NAPA COUNTY OPERATIONAL AREA HAZARD MITIGATION PLAN

2013 UPDATE

COUNTY EXECUTIVE OFFICE, EMERGENCY SERVICES DIVISION

Participating Jurisdictions: Cities of Calistoga, American Canyon, St. Helena, Town of Yountville, Napa Valley Community College District, Napa County Office of Education, Napa County Flood Control and Water Conservation District, and other Napa area emergency management partners.

A Tradition of Stewardship
A Commitment to Service

NAPA COUNTY OPERATIONAL AREA

HAZARD MITIGATION PLAN 2013-2018

County Executive Office, Emergency Services Division

Prepared by:

NAPA OPERATIONAL AREA PLANNING COMMITTEE

Administered by:

NANCY WATT, COUNTY EXECUTIVE OFFICER

KERRY JOHN WHITNEY, EMERGENCY SERVICES MANAGER

KEVIN TWOHEY, EMERGENCY SERVICES OFFICER

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Section 1. LEGAL REQUIREMENTS

1.1. ADOPTING RESOLUTIONS

RESOLUTION NO. 2014-32

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF AMERICAN CANYON OF COUNTY OF NAPA, STATE OF CALIFORNIA APPROVING THE DRAFT DISASTER MITIGATION ACT 2014 OPERATIONAL AREA AND COUNTY PRE-DISASTER HAZARD MITIGATION PLAN

WHEREAS, the Operational Area Council has drafted a revised Hazard Mitigation Plan to advance better mitigation planning and projects for the entire County of Napa; and

WHEREAS, each city, special district member and the public has contributed to this planning approach under the direction of the Federal Disaster Mitigation Act (DMA) 2014; and

WHEREAS, the City has read and agrees to abide by the DMA 2014 guidance and grant guidelines and this plan represents the compliance with same; and

NOW, THEREFORE, BE IT RESOLVED that the plan entitled "the Napa County Operational Hazard Mitigation Plan" is formally adopted as our plan and road map to a more disaster resistant community.

APPROVED AND ADOPTED at a special meeting of the City Council of The City of American Canyon on the 29th day of April, 2014, by the following vote:

Mayor Garcia:	Aye
Vice Mayor B. Bennett	Aye
Council Member J. Bennett:	Aye
Council Member M. Joseph:	Aye
Council Member K. Leary:	Aye

Leon Garcia

Leon Garcia, Mayor

ATTEST:

Rebekah Barr, City Clerk

APPROVED AS TO FORM

William D. Ross, District Counsel

RESOLUTION NO. 2014 - 035

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CALISTOGA, COUNTY OF NAPA, STATE OF CALIFORNIA APPROVING THE NAPA OPERATIONAL AREA HAZARD MITIGATION PLAN- 2013 UPDATE

WHEREAS, the City of Calistoga, as a member of the Napa County Operational Area, has joined with other county jurisdictions and the County of Napa to participate in the development of a joint Hazard Mitigation Plan to advance better mitigation planning and projects for the entire county; and

WHEREAS, each city, special district member and the public have contributed to this planning approach under the direction of the Federal Disaster Mitigation Act of 2000 (DMA 2000); and

WHEREAS, the City Council of the City of Calistoga has reviewed the Plan and agrees to abide by the DMA 2000 grant guidelines and this Plan represents compliance with same.

NOW, THEREFORE, BE IT RESOLVED that the Plan entitled "The Napa County Operational Hazard Mitigation Plan - 2013 Update" is formally adopted to be used as a plan and road map to a more disaster resistant community.

PASSED, APPROVED, AND ADOPTED by the City Council of the City of Calistoga at a regular meeting held this **20th day of May, 2014**, by the following vote:

AYES:	**Vice Mayor Dunsford, Councilmembers Kraus, Lopez-Ortega and Barnes and Mayor Canning**
NOES:	**None**
ABSTAIN:	**None**
ABSENT:	**None**

Chris Canning, Mayor

ATTEST:

Kathy Flamson, City Clerk

NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT RESOLUTION NO. 2014-04 (FC)

RESOLUTION OF THE GOVERNING BOARD OF THE NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT AUTHORIZING DISTRICT ENGINEER TO ACCEPT THE NAPA COUNTY OPERATIONAL AREA HAZARD MITIGATION PLAN

WHEREAS, the Napa County Operational Area Council has completed a Hazard Mitigation Plan to advance better mitigation planning and projects for Napa County; and

WHEREAS, each city, town and special district members and the public have contributed to this planning approach under the direction of the Federal Disaster Mitigation Act (MDA) 2000; and

WHEREAS, the updated Plan has been submitted to the California Emergency Management Agency (Cal-EMA) and Federal Emergency Management Agency (FEMA) for review and approval as being in compliance with the DMA 2000 requirements; and

WHEREAS, the Napa County Flood Control and Water Conservation District Board of Directors has read and agrees to abide by the 2000 DMA guidance and grant guidelines and this plan represents compliance with the same; and

NOW, THEREFORE IT BE RESOLVED by the Governing Board of the District that the plan entitled, "Napa County Operational Area Hazard Mitigation Plan" is hereby formally accepted by the District Engineer as the County's plan and road map to a more disaster-resistant community.

THE FOREGOING RESOLUTION WAS DULY AND REGULARLY ADOPTED by the Board of Directors of the Napa County Flood Control and Water Conservation District at a regular meeting thereof on May 6, 2014, by the following vote, with the number following each voting Director indicating the number of votes cast by the Director:

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AYES:	DIRECTORS	DODD, DILLON, WAGENKNECHT, LUCE CALDWELL, TECHEL, INMAN, GARCIA, DUNBAR, NEVERO and BARNES
NOES:	DIRECTORS	NONE
ABSENT:	DIRECTORS	NONE

NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Jill Techel

JILL TECHEL, Chairperson of the Board of Directors

ATTEST:
GLADYS I. COIL,
Secretary of the District Board

By: Gladys I. Coil

APPROVED AS TO FORM
Office of District Legal Counsel

By: Robert C. Martin (By E-Sign)

Date: April 28, 2014

APPROVED BY THE BOARD OF DIRECTORS OF THE NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Date: 5·6·2014

Processed by:

~~Deputy~~ Secretary of the District Board

NAPA VALLEY COLLEGE

Letter of Adoption - Napa Operational Area Hazard Mitigation Plan

Approval Date: April 4, 2014

The Preservation of life, property and the environment is an inherent responsibility of all governmental institutions. The Napa Valley Community College District in cooperation with the members of the Napa County Operational Area, have prepared this updated annex to the Napa County mitigation plan to ensure the most effective and economical allocation of resources for the protection of people, property and the environment prior to the onset of a natural or technological disaster.

While no plan can completely prevent death and destruction, good plans carried out by knowledgeable and well trained people can and will minimize losses. This plan continues the work began in the initial Hazard Mitigation Plan promulgated in 2014 and establishes the priorities and processes for making the greater Napa County Area a more disaster resist community.

The overall goal of this plan is to incorporate and coordinate the best possible approaches to mitigation from our four major threats, flooding, earthquakes, wildfire and technological hazards, as well as identifying overarching mitigation strategies that would be useful in the event of any threat to our community. By implementing over time, and as funds allow these approaches to mitigation, we enhance the survivability of our facilities, services and personnel, while enhancing our ability to respond to and recover from any crises or disaster.

This letter adopts the updated ***Napa Operational Area Hazard Mitigation Plan*** as an official standing annex of the Napa Valley College Community College District Emergency Operations Plan. This plan reflects the philosophy, in accordance with State and Federal guidance, that repetitive and avoidable disaster loss must be prevented to make all communities, disaster resistant communities.

Signed: _____

Ronald D. Kraft, Ph.D., Superintendent/President

2277 Napa-Vallejo Highway, Napa CA 94558

NAPA COUNTY OFFICE
of Education

Letter of Adoption
Approval Date: May 1, 2014

Barbara G. Nemko, Ph.D.
Superintendent
(707) 253-6810

Business Services
(707) 253-6819

Fiscal Services
(707) 253-6833

General Services
(707) 253-6828

Human Resources
(707) 253-6824

Educational Services
(707) 253-6810

Court & Community Schools
(707) 253-6817

Curriculum & Instruction
(707) 253-6999

Early Childhood Services
(707) 253-6914

Regional Occupational Program
(707) 253-6830

Safe Schools/Healthy Students
(707) 259-5979

SELPA
(707) 253-6807

To: Officials, Staff and Students of the Napa County Office of Education

The Preservation of life, property and the environment is an inherent responsibility of all governmental institutions. The Napa County Office of Education in cooperation with the members of the Napa County Operational Area, have prepared this updated mitigation plan to ensure the most effective and economical allocation of resources for the protection of people, property and the environment prior to the onset of a natural or technological disaster.

While no plan can completely prevent death and destruction, good plans carried out by knowledgeable and well-trained people can and will minimize losses. This plan continues the work that began in the initial Hazard Mitigation Plan promulgated in 2004 and establishes the priorities and processes for making the greater Napa County areas a more disaster resist community.

The overall goal of this plan is to incorporate and coordinate the best possible approaches to mitigation from our four major threats; flooding, earthquakes, wildfire and technological hazards, as well as identifying overarching mitigation strategies that would be useful in the event of any threat to our community. By implementing over time and as funds allow these approaches to mitigation, we enhance the survivability of our facilities, services and personnel, while enhancing our ability to respond to and recover from any crises or disaster.

This letter adopts the updated ***Napa Operational Area Hazard Mitigation Plan 2013*** as an official standing annex of the Napa County Office of Education Joint School District Emergency Operations Plan. This plan reflects the philosophy, in accordance with State and Federal guidance, that repetitive and avoidable disaster loss must be prevented to make all communities disaster resistant communities.

Signed: Barbara Nemko Date: 4/22/14
Barbara Nemko, Superintendent

NAPA COUNTY OFFICE OF EDUCATION, 2121 IMOLA AVENUE, NAPA, CA 94559-3625
TEL (707) 253-6800 FAX (707) 253-6841 www.ncoe.k12.ca.us

CITY OF ST. HELENA

RESOLUTION NO. 2014 -17

APPROVING THE DMA 2000 OPERATIONAL AREA AND NAPA COUNTY HAZARD MITIGATION PLAN

RECITALS

A . The City of St. Helena has participated in the development of the Napa Operational Area Hazard Mitigation Plan to advance better mitigation planning and projects for the entire county.

B. The City of St. Helena agrees to abide by the DMA 2000 guidance and grant guidelines and this plan represents the compliance with DMA 2000.

RESOLUTION

NOW, THEREFORE, the City Council of the City of St. Helena resolves as follows:

1. The plan entitled "Napa Operational Area Pre-disaster Hazard Mitigation Plan" is formally adopted as our plan and road map to a more disaster resistant community.

Approved at a Regular Meeting of the St. Helena City Council on April 08, 2014, by the following vote:

AYES: Crull, Sculatti, White, Pitts, Mayor Nevero
NOES: None
ABSENT: None
ABSTAIN: None

CITY OF ST. HELENA Incorporated March 24, 1876 Reincorporated Mar 31, 1992 STATE OF CALIFORNIA

APPROVED:

Ann Nevero, Mayor

ATTEST:

Cindy Black, Interim City Clerk

Town of Yountville

Resolution Number 3171-14

Authorizing the Adoption of the Napa County Operational Area Hazard Mitigation Plan 2013 Update

Recitals

A. The Napa County Operational Area Hazard Mitigation Plan 2013 Update recognizes the threat that natural hazards pose to people and property within our community.

B. The Town of Yountville is a member agency of the County-wide emergency response planning and disaster mitigation plan. Each city, town, special district member, and public has contributed to this planning approach under the direction of the federal Disaster Mitigation Act of 2000.

C. The Town of Yountville contracts with the County of Napa for its law enforcement and fire and emergency medical services and as such they are not only our disaster planning staff but more significantly, also our first responders in the event of an actual disaster.

D. The Operational Area Council initially drafted a Hazard Mitigation Plan for Napa County to advance better mitigation planning and projects for the entire county. The Town Council initially adopted this plan in 2000 and has subsequently reviewed and adopted an updated plan in 2004 and 2009. The 2013 Napa Operational Area Hazard Mitigation Plan has been developed by the Napa County Office of Emergency Services in cooperation with other county departments, local municipal officials, and the citizens of Napa County.

