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e-1	Increase efforts to reduce hazards in existing private development in 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.	WF																				
e-2	Tie public education on defensible space and a comprehensive defensible space ordinance to a field program of enforcement.	WF																				
e-3	Require that new privately-owned 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.	WF																				
e-4	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 of private buildings.	WF																				
e-5	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 on existing privately-owned buildings by making installation a condition of (a) finalizing a permit for any work valued at over a fixed amount and/or (b) on any building over 75 feet in height, and/or (b) as a condition for the transfer of property.	WF																				
e-6	(reworded to more closely match the HSN strategy) 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.	WF																				
e-7	Establish special funding mechanisms (such as Fire Hazard Abatement Districts or regional bond funding) 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.	WF																				

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f-3	Ensure that new private development pays its fair share of improvements to the storm drainage system necessary to accommodate increased flows from the development, or does not increase runoff by draining water to pervious areas or detention facilities.	FL	X								Engineering	VSFCD generally requires both. Developers contribute to downstream improvements if they do not control the runoff increase on site. They ALSO pay Connection fees to offset District costs for system improvements and buy-in to existing improvements.
f-4	Provide sandbags and plastic sheeting to private businesses in anticipation of rainstorms, and deliver those materials to vulnerable populations upon request.	FL	X								Field Operations	VSFCD provides sandbags and sand free to the public and coordinates delivery to elderly and disabled through VPD
f-5	Provide information to private business on locations for obtaining sandbags and deliver those sandbags to those various locations throughout a city and/or county.	FL	X								Environmental Services	Via Newsletter, website, radio and TV
f-6	Apply floodplain management regulations for private development in the floodplain and floodway.	FL	X								Engineering	City of Vallejo Responsible
f-7	Encourage private business owners to participate in building elevation programs within flood hazard areas.	FL	X								Engineering	City of Vallejo Responsible
f-8	As funding becomes available, encourage private business owners to participate in acquisition and relocation programs for areas within floodways.	FL					X					
f-9	Require an annual inspection of approved flood-proofed privately-owned buildings to ensure that (a) all flood-proofing components will operate properly under flood conditions and (b) all responsible personnel are aware of their duties and responsibilities as described in their building's <i>Flood Emergency Operation Plan</i> and <i>Inspection & Maintenance Plan</i> .	FL								X		

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ECON - g - Landslides and Erosion												
g-1	Increase efforts to reduce landslides and erosion in existing and future development by improving appropriate code enforcement and use of applicable standards for private property, such as those appearing in the <i>California Building Code</i> , California Geological Survey <i>Special Report 117 – Guidelines for Evaluating and Mitigating Seismic Hazards in California</i> , American Society of Civil Engineers (ASCE) report <i>Recommended Procedures for Implementation of DMG Special Publication 117: Guidelines for Analyzing and Mitigating Landslide Hazards in California</i> , and the California Board for Geologists and Geophysicists <i>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.	LS	X								Engineering	City of Vallejo Responsible
g-2	Increase efforts to reduce landslides and erosion in existing and future private development through continuing education of design professionals on mitigation strategies.	LS		X							Engineering	City of Vallejo Responsible
ECON - h - New Construction and Earthquakes												
h-1	Continue to require that all new privately-owned commercial and industrial buildings be constructed in compliance with (deleted "structural") requirements of the most recently adopted version of the <i>California Building Code</i> .	EQ	X								Engineering	City of Vallejo Responsible
h-2	Conduct appropriate employee training and support continued education to ensure enforcement of construction standards for private development.	EQ						X				
h-3	Work with private building owners to help them 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.	EQ SEC							X			

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ECON - i - Building Reoccupancy												
i-1	Institute a program to encourage owners of private buildings to participate in a 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.	EQ LS WF FL SEC							X			
i-2	Actively notify private 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.	EQ LS WF FL SEC							X			
i-3	Actively notify owners of <i>educational facility</i> 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.	EQ LS WF FL SEC							X			
i-4	Allow private building owners to participate in a BORP-type program as described above, but not actively encourage them to do so.	EQ LS WF FL							X			
i-5	Develop and enforce a repair and reconstruction ordinance to ensure that damaged buildings are repaired in an appropriate and timely manner and retrofitted concurrently. This repair and reconstruction ordinance should apply to all public and	EQ LS WF FL							X			
i-6	Establish preservation-sensitive measures for the repair and reoccupancy of historically significant privately-owned 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.	EQ LS WF FL SEC							X			
ECON - j - Public Education												

