

# Sewer Authority Mid-Coastside

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

**SEWER AUTHORITY MID-COASTSIDE**

**1000 North Cabrillo Highway**

**Half Moon Bay, California 94019**



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## Introduction

The Sewer Authority Mid-Coastside (SAM) is a Joint Power Authority formed in 1976 by three member agencies: the City of Half Moon Bay, Montara Water and Sanitary District, and Granda Sanitary District. SAM provides sewerage collection, treatment, and discharge services to approximately 12 square miles on the western edge of San Mateo County. The population served by SAM is approximately 25,000. Approximately half of the service area is within the boundaries of the City of Half Moon Bay, with the remaining area split between Montara, Moss Beach, and El Granada. The SAM regional system includes three main pumping stations, an eight-mile transmission line, the wastewater treatment plant, and an ocean outfall, where final effluent is dispersed to the receiving ocean waters, which are a part of the Monterey Bay National Marine Sanctuary and James V. Fitzgerald Marine Reserve. A map of the SAM service area is provided in Exhibit A.

SAM is governed by a six-member Board (two members from each agency) of Directors who are appointed by their respective agencies. Each agency acts independently under the direction of its governing board and owns, operates, and maintains sewer collection systems in its respective service area. The total operating expenses for SAM in fiscal year 2010 to 2011 was \$4,964,843.

SAM has experienced its share of disasters, including the Loma Prieta Earthquake of 1989 and, throughout the years, localized flooding.

## The Regional Planning Process

SAM has participated in various ABAG workshops, conferences, and meetings, including:

- One (1) Sewer Smart Workshop (October 9, 2008); and
- One (1) Local Hazard Mitigation Plan Workshop (May 12, 2009) to review draft priorities and reach consensus on priorities for mitigation.

For more information on these meetings and for rosters of attendees, please see Appendix A and H in the ABAG Multi-Jurisdictional Local Hazard Mitigation Plan 2010 (MJ-LHMP). In addition, SAM has provided written and oral comments on the multi-jurisdictional plan and provided information on facilities that are defined as “critical” to ABAG.

## The Local Planning Process

SAM staff met to identify and prioritize appropriate mitigation strategies. Personnel involved in these meetings included SAM General Manager, the Technical Services Supervisor, and the operations staff. At the meeting, items identified included general priorities, mitigation strategies, prioritization of said strategies, appropriate departments for implementation of strategies, and review of preliminary budgets and potential funding sources for strategies designated as “High” priority for SAM-owned-and-operated facilities. Typically, each person at the meeting was responsible for communicating existing efforts and thoughts on appropriate future action in their area of expertise. For example, the Technical Services Supervisor was most familiar with the needed mitigation actions for key critical facilities.



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

This process involved consideration of both the hazard and risk information developed by ABAG and discussed in the overall multi-jurisdictional Local Hazard Mitigation Plan, as well as the assessments of the age and construction type of structures owned by SAM and described on pages 4 and 5. These meetings also discussed the Capital Improvements Plan already in place at SAM, as well how these plans could be best integrated.

### ***Process for Updating Plan Sections***

SAM participated in the 2005 multi-jurisdictional Local Hazard Mitigation Plan, and this Annex is an update of the Annex prepared for the 2005 plan. The lead in updating this Annex was taken by the General Manager, based on feedback obtained from the staff who participated in the mitigation priority setting process.

The Planning Process section has been prepared to reflect the updated Annex. However, the process of assigning priorities was simplified because priorities had already been assigned for the 2005 Annex.

The Hazard and Risk Assessment section has been updated to incorporate the new mapping compiled by ABAG for the overall multi-jurisdictional Local Hazard Mitigation Plan. The specific information about SAM has also been updated.

The Mitigation Goals and Priorities section has been expanded to take a more comprehensive approach to mitigation.

The Plan Maintenance and Update section is essentially the same as the 2005 Annex, with the addition of some ideas for improving public participation in the process.

### ***Public Meetings***

SAM has provided two opportunities for the public to provide public comments on the DRAFT mitigation strategies:

1. A Board of Director's public meeting on August 24, 2009 at the SAM's main office, which was advertised on SAM's website.
2. The draft mitigation strategies were also published for public viewing on the SAM's website at <http://www.samcleanswater.org/>.

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 Sewer Authority Mid-Coastside 2010 Annex. The SAM Board of Director's will adopt the plan in a public meeting via an official Resolution upon pre-approval by FEMA.