E. The Town of Yountville has been involved with potential disaster mitigation planning in Napa County as a part of an ongoing focus since the adoption of the Disaster Mitigation Act (DMA) of 2000. Under the Town's contracts for law enforcement and fire and emergency medical services, the County of Napa provides this planning and implementation support to the Town of Yountville. The current Napa County Operational Plan was last updated by the County in 2009. The Act reinforces the importance of pre-disaster mitigation planning to reduce disaster losses nationwide.

F. The Yountville Town Council has read and agrees to continue to abide by the DMA 2000 guidance and grant guidelines and the provisions of the 2013 updated plan represents compliance with the same.

Now therefore, the Town Council of the Town of Yountville does resolve as follows:

1. The updated 2013 plan entitled "Napa County Operational Area Hazard Mitigation Plan 2013 Update" is formally adopted by the Town Council as our plan and road map to a more disaster resistant community and as an official plan as required by the Federal Emergency Management Agency;

2. The Town Manager is authorized to finalize and execute the final draft of the updated plan recognizing that Town staff has reviewed the draft document prepared by the County and that the Town Manager . The Town Manager on behalf of the Town and other respective officials and agencies identified in the implementation strategy of the plan are hereby directed to implement the recommended activities assigned to them.

3. The Resolution is hereby adopted and becomes effective and in full force immediately upon adoption.

PASSED AND ADOPTED at a regular meeting of the Town Council of the Town of Yountville, State of California, held on this 6th day of May, 2014 by the following vote:

AYES: Mohler, Chilton and Dunbar
NOES: None
ABSENT: Mohler and Hall
ABSTAIN: None

John F. Dunbar, Mayor

ATTEST:

Michelle Dahme
Town Clerk

RESOLUTION NO. 2014-63

RESOLUTION OF THE BOARD OF SUPERVISORS OF NAPA COUNTY, STATE OF CALIFORNIA ADOPTING THE 2013 NAPA OPERATIONAL AREA HAZARD MITIGATION PLAN

WHEREAS, the 2013 Napa Operational Area Hazard Mitigation Plan recognizes the threat that natural hazards pose to people and property within our community; and

WHEREAS, undertaking hazard mitigation actions will reduce the potential for harm to people and property from future hazard occurrences; and

WHEREAS, Section 322 of the Disaster Mitigation Act of 2000 (DMA 2000) requires state and local governments to develop and submit for approval to the President a mitigation plan that outlines processes for identifying their respective natural hazards, risks, and vulnerabilities; and

WHEREAS, 2013 Napa Operational Area Hazard Mitigation Plan acknowledges the requirements of Section 322 of DMA 2000 to have an approved Hazard Mitigation Plan as a prerequisite to receiving post-disaster Hazard Mitigation Grant Program funds; and

WHEREAS, the 2013 Napa Operational Area Hazard Mitigation Plan has been developed by the Napa County Office of Emergency Services in cooperation with other county departments, local municipal officials, and the citizens of Napa County; and

WHEREAS, a public involvement process consistent with the requirements of DMA 2000 was conducted to develop the 2013 Napa Operational Area Hazard Mitigation Plan; and

WHEREAS, the 2013 Napa Operational Area Hazard Mitigation Plan recommends mitigation activities that will reduce losses to life and property affected by both natural and human-made hazards that face the County and its municipal governments.

NOW, THEREFORE, BE IT RESOLVED, by the Board of Supervisors of Napa County that the Board hereby adopts the "2013 Napa Operational Area Hazard Mitigation Plan" as an official plan as required by the Federal Emergency Management Agency; and the respective officials and agencies identified in the implementation strategy of the plan are hereby directed to implement the recommended activities assigned to them.

BE IT FURTHER RESOLVED, that the Emergency Services Manager of Napa County will submit this Resolution to the California Office of Emergency Services and Federal Emergency Management Agency, Region IX officials to enable the Plan's final approval.

THE FOREGOING RESOLUTION WAS DULY AND REGULARLY adopted by the Board of Supervisors of Napa County, State of California, at a regular meeting of the Board held on the 10th day of June, 2014 by the following vote:

AYES:	SUPERVISORS	CALDWELL, WAGENKNECHT, DODD AND LUCE
NOES:	SUPERVISORS	NONE
ABSENT:	SUPERVISORS	DILLON

MARK LUCE, Chair
Napa County Board of Supervisors

ATTEST: GLADYS I. COIL,
Clerk of the Board of Supervisors
By: _____

APPROVED AS TO FORM
Office of County Counsel

By: *Janice D. Killion (e-sign)*

Date: May 5, 2014

APPROVED BY THE NAPA COUNTY BOARD OF SUPERVISORS

Date: 5/10/14

Processed by:

Deputy Clerk of the Board

1.2. EXECUTIVE SUMMARY

Napa County, California and participating jurisdictions developed this Multi-Jurisdictional Hazard Mitigation Plan Update in a continuing effort to reduce or eliminate future loss of life and property resulting from natural disasters. This plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000; to update the plan adopted in 2004; and to achieve eligibility for the Federal Emergency Management Agency (FEMA) Flood Mitigation Assistance, Pre-Disaster Mitigation, and Hazard Mitigation Grant Programs.

The Napa County Multi-Hazard Mitigation Plan is a multi-jurisdictional plan that covers the following local governments that participated in the planning process:

- Napa County
- City of American Canyon
- Town of Yountville
- City of St. Helena
- City of Calistoga
- Napa County Flood Control and Water Conservation District
- Napa Valley College
- Napa County Office of Education

The City of Napa supports this planning effort and collaborated with Napa County throughout the planning process. However, the City of Napa elected to not officially participate and adopt the mitigation plan. Instead the City of Napa produced a separate plan but, again, collaboration in the planning process resulted in many of the plan elements building a congruence of approach, direction and complementary projects.

The County's planning process followed the methodology set forth by FEMA, beginning with the formation of the Planning Committee, participating jurisdictions, and state and federal agencies and included 2 public meetings in November and December 2009 that were noticed in public meeting notices, press releases and invitations sent to each participating member organization , meetings with each of the participating members and their selected staff followed by agenda item approvals of the draft plan (copies of each agency's resolution adopting the plan are attached). Opportunities for public comment and Plan review were provided during the initial planning stages and prior to adoption. The updated plan has been presented to each of the plan participants and the adopted/approved plan will be made available on the County's website and at the public libraries.

Risk Assessments identified as a part of the planning process resulted in the profiling of hazards that pose risk to Napa County, assessed the County's vulnerability to those hazards, and examined the capabilities in place to mitigate them. The County is vulnerable to several hazards identified, profiled, and analyzed in this plan.

The County is considerably vulnerable to **flooding** which has caused the most disaster declarations and the most damage and loss of life historically. The February 1986 flood, estimated to have been a 35-year event, resulted in three lives lost, 27 injured, 5,000 evacuations,

250 homes destroyed, and another 2,500 residences damaged countywide, totaling $100 million in damages. The most recent flooding occurred in December 2005.

Earthquakes also present vulnerability. Napa County is located directly on major faults including Northern San Andreas, Rodgers Creek, Northern Hayward, the Concord Green Valley and West Napa Fault. A moderate to severe seismic incident on any of the several fault zones in relatively close proximity to the County is expected to result in significant property damage, deaths and injuries, damage to water, sewer, gas line facilities and communications systems, disruption of transportation and very scarce mutual aid response resources. On September 3, 2000 a magnitude 5.2 earthquake occurred in the Napa Valley on the West Napa Fault. Its epicenter was located by USGS as 3 miles west/southwest of Yountville and 9 miles northwest of Napa in the hills west of the Napa Valley. Fortunately, there were no fatalities, only one serious injury; 40 people were treated as outpatients at local hospitals immediately after the quake. Red Cross did provide temporary shelters to approximately 70 people. Damages were estimated at $30 - 50 million. Damages were confined to broken windows, minor exterior cracking, and extensive damage to residential contents, chimney separation and collapse. 168 homes were "yellow tagged" and 16 "red tags" to structures from the earthquake. The Governor declared a state of emergency, followed by a presidential major disaster declaration.

The USGS, Cal EMA, the California Geological Survey, and ABAG jointly conducted a loss estimation study focusing on the ten most likely damaging earthquakes forecast for the Bay Area Region. The 30 year probability for a 7.0 magnitude rupture of the Rogers Creek fault is 15.2%, the highest of any fault in the region. Our preparedness focuses on this occurrence.

The County is also substantially vulnerable to **wildland/urban interface fires**. Napa County has a rich wildfire history. In the last 30 years more than 200,000 acres of the County's 482,000 acres have burned. Fortunately, in recent years mitigation efforts have significantly decreased wildfire incidents. The last significant wildland fire in Napa County was the Deer Fire that occurred just northeast of St. Helena on October 10, 2008 burning 233 acres and destroying one home.

Because of these vulnerabilities, Napa County has taken an aggressive approach at reducing impacts through mitigation – for example, the hugely successful Firewise program has reduced wildland fire vulnerability; the near completion of the Napa River flood mitigation project has significantly diminished the threat of flooding; and, the County Operational Area's attention to earthquake emergency response and long term recovery efforts will have an impact on lessening the societal and economic impact of a future seismic event.

Based on the risk assessment this plan has identified goals for reducing risks from hazards. The goals of this plan are to:

- Protect life and property
- Ensure emergency services
- Increase public awareness and understanding of hazard mitigation
- Protect critical facilities properties, infrastructure and other community assets from the impacts of hazards
- Continue to strengthen communication and build on the collaborative success already achieved

- Promote a disaster resilient and sustainable economy

This plan serves as a recommendation for mitigation measures. Implementation depends on adoption by the Napa County Board of Supervisors, City Councils or Board of Trustees of each participating municipality and district. Formal adoption ensures that implementation of the action items as resources become available. This plan must also continue to be monitored, maintained and updated as addressed in Section 5.

Finally, the individuals responsible for the plan development process and the creation of the plan update document are all mentioned by name and agency in Section 2.2 of the plan. This is a collaborative group and without the able assistance of each and every one of these individuals this plan, in the furtherance of a resilient and hazard proof County, would not be possible.

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Section 2. THE PLANNING PROCESS

This section describes each stage of the planning process used to develop the 2013 Napa County Operational Area Hazard Mitigation Plan (HMP). The HMP planning process provides a framework for the document development and follows the FEMA recommended steps. The Napa County HMP follows a prescribed series of planning steps which includes organizing resources, assessing risk, developing the mitigation plan, drafting the plan, reviewing and revising the plan, adopting and submitting the plan for approval. Each is described in this section.

2.1. Planning Process

Hazard mitigation planning in the United States is guided by the statutory regulations described in the DMA 2000 and implemented through 44 Code of Federal Regulations (CFR) Part 201 and 206. FEMA's HMP guidelines outline a four-step planning process for the development and approval of HMPs. In order to receive approval from state and federal review bodies Table 2-1 illustrates the list of CFRs that must be followed in a standardized process.

Table 2-1: DMA 2000 CFR Breakdown

DMA 2000 (44 CFR 201.6)	Plan Section
(1) Organize Resources	**Section 2.2**
201.6(c)(1)	
201.6(b)(1)	
201.6(b)(2) and (3)	
(2) Assess Risks	**Section 3**
201.6(c)(2)(i)	
201.6(c)(2)(ii) and (iii)	
(3) Develop the Mitigation Plan	**Section 4**
201.6(c)(3)(i)	
201.6(c)(3)(ii)	
201.6(c)(3)(iii)	
(4) Plan Maintenance	**Section 5**
201.6(c)(5)	
201.6(c)(4)	

For the development of the updated Napa County HMP, a planning process was customized to meet Napa County's unique population and demographic. However, all the basic federal guidance documents and regulations are met through the customized process. As shown in Figure 2-1, the HMP planning process included organizing resources, assessing risk, developing the mitigation action strategy, drafting the plan, reviewing and revising the plan, and adopting and submitting the plan.