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j-1	Provide information to private business owners and their employees on the availability of interactive hazard maps on ABAG's web site.	EQ LS WF FL SEC	X										Environmental Services	Via Newsletter and website
j-2	Develop printed materials, utilize existing materials (such as developed by FEMA and the American Red Cross), conduct workshops, and/or provide outreach encouraging private 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.	EQ LS WF FL SEC		X									Environmental Services	Speakers Bureau speakers address Disaster Preparedness
j-3	Develop and print materials, conduct workshops, and provide outreach to Bay Area private businesses focusing on business continuity planning.	EQ LS WF FL SEC										X		
j-4	Inform Bay Area private 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.	WF FL										X		
j-5	Sponsor the formation and training of Community Emergency Response Teams (CERT) training for other than your own employees through partnerships with local private businesses. [Note – these programs go by a variety of names in various cities and areas.]	EQ LS WF FL SEC										X		
j-6	Assist private 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.	WF										X		
j-7	Make use of the materials developed by others (such as found on ABAG's web site at http://quake.abag.ca.gov/business) to increase mitigation activities related to earthquakes by groups other than your own agency. ABAG plans to continue to improve the quality of those materials over time.	EQ												X

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j-8	Develop a "Maintain-a-Drain" campaign, similar to that of the City of Oakland, encouraging private businesses and residents to keep storm drains in their neighborhood free of debris.	FL	X											Environmental Services	Print articles in newsletter and city of V
j-9	Encourage the formation of a community- and neighborhood-based approach to wildfire education and action through local Fire Safe Councils and the <i>Fire Wise Program</i> . This effort is important because grant funds are currently available to offset costs of specific council-supported projects.	WF									X				
j-10	Encourage private 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.	SEC EQ									X				
j-11	Encourage joint meetings of security and operations personnel at major private employers to develop innovative ways for these personnel to work together to increase safety and security.	SEC EQ									X				
j-12	Inform private shoreline-property owners of the possible long-term economic threat posed by rising sea levels.	FL							X				Environmental Services	Through Newsletter and website	
j-13	Distribute appropriate materials related to disaster mitigation and preparedness to private business owners. Appropriate materials are (1) culturally appropriate and (2) suitable for special needs populations. For example, such materials are available on the http://www.preparenow.org website and from non-governmental organizations that work with these communities on an on-going basis.	EQ LS WF FL SEC									X				

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allejo news. Coordinate with city to have streets swept monthly.					

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GOVT - a - Focus on Critical Facilities (...Owned by the Local Government Filling Out This Form)													
a-1	Assess the vulnerability of critical facilities (such as city halls, fire stations, operations and communications headquarters, community service centers, seaports, and airports) to damage in natural disasters and make recommendations for appropriate mitigation.	EQ LS WF FL	X								Operations	standard procedures	
a-2	Retrofit or replace critical facilities that are shown to be vulnerable to damage in natural disasters.	EQ LS WF FL SEC	X								Operations	\$100-500 million would be required for retrofit and/or replacement of critical pump stations, sewer lines, and flood control facilities.	
a-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.	EQ	X								Safety/Risk Management	part of the Emergency Preparedness Plan	
a-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. Such contents and equipment includes computers and servers, phones, files, and other tools used by staff to conduct daily business.	EQ LS WF FL SEC	X								Operations	part of the Emergency Preparedness Plan	
a-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.	EQ LS WF FL SEC	X								All	VSFCDC participates in various committees with local agencies	
a-6	When Installing micro and/or surveillance cameras around critical public assets tied to web-based software, and develop a surveillance protocol to monitor these cameras, investigate the possibility of using the cameras for the secondary purpose of post-disaster damage assessment.	EQ LS WF FL SEC				X					Operations	part of the Emergency Preparedness Plan	
a-7	Identify and undertake cost-effective retrofit measures related to security on critical facilities (such as moving and redesigning air intake vents and installing blast-resistant features) when these buildings undergo major renovations related to other natural hazards.	EQ LS WF FL SEC							X				