SAM is committed to improving public participation when this plan is updated in five years. To improve this process, SAM will consider writing letters to the editor of local newspapers in its service area to promote wider public knowledge of the process or working with local business and advocacy groups to conduct joint meetings.

## 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/>.

SAM owns six critical facilities – a wastewater treatment plant (WWTP), four pump stations, and a waste water storage facility.

**Earthquake:** One of the six facilities, a pump station in Half Moon Bay, is in the Alquist-Priolo Fault Rupture Study Zone for the Northern San Gregorio fault. The remaining facilities, though not in the Study Zone, are subject to shaking if that fault ruptures. Thus, all six are in the next to highest tier of earthquake shaking potential. Four of these facilities are in areas of low liquefaction susceptibility mapped by the U.S. Geological Survey, while one, the WWTP, is in an area mapped with moderate liquefaction susceptibility. None of the facilities are in areas that have been evaluated for liquefaction susceptibility by the California Geological Survey. While the areas in which these facilities are located have not been evaluated for earthquake-generated landslides by the California Geological Survey, this hazard should not be a concern because all are on flat land.

**Tsunami:** The December 2009 version of the CalEMA tsunami evacuation planning maps indicated that the Princeton Pump Station in Half Moon Bay is in this area.

**Flooding:** Only the Princeton Pump Station is in the 100-year flood plain as mapped by FEMA.

**Landsliding:** None of these facilities are in an area of existing landslides, and have been mapped by USGS as being on flat land.

**Wildfire:** None of these facilities are in an area subject to high wildfire threat area, but all five are in a wildfire urban interface threat area. However, all of these facilities are either concrete or underground.

**Sea Level Rise:** None of these facilities are in an area subject to either 16 or 55 inches of sea level rise.

**Dam Failure Inundation:** None of these facilities are in an area subject to dam inundation.

**Delta Levee Failures:** The SAM facilities are not in an area protected by Delta levees.

**Drought:** The operations of SAM are not significantly impacted by drought conditions.

**Hazards Conclusion:** SAM has reviewed the hazards identified and ranked the hazards based on past disasters and expected future impacts. The conclusion is that earthquakes (particularly shaking) and flooding, and, to a lesser extent, tsunamis, pose a significant risk for potential loss. This conclusion was based on the hazard exposure information for SAM's facilities, as well as past occurrences of disasters impacting the SAM service area described in the following section. However, the probability



information for tsunami inundation does not yet exist, and the facility in question has no people working at it.

## **Past Occurrences Of Disasters (Natural and Human-induced)**

San Mateo County has experienced a number of different disasters over the last 50 years, including numerous earthquakes, floods, droughts, wildfires, energy shortages, civil disturbances, landslides, and severe storms.

In addition to the declared disasters noted in Appendix D of the ABAG MJ-LHMP, locally significant incidents that have also impacted SAM in the last several years are its sanitary sewer overflow (SSO) incidents, which are caused by flooding. The SSO incidents, which happen EVERY YEAR during rainy season, cause sewage spills throughout the California mid-coastside region and raw sewage discharges to the Marine Sanctuary on the Pacific Ocean. The SSO issue exposes the 26,000 residents and 125,000 annual beach visitors to health risks, and severely jeopardizes the fragile habitats of the Marine Sanctuary – a federally protected marine area of the California Central Coast and the largest marine sanctuary of the nation.

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

## **Risk Assessment**

### ***SAM Critical Facility Issues***

The buildings at the WWTP and the Pump Stations should be evaluated for performance during an earthquake. The WWTP was built in 1984 and upgraded in 1999. The remaining facilities were constructed and upgraded at different times over the past 30 years.

While one of the Pump Stations is shown on an area of potential tsunami inundation, because this is a conservative map created for evacuation purposes, the principal impact on risk is to employees. Since the Pump Station has no permanent workers, there is no need for an evacuation plan.

Of larger concern, however, are the yearly SSO incidents due to flooding.



## Urban Land Exposure

SAM examined the hazard exposure of its urban land based on information in ABAG’s website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. The “2005 Existing Land Use with 2009 Mapping” file was used for this evaluation.

The amount of urban land of the San Mateo County unincorporated area is shown to have decreased in the last five years, likely due to better and more accurate mapping capabilities. However, the hazard exposure of SAM is increasing over time. The following table describes the exposure of urban land within the unincorporated San Mateo County to the various hazards.