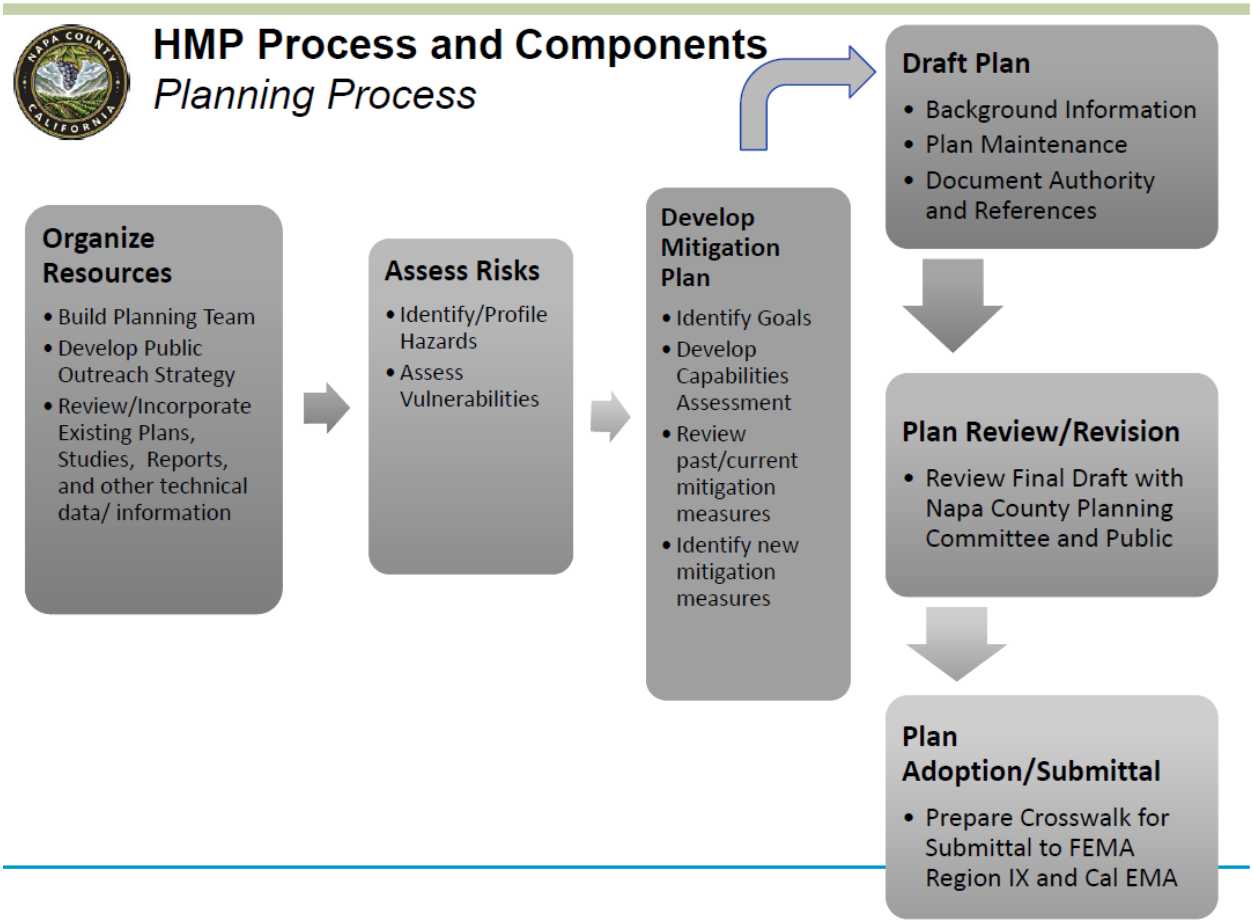

Figure 2-1: Napa County HMP Planning Process

2.2. Organize Resources

This section describes the first step of the 2013 Napa County HMP planning process – Organizing Resources. It outlines the HMP Planning Team, and includes information on the development of the HMP Planning Committee, and Jurisdictional Focus Groups. As part of this step, the Project Team reviewed and incorporated, as appropriate, a variety of existing plans, studies, reports, and other technical data/information into the HMP document.

2.2.1. Build Planning Team

The Planning Team is responsible for the back bone of the planning process and provided direction for the development of the HMP. For this planning process, the Planning Team consisted of a Planning Committee and Jurisdictional Focus Groups. The planning team consists of key decision makers from each jurisdiction, and also represents the public face of the HMP Planning Process.

During the development of this plan, the City of Napa was also producing their own Hazard Mitigation Plan in tandem to the Napa County HMP. The plans were developed in collaboration in order to build a congruence of approach on many of the plan elements.

2.2.1.1. *Planning Committee*

The HMP Planning Committee includes members of Napa County staff as well as jurisdictional stakeholders. HMP Planning Committee meeting members included those who actively participated in the planning process (i.e., attended meetings/workshops, provided input during information solicitations, etc.). Table 2-2 provides a list of the HMP Planning Committee members who provided active input in the planning process.

The HMP Planning Committee is used to guide the planning process and ensure the mitigation plan meets the goals of the County, State and Federal Hazard Mitigation Plan requirements.

The Planning Committee was responsible for the following tasks:

- Attended and participated in two facilitated meetings
- Provided important local information and data to assist in the development of the plan
- Made decisions on plan process and content
- Coordinated and participated in the public input process
- Reviewed and responded to comments on plan drafts
- Identified mitigation actions for the HMP

The preparation of the HMP included two facilitated meetings with Napa County Office of Emergency Services staff and participating jurisdictional stakeholders such as the City of St. Helena, City of Calistoga, City of American Canyon, Town of Yountville, etc.

Table 2-2: 2013 HMP Planning Committee

Name	Organization
Ken Arnold	Napa Valley College Police Department
Brianna Benson	St. Helena Hospital
Steve Brassfield	Napa City Fire/Disaster Management
Steve Campbell	Calistoga Fire Department
Memoree McIntire	CalEMA-Coastal
Steven Rogers	Town of Yountville
Jacqueline Rubin	St. Helena Police Department
Anne Steinhauer	Napa Red Cross
Jim Tomlinson	Napa County Office of Education

Scott Upton	Napa County Fire/CAL FIRE
Glen Weeks	City of American Canyon Fire District
Martha Banuelos	City of American Canyon Fire District
Richard Thomasser	Napa County Watershed & Flood Control
John Ferons	City of St. Helena
Kevin Twohey	Napa County Emergency Services
Kerry Whitney	Napa County Risk Management
John McDowell	Napa County Planning Department
Darrell Mayes	Napa County Building Department
William T. Imboden	Saint Helena Police Department
Andrew Butler	Napa County Watershed & Flood Control
Steve Hawks	Napa County Fire/CAL FIRE
Jennifer Jones	Napa Red Cross
Nick Neisius	Napa Red Cross
Stephen Gort	Napa Communities Firewise Foundation
Matt Christenson	Napa Valley College
Katy Wallis	Napa County GIS
Pete Munoa	Napa County Fire Department
Mike Randolph	Napa Fire Department
Lynn Goldberg	City of Calistoga Planning Department
Karen Harnois	City of Napa Public Works Department

2.2.1.2. *Jurisdictional Focus Groups*

The planning committee members were broken up into jurisdictional focus groups in order to focus on the specific vulnerabilities of each community within Napa County. Together with the HMP Consultant Team, each jurisdictional group identified changes in development within their communities, reviewed and confirmed information used to create the hazard and community profiles, and developed mitigation actions to address the specific hazards that are present in their

communities. These groups were initiated at the first jurisdictional planning meeting on May 23, 2013, which was facilitated by the consultant team.

An appendix for each jurisdiction within Napa County was created in order to consolidate information and determine each jurisdiction's vulnerabilities, capabilities and specific mitigation actions. Each jurisdictional appendix can be found in Appendices B – H.

2.2.1.3. *Consultant Team*

To provide assistance to the planning team, the County enlisted the support of a consultant Michael Baker Jr., Inc (Baker). Baker assisted the County through facilitation in the planning process, data collection, meeting material and document development. The consultant team, as shown in Table 2-3: HMP Consultant Team Table 2-3 consists of a variety of hazard mitigation professionals. Baker has expertise to assist public sector entities with developing hazard mitigation planning and strategies for particular hazard prone areas.

Table 2-3: HMP Consultant Team

HMP Update Project Team	HMP Update Project Team Role
Ethan Mobley, AICP	Project Manager
Desirae Hoffman	Hazard Mitigation Planner
Lane Simmons	GIS Specialist/Spatial Analyst
Carver Struve, CFM	Senior Technical Advisor

2.2.1.4. *Planning Committee Meetings*

The HMP Planning Committee assembled in meetings throughout the development of the updated HMP document. Some meetings were conducted in person, while others were conducted via conference calls. The Napa Operational Area Council met quarterly with key representatives from the included jurisdictions, during the initial draft development, in order to give input on the plan content and direction. The Emergency Services Coordinator for each partner agency provided review of the draft revisions and input into the content. The Flood Control District, American Red Cross, Community College District and the County Office of Education also contributed to these meetings and participated in the progress reviews.

In addition to initial Napa Operational Area Council meetings, two facilitated meetings were held to develop the capabilities assessment, community profiles, mitigation strategies and mitigation actions to assess each jurisdiction's overall change in vulnerability. Table 2-4 summarizes the two facilitated meetings conducted throughout the planning process, including meeting date, type, and topics discussed. Materials provided at each meeting are included in Appendix I. Meeting documentation, including agendas, hazard maps, PowerPoint presentations, sign-in sheets, and other relevant handouts, are provided in Appendix I.

Figure 2-2: Planning Committee Meeting #1

Figure 2-3: Jurisdictional Focus Groups at Planning Committee Meeting #1

Table 2-4: Planning Committee Meeting Summary

Date	Meeting Type	Topics
May 23rd, 2013	Planning Committee #1	*Part 1:* *Project Overview* *HMP Update Process and Components* *Overview of Existing HMP* *Project Timeline* *Part 2:* *Risk Factor Development* *Community Profiles* *Capabilities Assessment*
June 20th, 2013	Planning Committee #2	*Part 1:* *Mitigation Action Review* *Part 2:* *Existing Planning Mechanisms* *Review and Update Tempo* *Tools and Templates*

2.2.2. Public Outreach

Public outreach is a major and required component of the HMP Update. The Napa County HMP Public Outreach Strategy was developed to maximize public involvement in the HMP planning process. Instead of building a process from scratch, it was built on the existing work of the Firewise Working Group and associated and newly created Firewise councils, the combined Operational Area Council and Terrorism Working Group (TWG) and the Napa County Flood Control and Water Conservation District. In November and December 2009 a series of Public Meetings were conducted to meet the guidance requirements and receive additional public input. On November 3, 2009 Napa County co-hosted the first with the City of Napa, followed by meetings in Calistoga, St. Helena and American Canyon. Each meeting was announced the week before on local radio as well as noticed in each local newspaper. The participants demonstrated a high degree of awareness of the potential major threats to Napa County and were very supportive of the scope of the revisions to the plan and programs proposed to address them.

After these meetings the public had another opportunity to address the plan when the drafts went to Councils and Boards. During this process the comments were overwhelming positive from the public comments, staff reviews and the elected officials themselves. The draft revised HMP received the approval of all four city or town Councils involved, the County Board of Supervisors and the three District Boards involved in the planning process. Copies of their Board actions are included in the Legal Requirements section.

2.2.3. Incorporation of Earlier Plans and Studies

The HMP Update clearly demonstrates the integration of special studies, projects, programs and plans.

The Napa River/Napa Creek Flood Protection Project and funding provided through Napa County Measure A are the foundation of all the detailed flood mitigation threat and mitigation actions. The ongoing Flood Project was recognized by both the Federal and State governments as a model project for creating a more disaster resistant community. The concept of a living river that naturally protects the community from flooding, versus the previously used engineered concrete ditch approach, was the first in the nation.

This plan also integrates the findings of the 2003 Firewise workshop in both the description of the interface fire threat and the mitigation actions. Firewise is a nationally recognized mitigation program, the input from over ninety public and private participants was invaluable in setting the foundation for the fire portion of this plan.

During the elected officials briefing following the Napa Earthquake of 2000, Napa Mayor Ed Henderson requested of the federal government a special earthquake study. The study was a collaboration of Napa County, the State Office of Mine and Geology, FEMA, OES and the USGS. The findings are the centerpiece of the earthquake section of this plan along with the previously published California Mines and Geology/USGS special studies.

Napa County also updated their General Plan in 2009. A major element of the process was updating the Safety Element of the General Plan. The Safety Element contains goals, policies, objectives, and actions which seek to make the County of Napa a safe place for residents, businesses, and travelers. Napa County has a FEMA approved Flood Plain Management ordinance. The Safety Plan recognizes that the Hazard Mitigation Plan is critically important to maintaining a safe environment for all residents and businesses in Napa County. By implementing the Hazard Mitigation Plan the goals and policies of the Safety Plan will be met. The County has committed to regularly update this Hazard Mitigation Plan to ensure that it remains current and useful.