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a-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.	EQ LS FL SEC									X		
a-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.	EQ LS WF FL SEC											Engineering still looking at critical facilities - pump stations are next - non-critical facilities have been thought about, but not in a systematic way
a-10	Ensure that new government-owned facilities comply with and are subject to the same or more stringent regulations as imposed on privately-owned development.	EQ LS WF FL SEC											Engineering standard procedures
a-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.	EQ LS WF FL SEC											Engineering City responsibility
a-12	Prior to acquisition of property to be used as a critical facility, conduct a study to ensure the absence of significant structural hazards and hazards associated with the building site.	EQ LS WF FL SEC											Engineering Yes!!!! Always!!!
a-13	Ensure that any regulations imposed on private-owned businesses related to repair and reconstruction (see "Economy Section") are enforced and imposed on local government's own buildings and structures.	EQ LS WF FL SEC											Engineering We do not enforce any repair and reconstruction regulations, we treat everything as "development". However, we NEVER treat government different from private.
GOVT - b - Maintain and Enhance Local Government's Emergency Recovery Planning													
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.	EQ LS WF FL SEC											Safety/Risk Management part of the Emergency Preparedness Plan

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b-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 (such as with continuity of operations plans).	EQ LS WF FL SEC		X											Operations and Field Operations	Part of the department Standard Operating Procedures
b-3	Establish a goal for the resumption of local government services that may vary from function to function.	EQ LS WF FL SEC	X												Operations and Field Operations	Part of the department Standard Operating Procedures
b-4	Develop a continuity of operations plan that includes back-up storage of vital records, such as plans and back-up procedures to pay employees and vendors if normal finance department operations are disrupted, as well as other essential electronic files.	EQ LS WF FL SEC		X										Operations		documents are scanned and converted to electronic media. Backups are on-site and stored off site.
b-5	Plan for the emergency relocation of government-owned facilities critical to recovery, as well as any facilities with known structural deficiencies or in hazardous areas.	EQ LS WF FL SEC		X										Operations		part of the Emergency Preparedness Plan
GOVT - c - Maintain and Enhance Local Government's Emergency Response Capacity																
c-1	Develop a plan for short-term and intermediate-term sheltering of your employees.	EQ LS WF FL SEC	X												Safety/Risk Management	part of Emergency Preparedness Plan
c-2	Encourage your employees to have a family disaster plan.	EQ LS WF FL SEC	X												Safety/Risk Management	part of Emergency Preparedness Plan and FEMA Training
c-3	Offer CERT/NERT-type training to your employees.	EQ LS WF FL SEC		X											Safety/Risk Management	Desiminate opportunities to staff to participate
c-4	Periodically assess the need for new or relocated fire or police stations and other emergency facilities.	EQ LS WF FL SEC														
c-5	Periodically assess the need for changes in staffing levels, as well as for additional or updated supplies, equipment, technologies, and in-service training classes.	EQ LS WF FL SEC	X												Safety/Risk Management	standard procedrues

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c-6	Ensure that fire, police, and other emergency personnel have adequate radios, breathing apparatuses, protective gear, and other equipment to respond to a major disaster.	EQ LS WF FL SEC																
c-7	Participate in developing and maintaining a system of interoperable communications for first responders from cities, counties, special districts, state, and federal agencies.	EQ LS WF FL SEC		X													Safety/Risk Management	Sit on City and County committees
c-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.	EQ LS WF FL SEC		X													Safety/Risk Management	standard procedures
c-9	Purchase command vehicles for use as mobile command/EOC vehicles if current vehicles are unsuitable or inadequate.	EQ LS WF FL SEC		X													Safety/Risk Management	vehicles with communication capabilities are located in each department.
c-10	Maintain the local government's emergency operations center in a fully functional state of readiness.	EQ LS WF FL SEC		X													Safety/Risk Management	standard procedures
c-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.	EQ LS WF FL SEC		X													Safety/Risk Management	standard procedures
c-12	Maintain and update as necessary the local government's Standardized Emergency Management System (SEMS) Plan and the National Incident Management System (NIMS) Plan, and submit an appropriate NIMSCAST report.	EQ LS WF FL SEC		X													Safety/Risk Management	standard procedures
c-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.	EQ LS WF FL SEC		X													Safety/Risk Management	Member of WARN and County Disaster Council.
c-14	Install alert and warning systems for rapid evacuation or shelter-in-place. Such systems include outdoor sirens and/or reverse-911 calling systems.	EQ LS WF FL SEC		X													Safety/Risk Management	part of Emergency Response Plan