<b>Exposure (acres of urban land)</b>			
<b>Hazard</b>	<b>2005</b>	<b>2010</b>	<b>Change</b>
<i>Total Acres of Urban Land</i> <sup>1</sup>	31,277	31,215	-62
Earthquake Faulting (within CGS zone)	1,380	1,404	24
Earthquake Shaking (within highest two shaking categories)	28,410	38,400	9,990
Earthquake-Induced Landslides (within CGS study zone) <sup>2</sup>	0	0	0
Liquefaction (within moderate, high, or very high liquefaction susceptibility)	6,089	6,197	108
Flooding (within 100 year floodplain)	1,084	1,108	24
Flooding (within 500 year floodplain)	238	243	5
Landslides (within areas of existing landslides)	5,932	5,999	67
Wildfire (subject to high, very high, or extreme wildfire threat)	13,078	13,989	911
Wildland-Urban Interface Fire Threat	10,838	11,242	404
Dam Inundation (within inundation zone)	811	832	21
Sea Level Rise <sup>3</sup>	not applicable		
Tsunamis <sup>4</sup> (within inundation area)	not applicable		
Drought <sup>5</sup>	31,277	31,215	-62

<sup>1</sup> This decrease is likely due to better and more accurate mapping.

<sup>2</sup> The California Geological Survey (CGS) has mapped only a portion of the Bay Area. The values not in or within CGS study zones reflect only those areas for which mapping of seismic hazard study zones is complete.

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

<sup>4</sup> 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.

<sup>5</sup> The entire San Mateo County unincorporated area is subject to drought.



### Infrastructure Exposure

SAM 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>. Of the 1,075 miles of roadway in the unincorporated San Mateo County, the following are exposed to the various hazards analyzed.

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

<sup>1</sup> The California Geological Survey (CGS) has mapped only a portion of the Bay Area. The values not in or within CGS study zones reflect only those areas for which mapping of seismic hazard study zones is complete.

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

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

<sup>4</sup> Drought is not a hazard for roadways.



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

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

<b>Exposure (number of facility types)</b>								
<b>Hazard</b>	<b>Hospitals</b>		<b>Schools</b>		<b>Locally-owned critical facilities</b>		<b>Locally-owned bridges and interchanges</b>	
	<b>2005</b>	<b>2010</b>	<b>2005</b>	<b>2010</b>	<b>2005</b>	<b>2010</b>	<b>2005</b>	<b>2010</b>
<i>Total Number of Facilities</i>	1		18		7		95	
Earthquake Shaking (within highest two shaking categories)	1		15		7		88	
Liquefaction Susceptibility (within moderate, high, or very high liquefaction susceptibility)	0		8		1		50	
Liquefaction Hazard (within CGS study zone) <sup>1</sup>	-		-		-		-	
Earthquake-Induced Landslides (within CGS study zone) <sup>1</sup>	-		-		-		-	
Earthquake Faulting (within CGS zone)	0		0		0		4	
Flooding (within 100 year floodplain)	0		0		1		15	
Flooding (within 500 year floodplain)	0		0		0		1	
Landslides (within areas of existing landslides)	0		1		3		14	
Wildfires (subject to high, very high, or extreme wildfire threat)	0		1		4		24	
Wildland-Urban Interface Fire Threat	1		15		5		27	
Dam Inundation	0		0		0		6	
Sea Level Rise (exposed to 16in sea level rise) <sup>2</sup>	-		-		-		-	
Sea Level Rise (exposed to 55in sea level rise) <sup>2</sup>	-		-		-		-	
Tsunamis <sup>3</sup> (within inundation area)	-		-		-		-	
Drought <sup>4</sup>	-	-	-	-	-	-	-	-

<sup>1</sup> CGS Landslide and Liquefaction mapping has been completed only for portions of Alameda, San Francisco, and Santa Clara Counties.

<sup>2</sup> Sea level rise data was not available in 2005

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

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



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

The SAM facilities are not repetitive loss properties for flooding.

### ***Other risks***

SAM 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.

SAM 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.

### **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 SAM in designing its mitigation program. Additionally, SAM has the specific objective of reducing the number of its facilities throughout the SAM system that are vulnerable to the effects of earthquakes, flooding and landslides.