2.2.4. Access Risks

In accordance with FEMA requirements, this step of the HMP planning process required the Planning Committee to identify and prioritize the natural hazards affecting Napa County and assessed the vulnerability from such. Results from this phase in the HMP planning process aided subsequent identification of appropriate mitigation actions for reducing risk in specific locations and hazards. This section of the HMP Update planning process is detailed in Section 3 for Napa County, and is further detailed for each jurisdiction in Appendices B-H.

2.2.4.1. *Identify/Profile Hazards*

Based on a review of past hazards as well as a review of the existing plans, reports, and other technical studies/data/information, the Planning Committee determined the existing hazards that have the potential to affect Napa County. Updated content for each hazard profiled is provided in Section 3.1.

2.2.4.2. *Assess Vulnerabilities*

Hazard profiling exposes the unique characteristics of individual hazards and begins the process of determining which areas within Napa County are vulnerable to specific hazard events. The vulnerability assessment included field visits, a Hazus risk assessment for flooding, as well as a GIS overlaying method for other hazards. Using these methodologies, vulnerable populations,

infrastructure and potential loss estimates impacted by natural hazards was able to be determined. Detailed information on each hazard vulnerability assessment is provided in Section 3.

2.2.5. Develop Mitigation Plan

When the initial draft revisions were completed in early October 2009 it was distributed to the Operational Area Council. Each participating jurisdiction completed an internal staff review and returned changes to the Operational Area Emergency Manager. The Op Area Emergency Manager and the consultants integrated those changes into the coordinating draft that was used for the series of public meetings.

The HMP Update was prepared in accordance with DMA 2000 and FEMA's HMP guidance documents. As such, this document provides the explicit strategy and blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and Napa County's ability to expand on and improve these existing tools. Developing the mitigation plan involved identifying goals, developing a capabilities assessment, reviewing 2004 mitigation actions, and identifying new mitigation actions. This step of the HMP planning process is detailed in Section 4 and summarized below.

2.2.5.1. *Identify Goals*

The HMP Planning Committee reviewed the 2004 HMP goals and hazards profiles, developed vulnerability assessments for each jurisdiction, and set new goals and objectives for the 2013 HMP based on current and revised information. The Goals and Objectives are outlined in Section 4.

2.2.5.2. *Develop Capabilities Assessment*

A capabilities assessment is a comprehensive review of all the various mitigation capabilities and tools currently available to Napa County to implement the mitigation actions that are prescribed in the HMP Update. The HMP Planning Committee identified the technical, financial, and administrative capabilities to implement mitigation actions of the County and each participating jurisdiction as detailed in Section 4 and Appendix A.

2.2.5.3. *Identify Mitigation Actions*

Mitigation strategy consists of broad goal statements as well as specific mitigation actions for each jurisdiction participating in the planning process. Updated strategies are found in Section 4 and Appendix A, and provide the foundation for detailed mitigation action plans that link jurisdictionally specific mitigation actions to locally assigned implementation mechanisms and target completion dates. Section 4 and Appendix A are designed to make the Plan practical through the identification of both long-term goals and near-term actions that will guide day-to-day decision-making and project implementation.

As part of the HMP planning process, the Planning Committee reviewed and analyzed the status of the mitigation actions identified in the 2004 Napa County HMP and provided data and information on the status of the existing mitigation actions. Once the review and analysis of the 2004 HMP mitigation actions was complete, the HMP Consultant Team and Jurisdictional Focus Groups worked together to identify and develop new mitigation actions with implementation elements. Mitigation actions were prioritized and detailed implementation strategies were

developed during Planning Committee Meeting #2. A detailed approach of the review of the existing mitigation actions, identification and prioritization of new mitigation actions, and the creation of the implementation strategy is provided in Section 4. Implementation worksheets and progress reports for each mitigation action are provided in Appendix A.

2.2.5.4. *Draft HMP Update*

Once the risk assessment and mitigation strategies were completed, information, data, and associated narratives were compiled into the 2013 Napa County HMP. Section 4 provides detailed information on existing and new mitigation strategies updated as part of the 2013 plan.

2.2.5.5. *Plan Review and Revision*

Once the "Draft" 2013 Napa County HMP was completed, a public and government review period was established for official review and revision. Public comments were accepted, reviewed and incorporated into this update. Applicable comments from the public have been received and addressed prior to the Board of Supervisors' "authorization to submit" to FEMA and Cal EMA review parties.

2.2.5.6. *Plan Adoption and Submittal*

This plan has been submitted and approved by FEMA and adopted as the official statement of Napa County's hazards by the Board of Supervisors. A copy of the Board of Supervisors' resolution is provided in Section 1.

2.2.5.7. *Plan Maintenance*

Updated plan maintenance procedures found in Section 5 include the measures Napa County and participating jurisdictions will take to ensure the Plan's continuous long-term implementation. An implementation worksheet was completed for each mitigation action and can be found in Appendix A. The procedures also include the manner in which the Plan will be regularly monitored, reported upon, evaluated and updated to remain a current and meaningful planning document.

2.3. Community Descriptions

This section provides background information on the history, geography, climate, population and economy of Napa County and for each participation jurisdiction.

2.3.1. Napa County Operational Area Overview

2.3.1.1. *Geography*

Napa County is located in the North Bay Area of California, north of San Pablo Bay and 50 miles north of San Francisco. It is officially one of the nine San Francisco Bay Area counties and one of four North Bay counties. Contiguous counties include Solano, Sonoma, Lake and Yolo. The land area of the County is approximately 788 square miles, of which approximately 754 square miles is land and 34 square miles is water. It extends from the Napa River Delta on the south and west to the Mayacmas Mountain range in the north. The County is located in the Governor's Office of Emergency Services Coastal Region and Mutual Aid Region II.

State Route 29 is the largest capacity road running north and south through the Napa Valley, becoming a four-lane limited-access expressway in the City of Napa. State Route 29 connects the five incorporated cities in Napa County: American Canyon; Napa; Yountville; St. Helena; and Calistoga. In the north it connects Napa County to Lake County and in the south to Solano County.

State Routes 121, 128, and the Silverado Trail, provide some redundancy. State Highway 128 (east and west) cuts through the County in the east through the Lake Berryessa Resort area and to the northwest connecting the Napa Valley to the Knights, Alexander and Anderson Valleys in Sonoma County. State Route 12 goes across the valley and connects Interstate 80 to 101. State Route 121 connects Napa County to Sonoma County to the west overlapping SR 12. It begins another overlap with SR 29, into the City of Napa .It continues northward and meets SR 221 in Napa. As it leaves the city, it continues northward for several miles before reaching its north end at SR 128.

2.3.1.2. *Climate*

The general climate of Napa County can be typified as Mediterranean, with cool, wet winters and warm, dry summers. However, it differs slightly across the County due to variability of the terrain and geography. For instance, the southern end of the valley where American Canyon and Napa City are located is cooler than the northern part of the County due to their location near the northern tip of the San Francisco Bay, known as San Pablo Bay. Winds from the bay move upward and cool off the southern end of Napa County as far north as Yountville. The terrain north of Yountville does not allow the wind to come through to the St. Helena and Calistoga areas, therefore those regions tend to be much warmer.

Average annual rainfall in Napa County is less than 24 inches, with over half of the rain occurring in the winter months of December, January and February. The western side of the valley, in the Mayacamas Mountains, gets more rain and supports the life of redwood and fir forests and numerous streams and waterfalls. The eastern side of the valley – the Vacas Mountains – receives much less rain and therefore tends to be more desert-like with scrub brush and cactus. Temperatures in Napa County typically range from a low of 61 degrees Fahrenheit during the winter months and a high of 92 degrees Fahrenheit in the summer.

Figure 2-4 - Figure 2-7 present the average minimum and maximum temperature and monthly average precipitation statistics for the City of Calistoga (northern Napa County) and Napa City (southern Napa County).