Government Mitigation Strategies

2009-2010 Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Mitigation Status										Responsible Agency or Department (Required if Existing Program, Existing Program under funded, 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), WHY if not same as regional priority, OR Other Comments		
			Existing Program	Existing Program, underfunded	Very High - Unofficial Program-Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered						
c-15	Conduct periodic tests of the alerting and warning system. (deleted some wording)	EQ LS WF FL SEC		X											Safety/Risk Management	standard procedures
c-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.	EQ LS WF FL SEC												X		
c-17	Monitor weather during times of high fire risk using, for example, weather stations tied into police and fire dispatch centers.	WF												X		
c-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 prepositioning 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. Response should also be modified based on knowledge of local micro-climates. Local agencies with less risk then may be available for mutual aid.	WF													Safety/Risk Management	Part of Emergency Response Plan.
c-19	Increase local patrolling during periods of high fire weather.	WF												X		
c-20	Create and maintain an automated system of rain and flood gauges that is web enabled and publicly-accessible. Work toward creating a coordinated regional system.	FL LS		X											Operations	standard procedures
c-21	Place remote sensors in strategic locations for early warning of hazmat releases or use of weapons of mass destruction, understanding that the appropriate early warning strategy depends on the type of problem.	EQ LS WF FL SEC		X											Facility Maintenance	LEL sensors are located at various pump stations throughout District.
c-22	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.	EQ LS FL SEC												X		
c-23	Improve coordination among cities, counties, and dam owners so that cities and counties can better plan for evacuation of areas the could be inundated if a dam failed, impacting their jurisdiction.	EQ LS FL SEC												X		
c-24	Develop procedures for the emergency evacuation of areas identified on tsunami evacuation maps as these maps become available.	EQ (TS)												X		

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c-25	Support and encourage planning and identification of facilities for the coordination of distribution of water, food, blankets, and other supplies, coordinating this effort with the American Red Cross.	EQ LS WF FL SEC		X											Safety/Risk Management	standard procedures
GOVT - d - Participate in National, State, Multi-Jurisdictional and Professional Society Efforts to Identify and Mitigate Hazards																
d-1	Promote information sharing among overlapping and neighboring local governments, including cities, counties, and special districts, as well as utilities.	EQ LS WF FL SEC	X												Safety/Risk Management	Sit on County Disaster Council.
d-2	Recognize that emergency services is more than the coordination of police and fire response; it also includes planning activities with providers of water, food, energy, transportation, financial, information, and public health services.	EQ LS WF FL SEC	X												Safety/Risk Management	Sit on County Disaster Council.
d-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 capital improvement programs for most effectively reducing the threat of flooding. Work toward making this process more formal to insure that flooding is considered at existing joint-agency meetings.	FL			X										Field Operations and Engineering	Sit on County Disaster Council.
d-4	As new flood-control projects are completed, request that FEMA revise its flood-insurance rate maps and digital Geographic Information System (GIS) data to reflect flood risks as accurately as possible.	FL	X												Engineering	We work with the developers and help them process a LOMR or CLOMR as appropriate
d-5	Participate in FEMA's National Flood Insurance Program.	FL										X				
d-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. Such participation increases a jurisdiction's competitiveness in obtaining grants.	WF		X									X			
d-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.	EQ LS WF FL SEC	X												Field Operations	standard procedures