### **Mitigation Activities and Priorities**

#### ***Evaluation of Progress from 2007 Plan***

In 2005, mitigation actions and priorities were identified. SAM examined the hazard exposure information to SAM-owned critical facilities supplied by ABAG. SAM determined that reducing or frequent sewage overflow incidents during the wet seasons would benefit thousands of residents and visitors and multiple properties. The overflow incidents reached an alarming peak in 2006 when two SSO incidents, only a few weeks apart were reported to the State's Office of Emergency Services (OES). The first incident was storm induced and caused at least 5,000-gallons of sewage to overflow into the Pacific Ocean (OES Control No. 06-0706); three weeks later, the second incident caused a 2,000-gallon overflow (OES Control No. 06-0106). The first storm, which took place on February 1, 2006, surpassed the capacity of the temporary storage tanks (rented by SAM as a preventative measure).

To mitigate against the potential disasters caused by these conditions, in 2005 SAM identified several high-priority projects. The attached list indicates each of the strategies identified, current status of each project and the time frame for completion. These projects include:

1. **Wet weather Flow Management Project** – construction of a 205,000-gallon emergency sewage concrete storage.

**Status:** Currently in design phase

**Time frame:** Construction complete – 2011-2012



## **2. Construction of a new 14-inch force main**

**Status:** A force main velocity review and inspection of high risk force mains are part of Phase I of the Intertie Pipeline System (IPS) Rehabilitation Project. Rehabilitation of the existing force mains through slip-lining is Phase II.

**Time Frame:** Phase I – 2011-2015

Phase II – 2016-2025

## **3. Improvements to the Supervisory Control and Data Acquisition (SCADA) system**

**Status:** Some initial improvements have been made.

**Time frame:** 2015-2016

## **4. Pump station improvements**

**Status:** A pump station flow adjustment is to be conducted as part of Phase I of the IPS Rehabilitation Project.

**Time frame:** Phase I – 2011-2015

The departments in charge of these projects are Facilities Management and Technical Services.

These projects are candidates for FEMA Pre-Disaster Mitigation grants based on their impact to protecting public health and safety, and property following a major storm event.

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

As a participant in the 2010 ABAG multi-jurisdictional planning process, SAM's staff helped in the development and review of the comprehensive list of mitigation strategies in the overall multi-jurisdictional plan.

However, the decision on specific priorities for SAM was made the team identified in the section on the Planning Process, and reviewed by SAM's General Manager. The decision on the priority was made based the hazards and risks present in the SAM service area, as well as the hazards and risks specific to SAM facilities, and past occurrences of natural disasters. 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 to review progress on the SAM's 2005 strategies, to identify and prioritize additional mitigation strategies to update the list. SAM's General Manager participated in this process.

The decision was also made to best leverage the implementation mechanisms available to SAM, including the Capital Improvement Plan budget.

These draft priorities were submitted to the SAM Board of Directors. The draft priorities will be provided to the Board of Directors for adoption pending approval of this LHMP by FEMA.



SAM's 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.

### 1. Wet Weather Flow Management Project

- **Strategy:** INFR-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.
- **Problem:** The system is under-designed for peak wet weather and flooding causes water to overflow.
- **Purpose:** To construct reinforced concrete storage pipes to temporarily store excess sewage during peak flows or a storm event
- **Responsible district:** Sewer Authority Mid-Coastside – Facilities Management
- **Potential funding sources:** Clean Beaches Initiative Grant Program
- **Time frame:** Next 2 years

### 2. Intertie Pipeline System Rehabilitation Project Phase I

- **Strategy:** INFR-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.)
- **Second Strategy:** INFR-b-4 Install specially-engineered pipelines in areas subject to faulting, liquefaction, earthquake-induced landsliding, or other earthquake hazard. .
- **Problem:** The system is under-designed for peak wet weather and these older pipelines are susceptible to earthquake damage. .
- **Purpose:** To upgrade the IPS through near-term operational and maintenance activities in preparation of Phase II.
- **Responsible district:** Sewer Authority Mid-Coastside – Facilities Management
- **Potential funding sources:** FEMA Grants
- **Time frame:** Next 5 years
- **Activities:**
  1. Replace existing 18 Air/Vac Valves
  2. Install Bypass Stations – 2 stations
  3. Conduct Pump Station Flow Adjustment and Force Main Velocity Review



4. Conduct Grit Survey
5. Develop and Conduct an IPS Sampling Program
6. Install Three New Isolation Valves
7. Purchase Composite Wrap or Similar Equipment
8. Inspect high-risk force main segments
9. Conduct Hydraulic Surge Analysis
10. Conduct another IPS Review in 2 to 5 years

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

SAM 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 (attached as a digital file). Others are on-going programs that are currently underfunded. It is SAM's priority to find additional funding to sustain these on-going programs over time. The specific department in charge of on-going implementation is identified in the attached digital file.