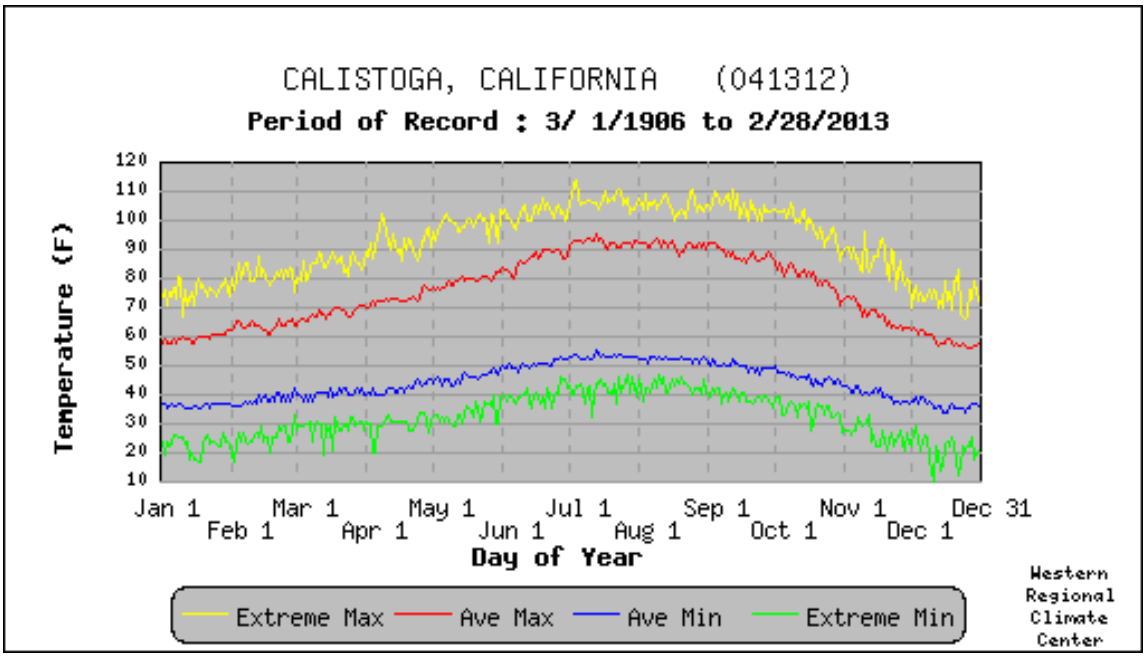

Figure 2-4: Average Daily Temperatures and Extremes for City of Calistoga, CA

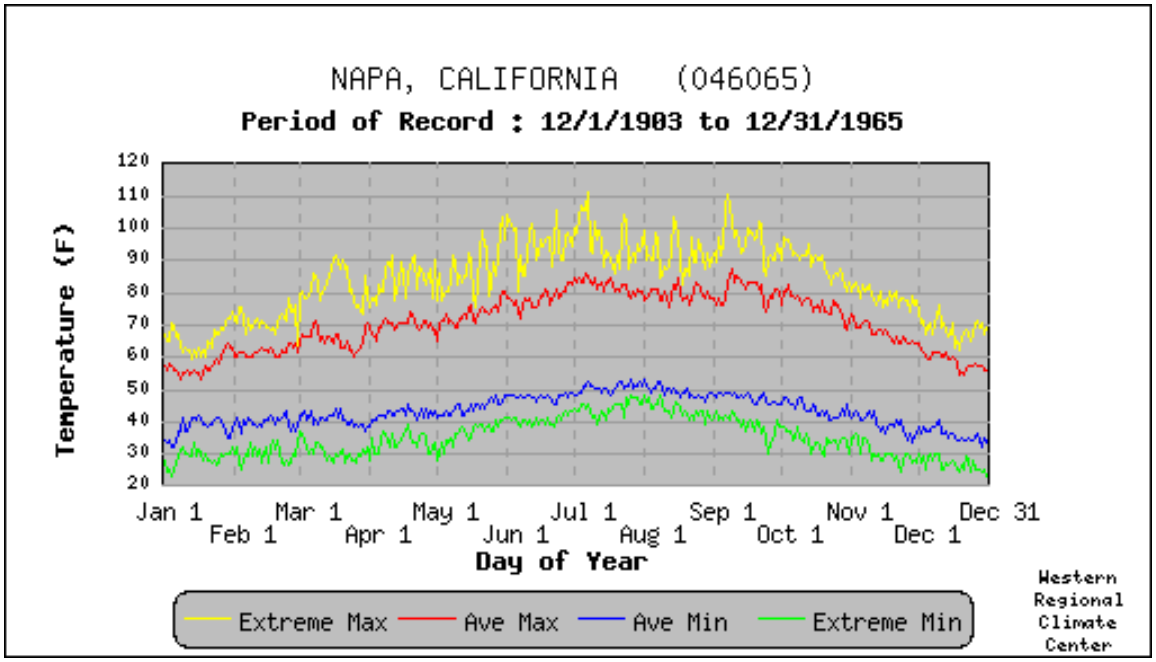

Figure 2-5: Average Daily Temperatures and Extremes for Napa City, CA

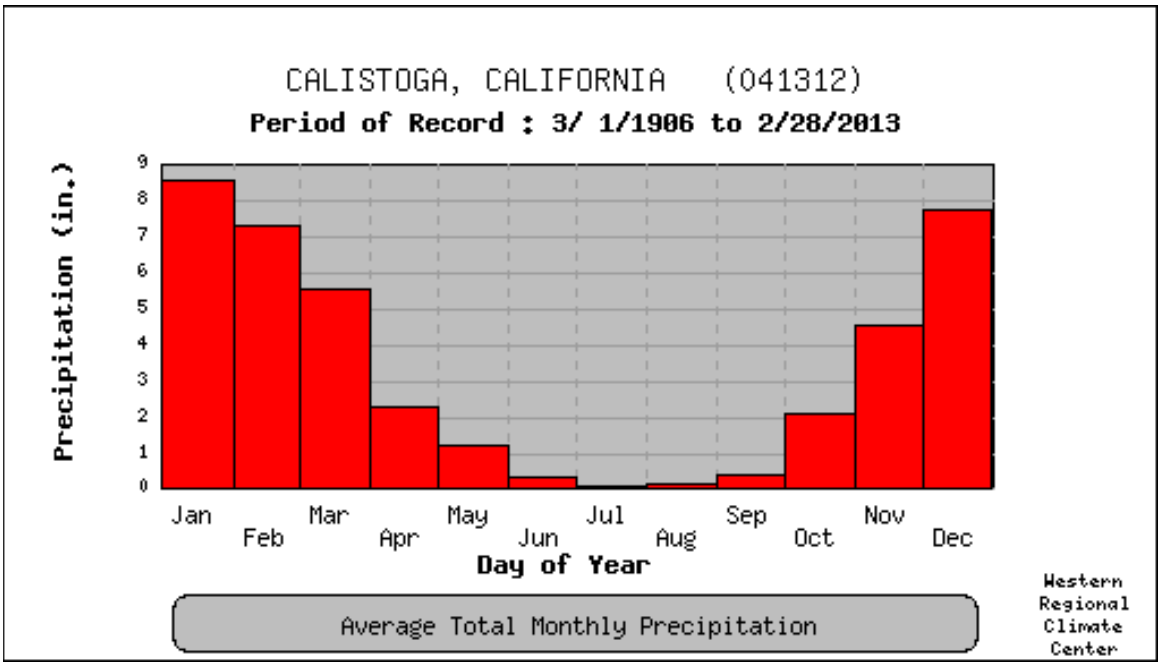

Figure 2-6: Average Monthly Precipitation for Calistoga, CA

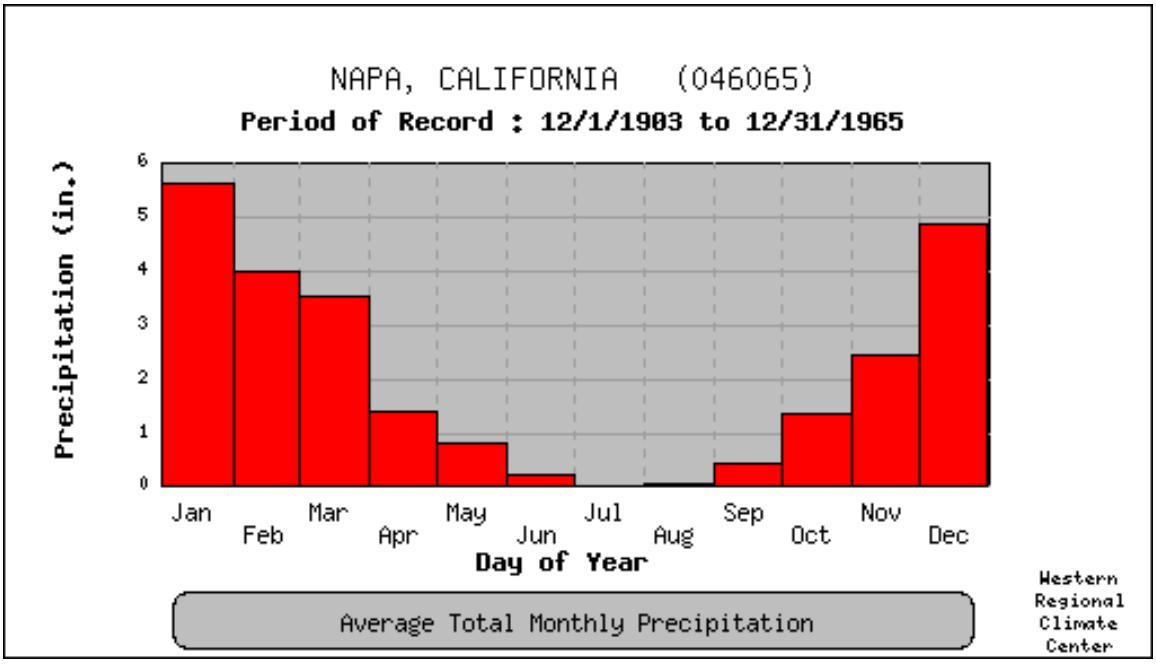

Figure 2-7: Average Monthly Precipitation for Napa City, CA

2.3.1.3. *Population*

The 2012 U.S. Census Bureau estimates Napa County's population at 139,045 residents, which represents an approximate growth of 1.9% from the 2010 U.S. Census estimate. Napa County has an average density of 182.4 persons per square mile, which is significantly lower than the 239.1 average density of California. The most populated area of the County is Napa City, with a population of approximately 78,340 residents. However, the cities of American Canyon, St. Helena, Calistoga, and the Town of Yountville also support significant populations. Table 2-5 summarizes jurisdictional population and land area statistics for Napa County cities and towns and the County as a whole.

Table 2-5: Jurisdictional Population and Land Area Estimates for Napa County

Jurisdiction	2012 Population	2010 Land Area (Sq Miles)
Napa County	139,045	748.36
Cities and Towns		
American Canyon	19,993	4.84
Napa City	78,340	17.84
St. Helena	5,907	4.99
Calistoga	5,208	2.6
Town of Yountville	3,290	1.5

2.3.1.4. *Economy*

Napa County was established in 1850 and is one of the original 27 counties in California. Napa County is the center of the state's wine industry and has a long, rich history in grape growing, with the first vines planted in the 1840's. The Valley currently has 400 wineries, producing more than 9.2 million cases of wines totaling over $1 billion dollars in sales. The wine industry in Napa accounts for $10.1 billion of $51.8 billion economic impact from winemaking and related industries in California. Wine is California's number one finished agricultural product and the third highest valued agricultural commodity exported from California.

While the County's economy is primarily agricultural in nature, it is interspersed with some light manufacturing service industries and a strong tourist trade. Agriculture includes a wide diversity of varietal grapes, specialty crops and limited livestock operations. The wine industry fuels tourism. The State Hospital and the State of California Veterans Home are also major employers.

The Napa Valley Wine Train maintains a tourist rail line from Napa to St Helena along the old S&P right-of-way. The California Northern Railroad crosses the southern third of the County, connecting to the Union Pacific main line at the City of Cordelia. The Napa County Airport, between the cities of Napa and American Canyon, serves as a general aviation facility, with limited charter capability for both passengers and freight. Angwin Airport is a small private airport located on Howell Mountain.

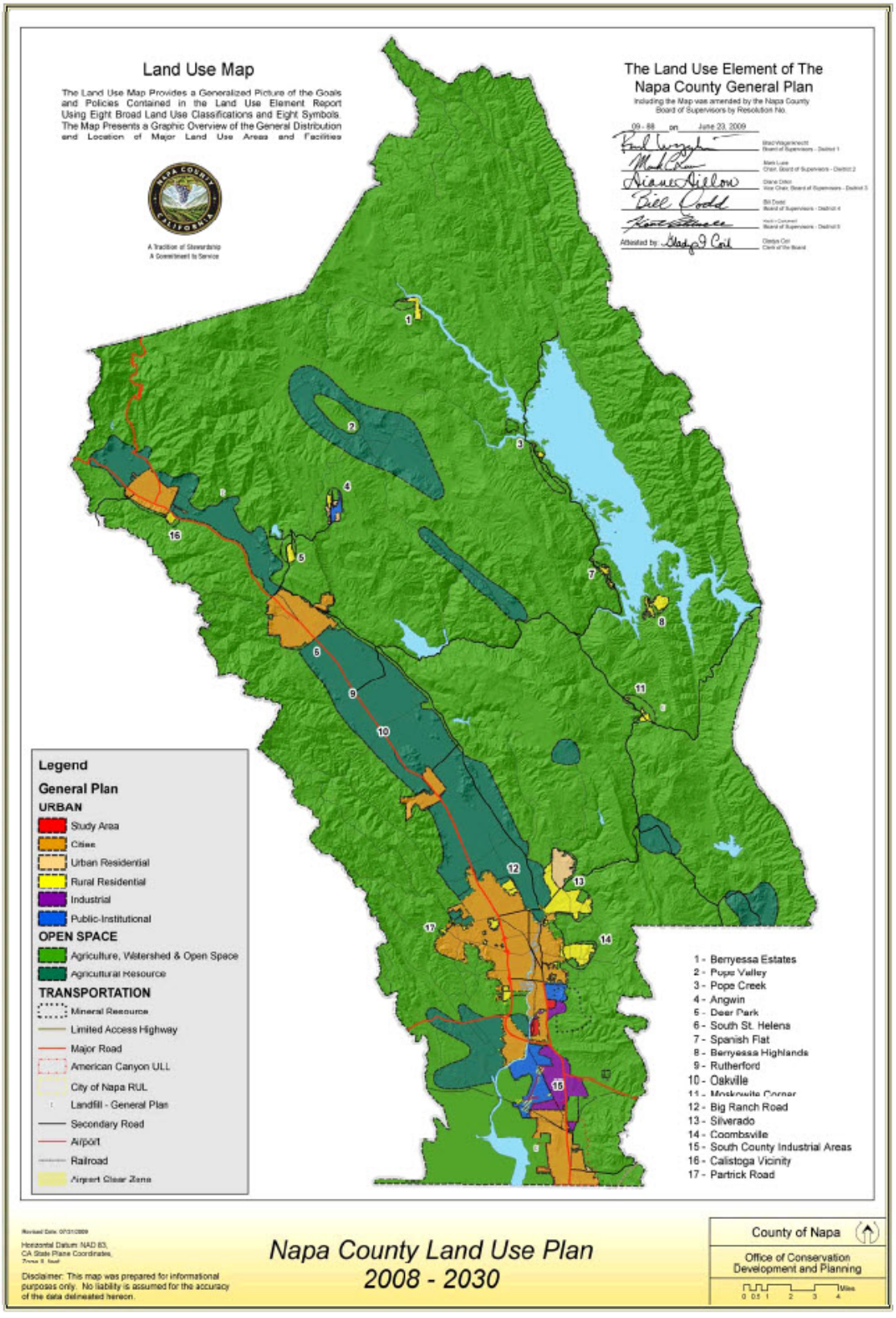

Figure 2-8: Napa County (2008-2013) General Plan Land Use Map

2.3.2. Jurisdictional Overviews

2.3.2.1. *American Canyon*

The City of American Canyon was incorporated in 1992. It is the second most populous city in Napa County, after the City of Napa. The current population is approximately 19,933 residents with a projected "build-out" population estimated at 22,000. Located at the southern end of Napa County, the City is roughly 4.84 square miles in size. American Canyon is bounded geographically by the Napa River to the west, the foothills of the Sulphur Springs Mountain Range to the east, the City of Vallejo to the south and vineyards to the north.