Government Mitigation Strategies

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d-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.	EQ LS	X												Safety/Risk Management	
d-9	Conduct and/or promote attendance at local or regional hazard conferences and workshops for elected officials and staff to educate them on the critical need for programs in mitigating earthquake, wildfire, flood, and landslide hazards.	EQ LS WF FL SEC		X											Safety/Risk Management	
d-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.	EQ LS WF FL SEC	X												Engineering	
GOVT - e - Take a Lead in Loss and Risk Assessment Activities																
e-1	Work with the cities, counties, and special districts in the Bay Area to encourage them to adopt a Local Hazard Mitigation Plan and to assist them in integrating it into their overall planning process. RESPONSIBILITY: ABAG only; all others are "not applicable."	EQ LS WF FL DR TS SEC Flu Ag Heat												X		
e-2	Improve the risk assessment and loss estimation work in the <i>Taming Natural Disasters</i> report and multi-jurisdictional plan related to natural disasters. RESPONSIBILITY: ABAG only; all others are "not applicable."	EQ LS WF FL DR TS Flu Ag Heat												X		

Education Mitigation Strategies

X	Local VSFCDC Strategies	Priority (CHECK ONLY ONE)										Responsible Agency or Department (Required if Existing Program, Existing Program under funded, 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), WHY if not same as regional priority, OR Other Comments	
2009-2010 Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, underfunded	Very High - Unofficial Program-Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered				
EDUC - a - Focus on Critical Facilities (...Owned by School Districts)														
a-1	Assess the vulnerability of critical public education facilities to damage in natural disasters and make recommendations for appropriate mitigation.	EQ LS WF FL SEC							X					
a-2	Retrofit or replace critical public education facilities that are shown to be vulnerable to damage in natural disasters.	EQ LS WF FL SEC							X					
a-3	Conduct comprehensive programs to identify and mitigate problems with facility contents, architectural components, and equipment that will prevent critical public education buildings from being functional after major disasters.	EQ LS WF FL SEC							X					
a-4	As a secondary focus, assess the vulnerability of non-critical educational facilities (that is, those that do not house students) 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.	EQ LS WF FL SEC							X					
a-5	Assess the vulnerability of critical private education, pre-school, and day care facilities to damage in natural disasters and make recommendations for appropriate mitigation.	EQ LS WF FL SEC							X					
a-6	(Major Rewording) Work with CalEMA and the Division of the State Architect to ensure that there will be an adequate group of Safety Assessment Program (SAP) inspectors trained and deployed by CalEMA to schools for post-disaster inspection. In addition, if a school district is uncomfortable with delays in inspection due to too few SAP inspectors available in catastrophic disasters, formalized arrangements can also be created with those inspectors certified by the Division of the State Architect as construction inspectors to report to the district, assess damage, and determine if the buildings can be reoccupied.	EQ LS WF FL SEC							X					
EDUC - b - Use of Educational Facilities as Emergency Shelters														
b-1	Work cooperatively with the American Red Cross, cities, counties, and non-profits to set up memoranda of understanding for use of education facilities as emergency shelters following disasters.	EQ LS WF FL SEC							X					

Education Mitigation Strategies

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b-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.	EQ LS WF FL SEC																	
b-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.	EQ LS WF FL SEC																	
EDUC - c - Actions Related to Disaster Preparedness and Recovery Planning																			
c-1	Encourage employees of schools to have family disaster plans and conduct mitigation activities in their own homes.	EQ LS WF FL SEC																	
c-2	Develop plans, in conjunction with fire jurisdictions, 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.	EQ LS WF FL SEC																	
c-3	Offer the 20-hour basic CERT training to teachers and after-school personnel.	EQ LS WF FL SEC																	
c-4	Offer the 20-hour basic Student Emergency Response Training (SERT, rather than 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.	EQ LS WF FL SEC																	
c-5	Offer the 20-hour basic CERT training course through the Adult School system and/or through the Community College system (either using instructors with teaching credentials or by making facilities available for classes not run by school personnel themselves).	EQ LS WF FL SEC																	
c-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.	EQ LS WF FL SEC																	

