

# LHMP ANNEX

## City of Santa Rosa

### Introduction

The City of Santa Rosa is a large sized city in Sonoma County, California. The City has a population of 156,000 people, based on the 2000 census<sup>1</sup>. Last year, the City's budget was \$170,000,000. The City employs 1400 people. The City of Santa Rosa is a full service city and all essential services are provided by the City.

### The Planning Process

This process of preparing this plan was familiar to the City of Santa Rosa. The City has a Safety Element to its General Plan last updated in 2000 and a fully SEMS compliant Emergency Operations Plan that includes a discussion of fire, earthquake, flooding, and landslide hazards. In addition, the City routinely enforces the requirements of the California Environmental Quality Act (CEQA) requirements (which, since 1988, have required mitigation for identified natural hazards). The City's effort has focused on building on these pre-existing programs and identifying gaps that may lead to disaster vulnerabilities in order to work on ways to address these risks through mitigation.

Many of the activities conducted by the City were fed into the planning process for the multi-jurisdictional plan. The City participated in various ABAG workshops and meetings, including the general "kick-off" meeting. In addition, the City has provided written and oral comments on the multi-jurisdictional plan. Finally, the City provided information on facilities that are viewed as "critical" to ABAG.

Key City staff met on two occasions to identify and prioritize mitigation strategies appropriate for the City. Staff involved in these meetings included representatives from each of the following departments: Human Resources, General Services, Public Works, Utilities, Recreation & Parks, Community Development, City Manager's Office, Police and Fire. At the first meeting, the general priorities and appropriate City departments were identified. The second meeting identified preliminary budgets and potential funding sources for strategies designed as "High" priority. The City provided the opportunity for the public to comment on the DRAFT mitigation strategies selected by City staff on the City Council Agenda of May 2, 2006. The resolution adopting the plan and strategies was on the City Council agenda for late May 16, 2006. The mitigation strategies will become an implementation appendix to this Safety Element. The ABAG public comment period was October 2004 – March 2005 and Santa Rosa mitigation strategies were available for public comment at <http://quake.abag.ca.gov/mitigation/>.

---

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

## Hazard and Risk 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). These hazards also impact this community.

While the City has undertaken a number of general hazard mapping activities since the first Safety Element was prepared by the City, 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/>.

The City has had a number of landslides in the hills on the east side of the City, including one that damaged 12 homes in 1980 and two in 2006. This additional hazard information was included at the City Council meeting held on May 16, 2006.

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

The City examined the hazard exposure of City urban land based on the information on ABAG's website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. Of the 23,931 urban acres in the City,

- ◆ Faulting – 797 acres are in the CGS Earthquake Fault Studies Zones.
- ◆ Shaking – 17,396 acres are in the highest two categories of shaking potential.
- ◆ Earthquake-induced landslides – CGS has not yet mapped Santa Rosa. The hazard is assumed to be similar to that for other existing landslides.
- ◆ Liquefaction – The acres in areas of moderate, high, or very high liquefaction susceptibility are not available.
- ◆ Tsunamis – Santa Rosa is not subject to tsunamis.
- ◆ Flooding – 1,405 acres are in the 100-year flood plain, while an additional 115 acres are in other flood-prone areas.
- ◆ Landslides – 804 acres are in areas of existing landslides (mostly landslide areas).
- ◆ Wildfires – 1,462 acres are subject to high, very high, or extreme wildfire threat (because of the urban nature of the City).
- ◆ Dam failure – 11,121 acres are subject to dam inundation.
- ◆ Drought – all of the urban acres are subject to drought.

The City also examined the hazard exposure of infrastructure based on the information on ABAG's website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. Of the 563 miles of roadway in the City,

- ◆ Faulting – 17 miles of roads are in the CSG Earthquake Fault Studies Zones.
- ◆ Shaking – 448 miles of roadway are in the highest two categories of shaking potential.
- ◆ Earthquake-induced landslides – CGS has not yet mapped Santa Rosa. The hazard is assumed to be similar to that for other existing landslides.
- ◆ Liquefaction – 299 miles of roadway are in areas of moderate, high, or very high liquefaction.

- ◆ Tsunamis – Santa Rosa is not subject to tsunamis.
- ◆ Flooding – 4 miles of roadway are in the 100-year flood plain, while no additional roads are in other flood-prone areas.
- ◆ Landslides – 13 miles of roadway are in areas of existing landslides (mostly landslide areas).
- ◆ Dam Inundation – 250 miles of roadway is in an area subject to dam inundation.
- ◆ Drought – drought is not an issue for roads.