Early settlers migrated to American Canyon because it was a hub of activity and early business within the County. It had openings to the east, shipping on the river, access to the southern section of the State by railroad and road through the valley north.[1] The Standard Portland Cement Company was one of the first main businesses in the area, and was open for approximately 32 years. The first families that settled lived in the vicinity of the railroad and cement plant which was their source of employment. In 1963, citizen residents of American Canyon had their first public meeting for the community to consider incorporation of the area to become a city. However, it wasn't until 1992 that American Canyon became its own city.

The American Canyon (2011) General Plan identifies the character of the City to build upon and reflect a rural setting as a transition between the foothills of the Sulpher Springs Mountains and the Napa River while capitalizing on the unique role and location of the City as an entry to the Napa Valley vineyards and wineries.

The City has identified three fundamental roles in their General Plan:

1. The City should be home for a residential population, internally accommodating a sufficient range of uses to support the needs of residents (including a mix of housing types, commercial services, entertainment, employment, recreation, education, health, religion, cultural facilities, transportation services, and open space).
2. The City should be a center of employment and commerce for regional as well as local residents.
3. The City can capture visitors to the Napa Valley by providing uses which capitalize on the unique environmental setting of the foothills, river valleys and agriculture.

[1] http://www.cityofamericancanyon.org/Modules/ShowDocument.aspx?documentid=1784

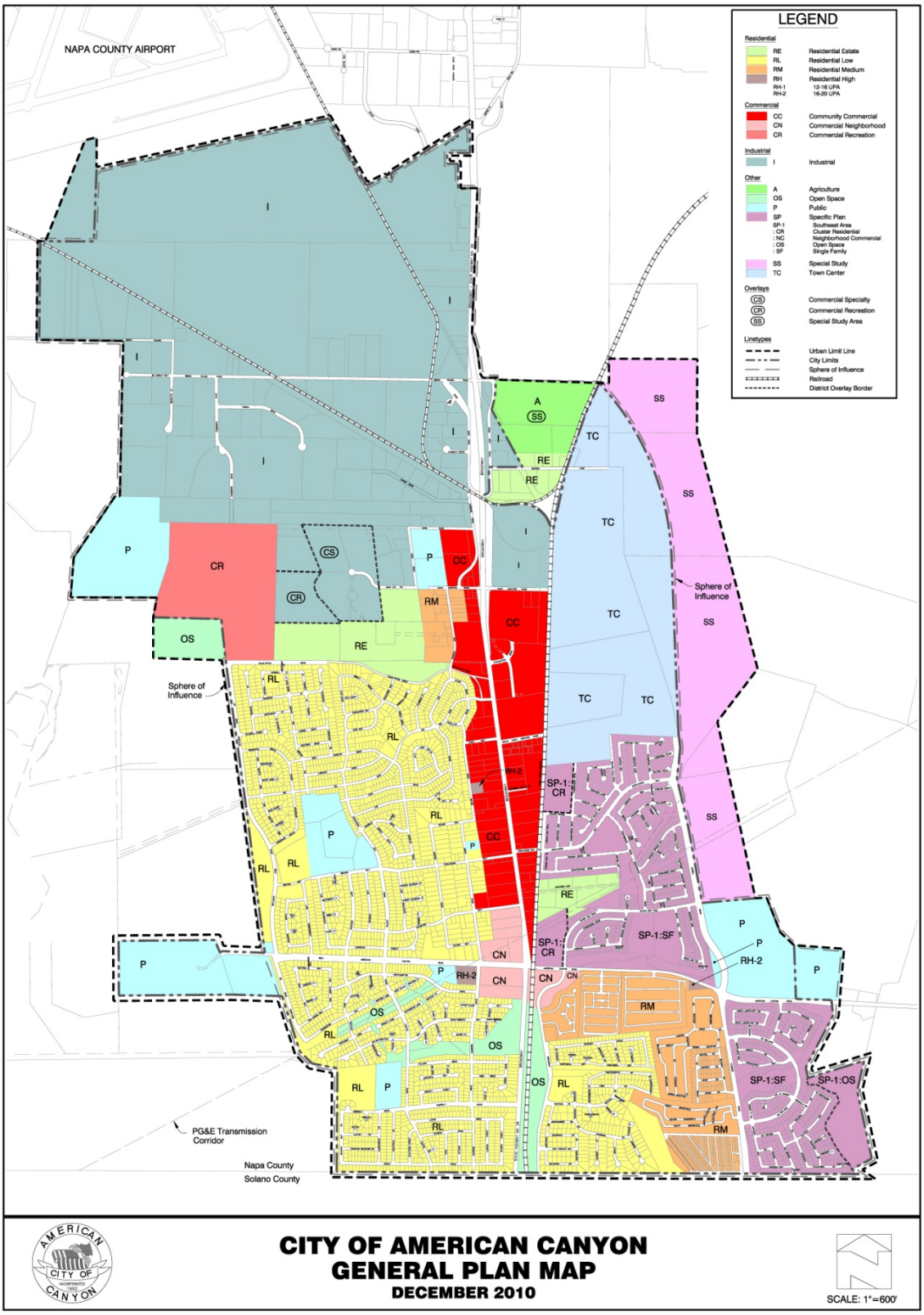

Figure 2-9: City of American Canyon (2010) General Plan Map

2.3.2.2. *City of Napa*

The City of Napa, incorporated in 1872, is located at the base of the world-famous Napa Valley wine-producing region, approximately 50 miles northeast of San Francisco, and 4 miles north of American Canyon. It has a land area of 17.84 square miles and a population of 78,340. The Napa River runs through the middle of Napa, and has recently undergone one of the largest restoration projects in the history of the United States (refer to Section 2.4.1). The City of Napa is the county seat and is the principal city of the Napa County Metropolitan Statistical Area, which encompasses Napa County.

According to the City of Napa (2011) General Plan, Nathan Coombs laid out the original townsite at the headwaters of the Napa River in 1848. Coombs envisioned a resort that would provide accommodations for patrons of the racetrack he later constructed south of town. The racetrack was never used for commercial purposes, and the town of Napa did not become a tourist destination until over a century later. Commerce first began in Napa from the river trade. Consumer goods from San Francisco were unloaded from river barges at the wharf located at the foot of Third Street, and agricultural products such as timber and fine tanned leather were transported downriver to be sold. The City's population grew from 159 in 1850 to nearly 3,500 in its first 30 years. By the turn of the century, Napa had become civilized through the efforts of families who were trained in tanning, mining, agriculture and lumber operations. Vineyards and orchards had been planted during the mid-nineteenth century and the area became quickly well known for its fine wines and brandies. Today, Napa Valley's agricultural industry and its most important spinoff industry, tourism, have become the primary economic industry in the region.

The City of Napa General Plan: "Envision Napa 2020"was updated in March 2011 and emphasizes maintaining the physical and social qualities of Napa within an economically healthy and self-sufficient community. The major objectives reflected in the General Plan include:

- Containing growth within the Rural Urban Limit that was established in the 1982 General Plan and carries forward the Greenbelt designation for land outside the RUL. The RUL will ultimately limit the City's growth to around 85,000 residents.
- Maintaining the community's desire to conserve the character of existing neighborhoods.
- Directing economic development efforts to attract higher paying technical and professional jobs and providing affordable housing for retail and service workers which make up the majority of current and future employees.
- Focusing City policies on the protection of wetlands, scarce habitats, hillsides and agricultural lands inside the RUL and encouraging the same level of protection for land outside the RUL.
- Maintaining a reasonable balance between jobs and housing; monitoring employment growth with the rate of residential growth.
- Developing and maintaining downtown Napa as the cultural and governmental center of the city and county.
- Removing constraints to Downtown revitalization through the Napa River Flood Protection Plan.

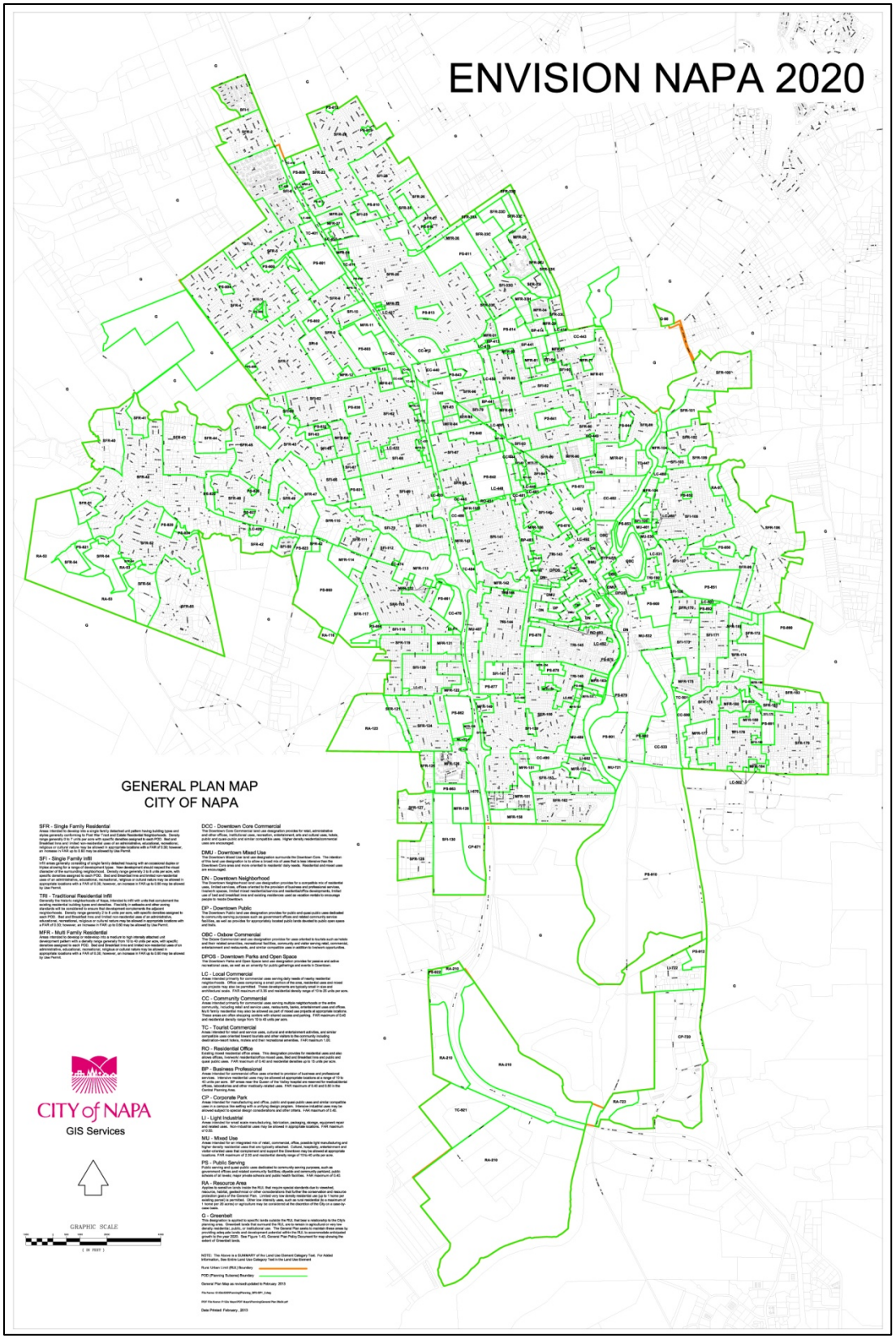

Figure 2-10: City of Napa (2020) General Plan Map

2.3.2.3. *Town of Yountville*

The Town of Yountville incorporated in 1965 in the heart of the Napa Valley. The Town is located approximately 60 miles north of San Francisco and halfway between the cities of Napa and St. Helena. It has a full time residential population of 3,290, and is also the host community of the California Veterans Home. The land area of the Town is very small (approximately 1.5 square miles), and the Town boundaries have remained largely unchanged since the late 1800's.

The first white settler, George Calvert Yount, obtained a Spanish land grant from the Mexican government, the first such grant to be awarded to a United States citizen in northern California and the Napa Valley.[2] In 1855, Mr. Yount laid out the town's first boundaries and two years after his death in 1867, the town was renamed Yountville in honor of its founder and his contributions. Yount was considered responsible for establishing the first vineyard in the Napa Valley.

Like all Napa Valley cities, the introduction of the railroad in 1868 played a major influence in the Town's configuration. The railroad brought in many new comers such as immigrant Gottleib Groezinger who purchased twenty acres of land from the Yount estate and built a winery, barrel room and distillery. Today, Groezinger's buildings are home to the "V Marketplace" which houses a variety of restaurants and shops. The town is well known for some of the finest restaurants, art galleries and wineries in California. The California Veterans Home is one of Yountville's largest employers and population centers with 1,100 members and over 600 staff.