Education Mitigation Strategies

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c-7	Develop a continuity of operations and disaster recovery plan using models such as that developed by the University of California Berkeley. (The American Red Cross has a role in promoting this activity, as well, in schools that they plan to use as shelters.)	EQ LS WF FL SEC										X			
EDUC - d- Actions Related to Schools as Conduits for Information to Families About Emergencies															
d-1	Utilize the unique ability of schools 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, particularly if coordinated with cities, counties, the American Red Cross and others.	EQ LS WF FL SEC										X			
d-2	Develop and distribute culturally appropriate materials related to disaster mitigation and preparedness, such as those on the http://www.preparenow.org website.	EQ LS WF FL SEC										X			

Environment Mitigation Strategies

X	Local VSFCD Strategies	Priority (CHECK ONLY ONE)											
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ENVI - a - Environmental Sustainability and Pollution Reduction													
a-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 seismic retrofits and vegetation clearance programs for fire threat, 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.	EQ WF FL DR SEC	X							Environmental Services	mandated		
a-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.	EQ WF FL SEC	X							Environmental Services	Work with City Code Enforcement and County Health Dept.		
a-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.	LS WF FL DR SEC	X							Environmental Services	mandated		
a-4	Develop and implement a comprehensive program for watershed management optimizing ecosystem health with water yield to balance water supply, flooding, fire, and erosion concerns.	LS WF FL DR SEC				X				Engineering	While not explicitly calling is watershed management and ecosystem optimization, VSFCD applies elements of these approaches at every project to the degree appropriate		
a-5	Balance the need for the smooth flow of storm waters 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, mitigates wildfires and maintains the viability of living rivers.	LS WF FL DR	X							Engineering and Field Operations	All of the District's vegetation control work in streambeds has been subject to review under CEQA and a 5-year Fish and Game permit has been issued.		

Environment Mitigation Strategies

2009-2010 Strategy Number	Specific Mitigation Strategy	Applicable Hazards	<div style="background-color: #e0ffe0; padding: 2px;"> Existing Program Existing Program, underfunded very high - Unofficial Program-Becomes Official on Plan Adoption, no funding needed High - Actively Looking for Funding Moderate Under Study Not Applicable, Not Appropriate, or Not Cost Effective </div>										Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Existing Program under funded, 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), WHY if not same as regional priority, OR Other Comments
			FL	X											
a-6	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.	FL	X										Environmental Services/Engineering	done as part of plan review	
a-7	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.	LS FL	X										Environmental Services/Engineering	done as part of plan review	
a-8	Explore ways to require that hazardous materials stored in the flood zone be elevated or otherwise protected from flood waters.	FL	X										Environmental Services	standard procedures	
a-9	Enforce and/or comply with the hazardous materials requirements of the State of California Certified Unified Program Agency (CUPA).	EQ LS WF FL SEC	X										Environmental Services	Pre-Treatment and Storm Water Pollution Prevention Program	
a-10	Provide information on hazardous waste disposal and/or drop off locations.	EQ LS WF FL SEC	X										Environmental Services	work with Valco and Costal Clean-up Day	
a-11	When remodeling existing government and infrastructure buildings and facilities, remove asbestos to speed up clean up of buildings so that they can be reoccupied more quickly.	EQ LS WF FL SEC							X				Engineering and Field Operations	standard procedures	
a-12	Develop and implement a program to control invasive and exotic species that contribute to fire and flooding hazards (such as eucalyptus, cattails, and cordgrass). This program could include vegetation removal, thinning, or replacement in hazard areas where there is a direct threat to structures.	WF FL		X									Environmental Services	work with California native plant society and Solano Weed Management Dist.	
a-13	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.	FL		X									Field Operations	Stormwater Pollution Prevention Program - also see A-5	
ENVI - b - Climate Change															