In 2004 the City performed a hazard risk analysis of the wildland interface area surrounding the urban boundary. This information can be found at <http://forestfire.net/srhra.htm>. Of the 41 square miles in the city limits,

- ◆ 12 miles of roadway are subject to high, very high, or extreme wildfire threat, 228 miles of roads are in wildland-urban interface threat areas;
- ◆ Approximately 40,000 people live within the Bates Very High Hazard Severity Zones or in the wildland-urban interface threat areas;
- ◆ Vegetation and fuel type maps were interpreted from high-resolution aerial photos taken of Sonoma County in March of 2003;
- ◆ Vegetation was mapped within a 2-mile zone on the North, East and South boundaries of the City of Santa Rosa as well as potentially flammable vegetation within the city limits;
- ◆ This information can be used to determine the most probable path that wildland fires would follow in an interface fire scenario;
- ◆ The City has developed Structure Protection and Safety Plans for the wildland-urban interface threat areas;
- ◆ The City has a reciprocal Mutual Threat Zone Agreement with local fire agencies and the California Department of Forestry and Fire Protection for automatic response into areas that border Local and State Responsibility Areas
- ◆ The City has established vegetation management districts in the wildland-urban interface threat areas;

Finally, the City examined the hazard exposure of critical health care facilities, schools, and city-owned buildings based on the information on ABAG's website at

<http://quake.abag.ca.gov/mitigation/pickcrit.html>. Of the critical facilities in the City,

- ◆ Faulting – two critical health care facilities, one school, and no city-owned facilities are in the CGS Earthquake Fault Study Zone.
- ◆ Shaking – 48 health care facilities, 48 schools, and 36 city owned facilities are in the highest two categories of shaking potential.
- ◆ Earthquake-induced landslides – CGS has not yet mapped Santa Rosa. The hazard is assumed to be similar to that for other existing landslides.
- ◆ Liquefaction – 34 critical health care facilities, 28 schools, and 22 city-owned facilities are in areas of moderate, high, or very high liquefaction susceptibility.
- ◆ Flooding – no critical health care facilities, schools, or city-owned facilities are in either the 100-year flood plain or in other flood-prone areas.

- ◆ Landslides – no critical health care facilities or schools, but 2 city-owned facilities are in areas of existing landslides.
- ◆ Wildfire – 13 health care facilities, 16 schools, and 6 city-owned facilities are in wildland-urban interface threat areas.
- ◆ Dam Inundation – 7 critical health care facilities, 5 schools, and 12 city-owned facilities are in an area subject to dam inundation.
- ◆ Drought – Drought will not affect City buildings directly. While the City operates the water-supply distribution system, water is supplied to this system by the Sonoma County Water Agency.

In the areas of the City located in flood-prone areas, there are 8 repetitive loss properties in the City based on the information at <http://quake.abag.ca.gov/mitigation/pickflood.html>.

The City plans to work with ABAG during 2006-07 to improve the risk assessment information being compiled by ABAG by providing information on unreinforced masonry buildings and soft-story apartments located in the City.

Drought, though a potential problem in the City, is not fully assessed. The City will work with ABAG and various water supply agencies on this issue.

The City 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. The ABAG Annex states that ABAG will be doing this work in 2005 through 2006.

As these impacts are not fully developed, the City 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, wildfire, and landslides (including unstable earth) pose a significant risk for potential loss.

## **Mitigation Activities and Priorities**

As a participant in the ABAG multi-jurisdictional planning process, City of Santa Rosa staff helped in the development and review of the comprehensive list of mitigation strategies in the overall multi-jurisdictional plan. The list was discussed at a meeting of the City Police Chief, Building Official, Public Works Director, Planning Director, and Assistant City Manager on February 21, 2005. In addition, representatives of the fire district and school district were invited to this meeting, but chose not to attend. At the meeting, all of the mitigation strategies were reviewed. The tentative 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.

Over time, we are committed to developing better hazard and risk information to use in making those trade-offs. We are not trying to create a disaster-proof region, but a disaster-resistant one. In addition, several of the strategies are existing City programs.

These draft priorities were submitted to the City Manager for review. The draft priorities were then provided to the City Council on May 2, 2006. The public was provided with an opportunity to comment on the DRAFT priorities. The final strategies (as shown in the attached Table) will become an *Implementation Appendix* to the City's *Safety Element*.

In addition, the City examined the hazard exposure information to City-owned critical facilities supplied by ABAG. The City has determined that the combination of construction type, age, and shaking exposure to Fire Station No. 2 is significant. Therefore, the City plans to apply for a Pre-Disaster Mitigation grant to retrofit this fire station. (The City completed the retrofit of its City Hall in 1998.)

## **The Plan Update Process**

The City Director of Community Development 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 community, 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 City department heads 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. This group will be responsible for determining if the plan should be updated.

The City of Santa Rosa 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 City Director of Community Development will contact ABAG four years after this plan is approved to ensure that ABAG plans to undertake the plan update process. If so, the City 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 City 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.