- INFR-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.
- INFR-a-5 – Support and encourage efforts of other (lifeline infrastructure) agencies as they plan for and arrange financing for seismic retrofits and other disaster mitigation strategies.
- INFR-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.
- INFR-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.
- INFR-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.
- INFR-a-19 – Coordinate with other critical infrastructure facilities to establish plans for delivery of water and wastewater treatment chemicals.
- INFR-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).



- INFR-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.
- INFR-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.
- INFR-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.
- INFR-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 re-occupancy of the buildings. Note - A qualified engineer is a California licensed engineer with relevant experience.
- INFR-g-1 – Provide materials to the public related to planning for power outages.
- INFR-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).
- INFR-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.
- INFR-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.]
- INFR-g-7 – Develop and distribute culturally appropriate materials related to disaster mitigation and preparedness, such as those on the <http://www.preparesnow.org> website related to infrastructure issues.
- GOVT-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.
- GOVT-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.



- GOVT-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.
- GOVT-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.
- GOVT-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.
- GOVT-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.
- GOVT-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.
- GOVT-b-3 – Establish a goal for the resumption of local government services that may vary from function to function.
- GOVT-c-1 – Develop a plan for short-term and intermediate-term sheltering of your employees.
- GOVT-c-2 – Encourage your employees to have a family disaster plan.
- GOVT-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.
- GOVT-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.
- GOVT-d-1 – Promote information sharing among overlapping and neighboring local governments, including cities, counties, and special districts, as well as utilities.
- GOVT-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.
- GOVT-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.
- GOVT-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.



- ENVI-a-1 – Continue to enforce State-mandated requirements, such as the *California Environmental Quality Act*, 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.
- ENVI-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.
- ENVI-a-3 – Continue to enforce and/or comply with State-mandated requirements, such as the *California Environmental Quality Act* 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.
- ENVI-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 Stream bed Vegetation Management Plan that ensures the efficacy of flood control efforts, mitigates wildfires and maintains the viability of living rivers.
- ENVI-a-6 – Comply with applicable performance standards of any *National Pollutant Discharge Elimination System* municipal storm water permit that seeks to manage increases in storm water run-off flows from new development and redevelopment construction projects.
- ENVI-a-7 – Enforce and/or comply with the grading, erosion, and sedimentation requirements by prohibiting the discharge of concentrated storm water flows by other than approved methods that seek to minimize associated pollution.
- ENVI-a-8 – Explore ways to require that hazardous materials stored in the flood zone be elevated or otherwise protected from flood waters.
- ENVI-a-9 – Enforce and/or comply with the hazardous materials requirements of the State of California Certified Unified Program Agency (CUPA).
- ENVI-a-10 – Provide information on hazardous waste disposal and/or drop off locations.
- ENVI-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.

## **Incorporation into Existing Planning Mechanisms**

SAM has, and will continue to use, a variety of project-specific mechanisms to ensure that the projects and mitigation strategies identified as existing or having relatively high priorities in this LHMP Annex are implemented.



SAM is not a land use agency, thus does not have a General Plan. This Annex will be made available to San Mateo County and communities in San Mateo County for their use in General Plan elements, as appropriate. The information in this Annex, including the goals, objectives, and strategies identified, will be incorporated into SAM's Capital Improvement Plan for prioritizing capital improvements of the SAM's infrastructure. For example, this Annex supports the need for these mitigation projects as integral to the mission of SAM, while the Capital Improvement Plan is the funding mechanism for processing the request. SAM is also looking at ways to apply for grants for hazard mitigation.

SAM enforces the requirements of the California Environmental Quality Act (CEQA), which, since 1988, requires mitigation for identified natural hazards. SAM 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.

There are no other planning mechanisms available to SAM that are appropriate to incorporate this plan.

The final strategies and Annex will be adopted in the same resolution adopting the overall LHMP on following Approval Pending Adoption by FEMA.

Ongoing integration of the policies and programs identified in this Local Hazard Mitigation Plan will occur at SAM under the direction of the General Manager.

## **Plan Update Process**

As required Disaster Mitigation Act of 2000, SAM 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.