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b-1	Stay informed of scientific information compiled by regional and state sources on the subject of rising sea levels and global warming, especially on additional actions that local governments can take to mitigate this hazard including special design and engineering of government-owned facilities in low-lying areas, such as wastewater treatment plants, ports, and airports.	LS FL DR	WF X									Engineering	VSFCD stays abreast of climate change and sea level rise issues through various regional, state, and national professional organizations
b-2	Inventory global warming emissions in your own local government's operations and in the community, set reduction targets and create an action plan.	LS FL DR	WF X									Operations	VSFCD is fully permitted and in compliance with Bay Area Air Quality Control Board
b-3	Adopt and enforce land-use policies that reduce sprawl, preserve open space, and create compact, walkable urban communities.	LS FL DR	WF X							X			
b-4	Promote transportation options such as bicycle trails, commute trip reduction programs, incentives for car pooling and public transit.	LS FL DR	WF X									Environmental Services	VSFCD has formed a Green Committee which encourages employees to use transportation options
b-5	Increase the use of clean, alternative energy by, for example, investing in "green tags", advocating for the development of renewable energy resources, recovering landfill methane for energy production, and supporting the use of waste to energy technology.	LS FL DR	WF X									Environmental Services	Part of Green Committee goals
b-6	Make energy efficiency a priority through building code improvements, retrofitting city facilities with energy efficient lighting and urging employees to conserve energy and save money.	LS FL DR	WF X									Maintenance Facility	standard procedures
b-7	Purchase only Energy Star equipment and appliances for local government use.	LS FL DR	WF X									Maintenance Facility	standard procedures
b-8	Practice and promote sustainable building practices using the U.S. Green Building Council's LEED program or a similar system.	LS FL DR	WF X									Environmental Services	VSFCD has formed a Green Committee that is researching into becoming a green business through Bay Area Green Business Program.

Environment Mitigation Strategies

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b-9	Increase the average fuel efficiency of municipal fleet vehicles; reduce the number of vehicles; launch an employee education program including anti-idling messages; convert diesel vehicles to bio-diesel.	LS WF FL DR	X											Field Operations and Operations	Green Committee to review
b-10	Evaluate opportunities to increase pump efficiency in water and wastewater systems; recover wastewater treatment methane for energy production.	LS WF FL DR	X											Operations	standard procedures
b-11	Increase recycling rates in local government operations and in the community.	LS WF FL DR							X						
b-12	Maintain healthy urban forests; promote tree planting to increase shading and to absorb CO2.	LS WF FL DR	X											Operations	trees have been planted surrounding plant
b-13	Help educate the public, schools, other jurisdictions, professional associations, business and industry about reducing global warming pollution.	LS WF FL DR	X											Environmental Services	part of our school tour program
ENVI - c - Agricultural and Aquaculture Resilience															
c-1	Maintain a variety of crops in rural areas of the region to increase agricultural diversity and crop resiliency. RESPONSIBLE AGENCIES: County Offices of the Agricultural Commissioner.	Ag DR SEC													
c-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. RESPONSIBLE AGENCIES: County Offices of the Agricultural Commissioner.	Ag DR SEC							X						
c-3	Encourage livestock operators to develop an early-warning system to detect animals with communicable diseases (due to natural causes or bioterrorism). RESPONSIBLE AGENCIES: County Health Department and Office of the County Agricultural Commissioner.	Ag Flu SEC							X						

Land Use Mitigation Strategies

X	Local VSFCDC Strategies	Priority (CHECK ONLY ONE)											
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LAND - a - Earthquake Hazard Studies for New Private Developments													
a-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 <i>specific</i> hazard of active faults that extend to the earth's surface, creating a surface rupture hazard.)	EQ						X					
a-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.	EQ						X					
a-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.	EQ						X					
a-4	Ensure that development proposed near faults with a history of complex surface rupture (multiple traces, warping, thrusting, etc.) has larger setbacks than the minimum fifty feet.	EQ						X					
a-5	Consider imposing requirements similar to the Alquist-Priolo Earthquake Fault Zoning Act for structures without human occupancy if these buildings are still essential for the economic recovery of the community or region.	EQ						X					
a-6	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.	EQ						X					
a-7	Support and/or facilitate efforts by the California Geological Survey to complete the earthquake-induced landslide and liquefaction mapping for the Bay Area.	EQ						X					