The Yountville (2003) General Plan emphasizes reshaping the future of Yountville's growth by resisting encroachment on Yountville of generic, suburban development. Instead, Yountville residents would like to preserve the historic agrarian town by directing development on the few remaining un-built parcels in ways that retain Yountville's original setting and vitality. Figure 2-11 represents Yountville's 2003 General Plan Land Use Map.

[2] http://www.townofyountville.com/index.aspx?page=56

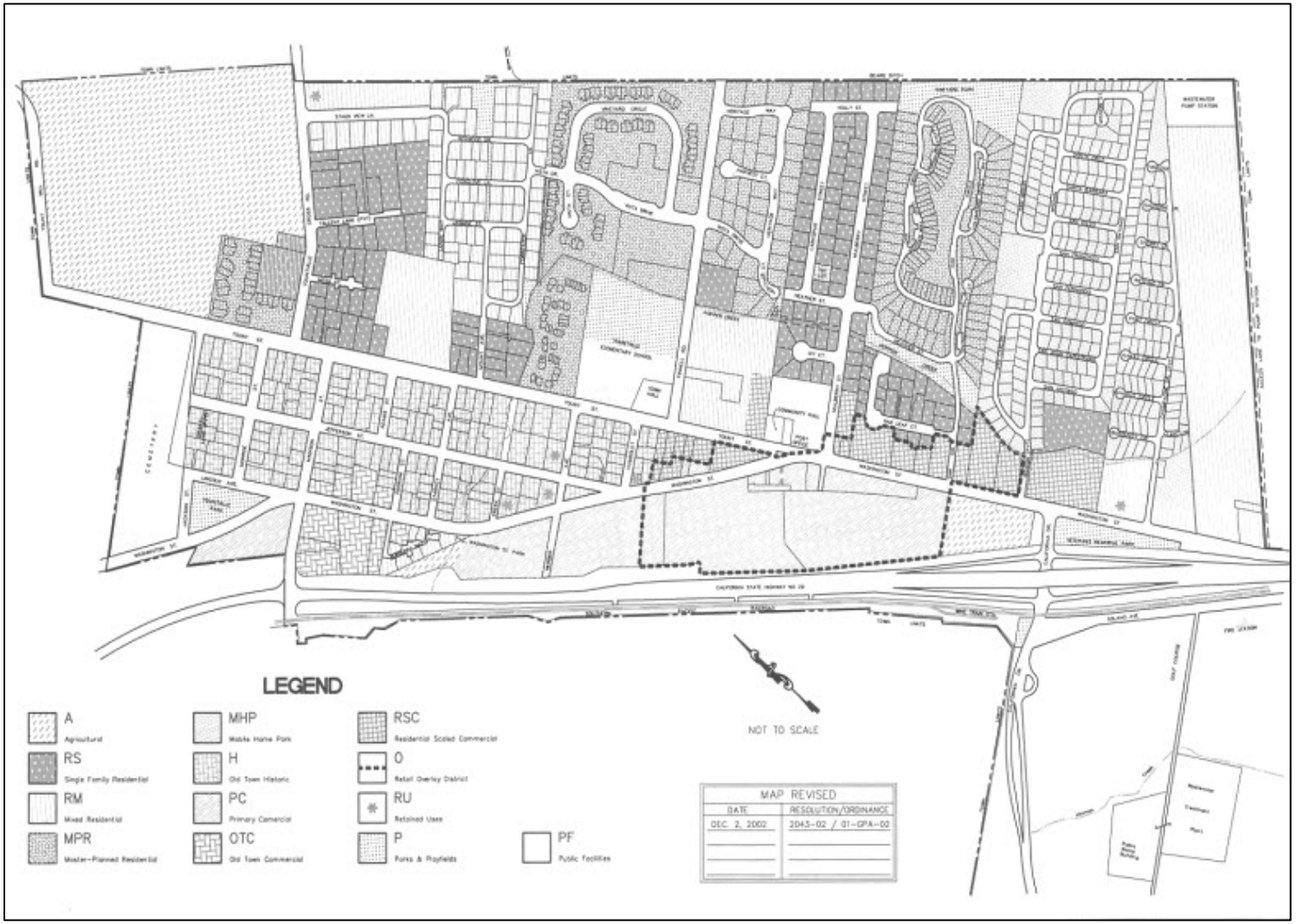

Figure 2-11: Yountville (2003) General Plan Land Use Map

2.3.2.4. *City of St. Helena*

The City of St. Helena was incorporated as a City on March 24, 1876 and reincorporated on May 14, 1889. The current population is approximately 6,050 and the area of the city takes up approximately 5 square miles. The city is located 65 miles north of San Francisco and is in the center of Napa Valley.

There are two theories about how the town was named. One says it was after the local branch of the Sons of Temperance; another gives credit to Mount St. Helena, a prominent landmark to the north.[3] The railroad came to town in 1868, allowing businesses to ship fruit, grain and mining products. The wine industry also began to thrive by the 1860's, encouraging more immigrants and vineyards to open. From early on St. Helena served as a commercial center for central Napa Valley since it had schools, dentists, doctors, churches, and many other services that nearby rural areas did not have.

Today, St. Helena continues to reflect its history as a small wine-growing town. Efforts to preserve agricultural land and maintain the downtown area as a National Historic District have helped the town retain its rural charm. The St. Helena (2030) General Plan was recently updated in 2010, and sites the major economic drivers to include agriculture, wine-making, tourism and education. The 2030 General Plan Land Use Map is shown in Figure 2-12. The General Plan vision and guiding principles focus on three overarching goals:

1. A sustainable community that preserves its history while managing change.
2. A stable economy that meets the basic needs of residents, balances the benefits and effects of visitors, and provides better economic opportunities.
3. A community that focuses on environmental conservation, green choices and emission reductions that are integrated into all areas of community decision making.

[3] http://www.ci.st-helena.ca.us/content/our-history

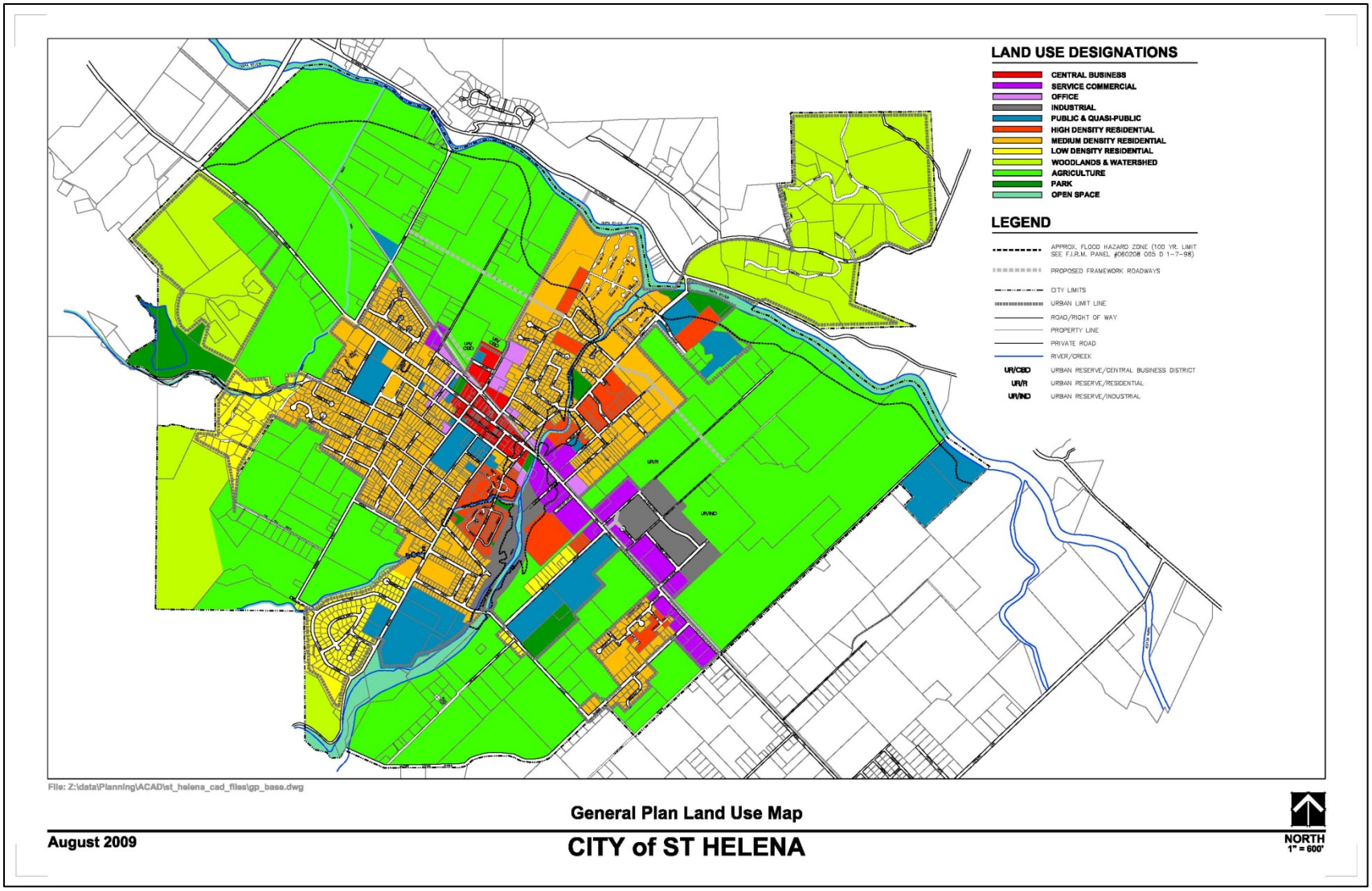

Figure 2-12: City of St. Helena (2030) General Plan Map

2.3.2.5. *City of Calistoga*

The City of Calistoga is located at the North end of the Napa Valley, approximately 80 miles north of San Francisco. It is framed on its east and west sides, respectively, by the Howell and Mayacamas Mountain ridges. Calistoga is well known for its many spas and hot springs and has become a tourist oriented community. Calistoga is also a popular retirement destination and has a relatively significant number of residents over the age of 55 (30%). The City population is approximately 5,300, and the area within the city limits covers approximately 2.6 square miles[4].

The first American settlers began to arrive in Calistoga in the 1840's, and news of a hot springs with "healing powers" spread quickly to nearby communities.[5] Samuel Brannan decided to capitalize on the hot springs and build a hot springs resort modeled after Saratoga Springs in New York to bring wealthy tourists from all over the world. Visitors began to visit the Hot Springs hotel when it opened in 1862. Brannan and a group of businessmen also built a railroad to ease transportation north through Napa Valley.

Today, Calistoga is also home to the Napa County Fairgrounds and has many fine dining establishments, local wineries, natural hot springs and volcanic mud baths, bicycle routes, and hiking in the Mayacamas Mountains that bring visitors to Calistoga. The Napa River also originates in Calistoga, gradually widening as it flows south through Napa Valley and eventually into San Pablo Bay.

The vision of the City of Calistoga (2003) General Plan focuses on retaining Calistoga's walkable, small town, pedestrian oriented neighborhoods and the surrounding wineries, vineyards and other agricultural lands. Calistoga's (2003) General Plan Map is shown in Figure 2-13.