SAM management, led by the General Manager, 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 San Mateo County, legal changes, notices from ABAG as the lead agency in this process, and other triggers will be used. For example, if a civil engineer determines that additional risks exist for facilities not identified as currently being a problem, the priority associated with upgrading those facilities will be re-evaluated. 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.

SAM management, led by the General Manager, is committed to reviewing and updating this plan annex at least once every five years, as required by the Disaster Mitigation Act of 2000. SAM will contact ABAG four years after this plan is approved to ensure that ABAG plans to undertake the plan update process. If so, the County again plans to participate in the multi-jurisdictional plan. If ABAG is unwilling or unable to act as the lead agency in the multi-jurisdictional effort, other agencies will be contacted, including the County's Office of Emergency Services. Counties should then work together to identify another regional forum for developing a multi-jurisdictional plan.

SAM is committed to public participation. All SAM Board meetings are open to the public and the public is invited to comment on items on the Board Agenda. The public will continue to be involved



whenever the plan is updated and as appropriate during the monitoring and evaluation process. Prior to adoption of updates, the County will provide the opportunity for the public to comment on the updates. A public notice will be posted prior to the meeting to announce the comment period and meeting logistics. SAM is committed to improving public participation in the update process over the next five years. To improve this process, SAM will consider writing letters to the editor of local newspapers in its service area, or working with business and advocacy groups, to promote wider public knowledge of the issues related to disaster mitigation and the planning process.



## **Mitigation Plan Point of Contact**

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## Exhibit A – Jurisdiction Boundary Map





## Exhibit B - Public Meeting Announcement

SEWER AUTHORITY MID-COAST SIDE  
Board of Directors Meeting  
AGENDA

7:00 PM, Monday, August 24, 2009  
SAM Administration Building, 1000 N. Cabrillo Highway, Half Moon Bay, CA 94019

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*(Please note: The times listed on this agenda are approximate)*

1. CALL TO ORDER /ROLL CALL..... (7:00)
2. PUBLIC COMMENT / ORAL COMMUNICATION..... (7:05)  
*Persons wishing to address a matter not on the Agenda may be heard at this time*
4. CONSENT AGENDA..... (7:35)
  - A. [Approve Minutes for July 27, 2009 SAM Board Meeting](#)
  - B. [Receive and File Manager's Monthly Report for July 2009, including:](#)
    - a. [Monthly Flow Report](#)
    - b. [Financial Statement](#)
    - c. [Monthly NPDES Data](#)
    - d. [Collections System Data](#)
    - e. [WWFMP Project Funding Opportunities](#)
    - f. [Recycled Water Project Funding Opportunities](#)
  - C. [Approve Disbursements - August 2009](#)
5. OLD BUSINESS..... (7:45)
  - A. Discuss and Possibly Take Action on Recycled Water Agenda Items
    - a. [Receive and File Recycled Water Articles](#)
    - b. [Review and Possibly Take Action on Letter from Kenmark to CCWD and SAM](#)
    - c. [Receive Update on Recycled Water Project; Approve Change in Project Tasks](#)
  - B. Wet Weather Flow Management Program (WWFMP) Project Committee  
*Actions taken by the WWFMP Project Committee are deemed actions of the Authority and are taken in the name of the Authority; only the participating members have rights and obligations in this project (JPA, Article VI).*
    - a. [Receive Report and Possibly Take Action on Wet Weather Flow Management Program Project](#)
6. NEW BUSINESS..... (8:25)
  - A. [Review and Possibly Take Action on SAM Reserve Policy](#)
  - B. [Authorize Manager to Issue RFP for Financial Consulting Services](#)
  - C. [Review Presentation from SRT Consultants And Possibly Take Action on Hazard Mitigation Plan](#)
7. [MANAGER INFORMATIONAL REPORT](#)..... (9:00)
8. [ATTORNEY'S REPORT](#)..... (9:05)
9. [DIRECTORS' REPORTS](#)..... (9:10)
10. [TOPICS FOR FUTURE BOARD CONSIDERATION](#)..... (9:15)
11. PUBLIC COMMENT / ORAL COMMUNICATION..... (9:20)
12. ADJOURNMENT..... (9:25)

*Next Regular SAM Board Meeting - 7:00 p.m.  
Monday, September 28, 2009, SAM Admin Bldg.*



## Exhibit C - SAM Mitigation Strategies

[Available on LHMP CD or at <http://www.abag.ca.gov/bayarea/eqmaps/mitigation/strategy.html>]