Land Use Mitigation Strategies

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a-8	Require that local government reviews of geologic and engineering studies are conducted by appropriately trained and credentialed personnel.	EQ							X			
LAND - b - Wildland and Structural Fires												
b-1	Review new 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.	WF							X			
b-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.	WF							X			
LAND - c - Flooding												
c-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.	FL	X								Engineering	COV passes plans to us for review and approval. We enforce our ordinances and the requirements of our stormwater permit. Specifically with respect to peak stormwater flows, we analyze the "overland escape" condition when the storm drain system is overloaded and the impact of other conveyance facilities that may flood the site from a distance.
c-2	Incorporate FEMA guidelines and suggested activities into local government plans and procedures for managing flood hazards.	FL	X								Engineering and Safety/Risk Management	Encourage City and Developers to incorporate FEMA guidelines. While the City is in charge of administering the FEMA flood insurance program, the District cooperates with the City when implementing FEMA guidelines such as flood-proofing and minimum floor elevations.

Land Use Mitigation Strategies

2009-2010 Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Mitigation Status										Responsible Agency or Department (Required if Existing Program, Existing Program under funded, 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), WHY if not same as regional priority, OR Other Comments
			Existing Program	Existing Program, underfunded	Very High - Unofficial Program-Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered				
c-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).	FL	X										Engineering	Actually, this has been a problem in the past. However, the City has become much more aware of the triggers that make it necessary for VSFCD to review development proposals. The methods used to increase this awareness were education and standardizing VSFCD's initial comments on plan reviews.
c-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> .	FL									X		Responsibility of the City of Vallejo	As mentioned under C-2, we are cooperating with the City on this issue
c-5	Encourage new development near floodways to incorporate a buffer zone or setback from that floodway to allow for changes in stormwater flows in the watershed over time.	FL									X			
c-6	For purposes of creating an improved hazard mitigation plan for the region as a whole, ABAG, and Bay Area cities and counties, jointly request geographically defined repetitive flooding loss data from FEMA for their own jurisdictions.	FL			X									
LAND - d - Landslides and Erosion														
d-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.	LS									X			
d-2	Require that local government reviews of these investigations are conducted by appropriately trained and credentialed personnel.	LS									X			
d-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.	LS	X										Responsibility of the City of Vallejo	
d-4	Establish and enforce provisions under the creek protection, storm water management, and discharge control ordinances designed to control erosion and sedimentation.	LS	X										Engineering	standard procedures - see C-1

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d-5	Establish requirements in zoning ordinances to address hillside development constraints, especially in areas of existing landslides.	LS							X		
LAND - e - Hillside - Multi-Hazard											
e-1	For new development, require a buffer zone between residential properties and landslide or wildfire hazard areas.	LS WF							X		
e-2	Discourage, add additional mitigation strategies, or prevent new construction or major remodels on slopes greater than a set percentage, such as 15%, due to landslide or wildfire hazard concerns.	LS WF							X		
LAND - f - Smart Growth to Revitalize Urban Areas and Promote Sustainability											
f-1	Prioritize retrofit of infrastructure that serves urban areas (or urban services areas) over constructing new infrastructure to serve outlying areas.	EQ LS WF FL DR SEC		X							
f-2	Work to retrofit homes in older urban neighborhoods to provide safe housing close to job centers.	EQ LS WF FL DR SEC							X		
f-3	Work to retrofit older downtown areas and redevelopment districts to protect architectural diversity and promote disaster-resistance.	EQ LS WF FL SEC							X		
f-4	Work with non-profits and through other mechanisms to protect as open space those areas susceptible to extreme hazards (such as through land acquisition, zoning, and designation as priority conservation areas).	EQ LS WF FL SEC							X		
f-5	Strive to 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 or fires due to an earthquake, accident, or terrorism. (Flooding might also result in release or spread of these materials; however, it is unlikely.) In areas where buffers do not exist or cannot be created, provide alternative mitigation.	EQ LS WF FL SEC							X		
LAND - g - Hazard Abatement Districts											

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g-1	Use hazard abatement districts as a funding mechanism to ensure that mitigation strategies are implemented and enforced over time.	EQ LS WF FL							X			