[4] U.S. Census Bureau, 2012. Calistoga, California, accessed on June 13, 2013 at http://quickfacts.census.gov/qfd/states/06/0609892.html

[5] City of Calistoga, 2013. History of Calistoga, California, accessed on June 13, 2013 at http://www.ci.calistoga.ca.us/Index.aspx?page=35

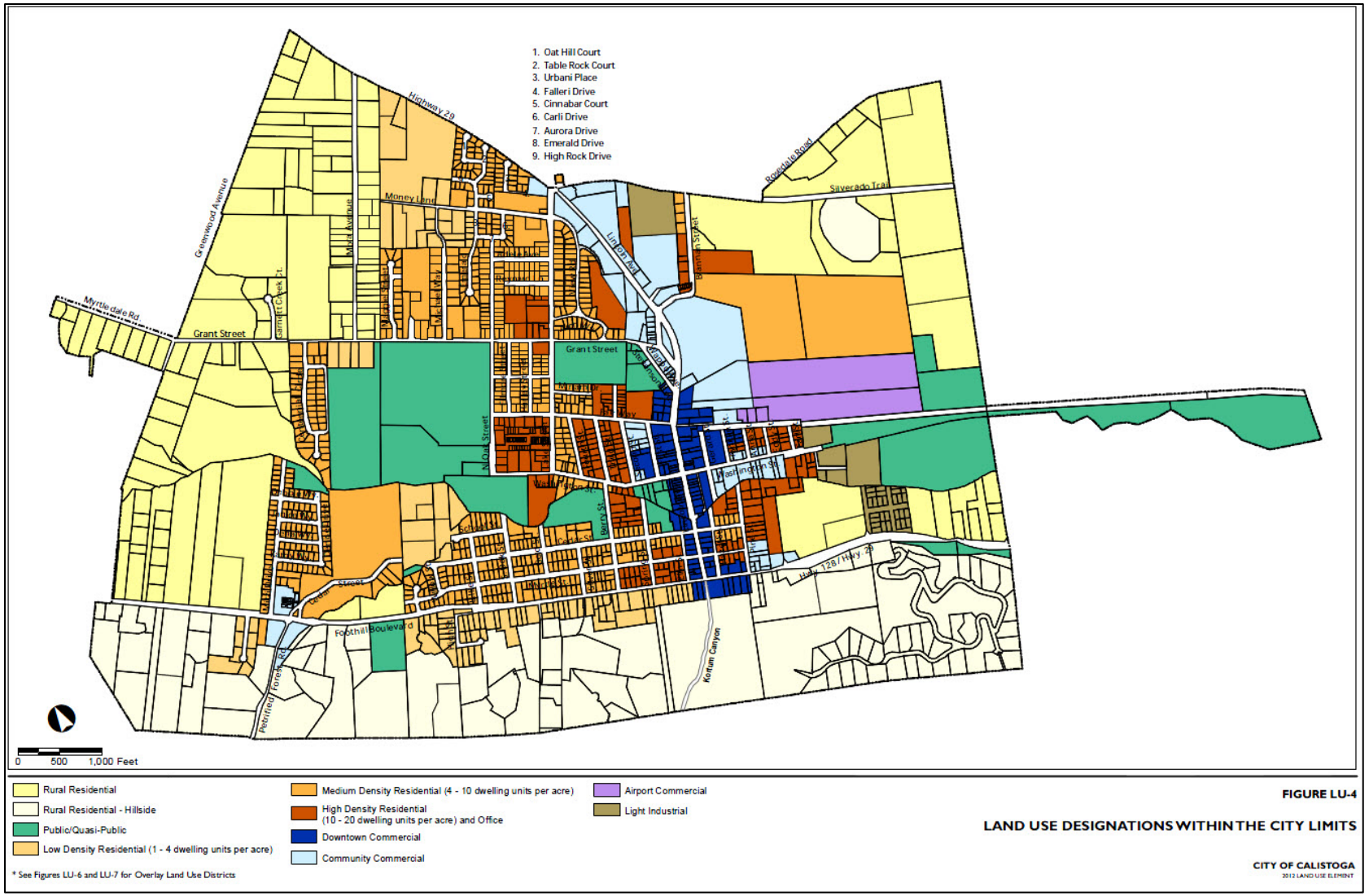

Figure 2-13: City of Calistoga (2012) General Plan Map

2.3.2.6. *Napa Valley College (referenced from Napa Valley College Emergency Operations Plan)*

The Napa Valley Community College District covers Napa County and a very small part of Sonoma County. The main Napa Valley College campus is located on the southern end of the City of Napa on 168 acres with 30 major buildings and has a daytime population of approximately 8,000 people. The District also has an Upper Valley Campus located on the eastern side of the City of St. Helena on approximately 6 acres with two major buildings and a daytime population of approximately 200 people. The District also has two education centers. The Community Education Center (retired National Guard armory) located in the City of Napa, near Napa High School, with a daytime population of approximately 50 people. The Center at American Canyon High School is co-located with the American Canyon High School and has a daytime population of 40 people. The District also owns the Clyde and Vollmer Nature Preserves, totaling two hundred acres in rural Napa County. The preserve does not have any educational facilities and does not have a daytime population. Figure 2-14 displays the location of the preserves, education centers, and both Napa Valley College campuses.

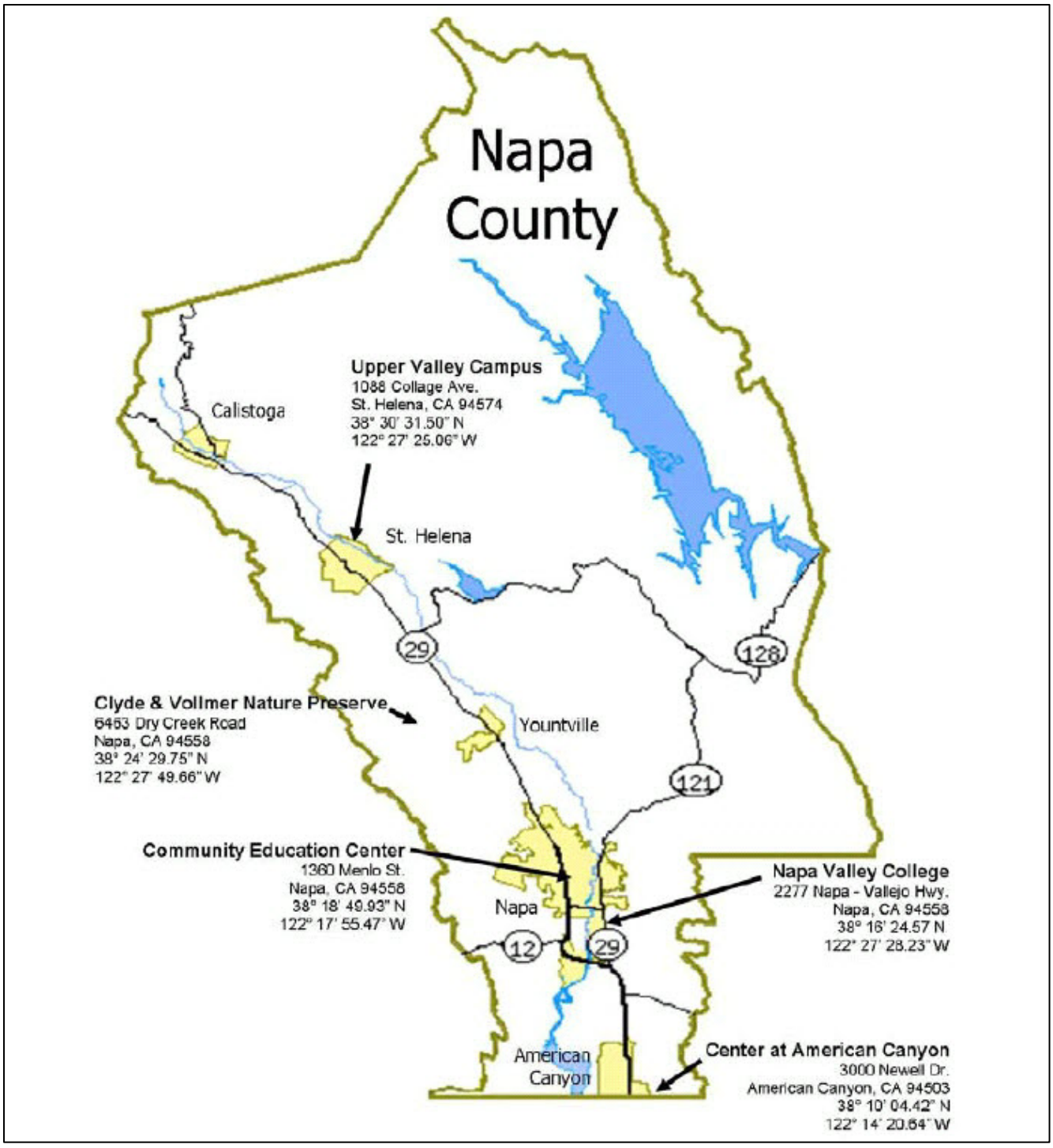

Figure 2-14: Napa Valley College Locations

2.3.2.7. *Napa County Office of Education*

The Napa County Office of Education (NCOE) is located at 2121 Imola Ave. in the City of Napa, California. The mission of NCOE is to be a flexible, county-wide educational resource by offering a broad range of student services in response to changing community needs, to support and collaborate with local school districts, and to disseminate research-based best practices to educators locally and statewide.[6]

[6] http://www.napacoe.org/about-us

2.3.2.8. *Napa County Flood Control and Water Conservation District*

The Napa County Flood Control and Water Conservation District is located at 804 1st Street in downtown Napa, California. The Flood Control and Water Conservation District is the local sponsor for the Napa River Flood Management Plan and administers water supply contracts, watershed management and stormwater management programs throughout Napa County. The District's mission is the conservation and management of flood and storm waters to protect life and property; the maintenance of the County watershed using the highest level of environmentally sound practices; and to provide coordinated planning for water supply needs for the community.[7]

Current Napa County Flood Control programs include:

The Napa River and Creek Flood Project
The project will restore more than 900 acres of high-value tidal wetlands of the San Francisco Bay Estuary while protecting 2,700 homes, 350 businesses, and over 50 public properties from 100-year flood levels, a savings of $26 million annually in flood damage costs.

Watershed Management and Stream Maintenance
Involves maintenance of the Napa River and its tributaries which includes specialized watershed programs and services funded by local assessments as well as State and federal grants.

Stormwater Management
Napa County and the Cities of American Canyon, Napa, St. Helena, Calistoga and the Town of Yountville collectively administer the Napa County Stormwater Pollution Prevention Program.

Water Resources
Includes the Flood District, Milliken-Sarco-Tulocay (MST) Water Project, and information on watershed projects throughout Napa County.

[7] http://www.countyofnapa.org/FloodDistrict/

2.4. The Planning Process by Threat

Hazard Mitigation Planning in Napa has been an ongoing process that Disaster Mitigation Act 2000 only has brought into sharper focus. Napa County is proud to have completed the approval process of a new general plan. The approved safety element borrowed heavily on the initial approved DMA 2000 Hazard Mitigation Plan. The approaches incorporated into the new safety element are foundational to this plan update. Napa County has, and will continue to have, public, private and governmental input into the County's threat assessment and mitigation strategies. This section describes this input process.

2.4.1. Major Threat: Flooding

Since the 1930's, Napa County residents have made several concerted efforts to address flooding. The most recent effort began in 1965, when Congress authorized the development of a detailed project proposal for flood protection. In 1975, the U.S. Army Corps of Engineers submitted the first project proposal under the 1965 Authorization. Napa County voters rejected the proposal in referendum elections in both 1976 and 1977, and it was subsequently shelved. When the floods of 1986 hit the Napa Valley, the City of Napa requested that the project be reactivated. The Corps responded with a revised proposal in 1995. The plan in those documents was a levee and channel modification project and received numerous comments. The major concerns expressed in those comments dealt with salinity intrusion due to channel deepening, degradation of water quality in the river oxbow due to construction of a "wet" bypass channel, and disposal of contaminated dredge material. Again, it was deemed unacceptable.

As frustrating as the rejections were, not just for the Corps, but for all those who desperately wanted a solution, a new approach emerged which looked at flood control from a broader, more comprehensive perspective. Citizens for Napa River Flood Management was formed, bringing together a diverse group of local engineers, architects, aquatic ecologists, business and agricultural leaders, environmentalists, government officials, homeowners and renters, and numerous community organizations.

Through a series of public meetings and intensive debates over every aspect of Napa's flooding problems, the Citizens for Napa River Flood Management crafted a flood management plan offering a range of benefits for the entire Napa region. The U.S. Army Corps of Engineers served as a resource for the group, helping to evaluate their approach to flood management. The final plan produced by the Citizens for Napa River Flood Management was successfully evaluated through the research, experience, and state-of-the-art simulation tools developed by both the Army Corps of Engineers and numerous international experts in the field of hydrology and other related disciplines. The success of this collaboration serves as a model, not just for Napa, but also for the nation.

2.4.1.1. *Establishing Goals: Blending Engineering and Ecology*

Citizens for Napa River Flood Management established the following agreed-upon set of goals, initially for the City of Napa, but quickly expanded to include all of Napa County:

- 100-year flood protection;
- An environmentally-restored, "living" Napa River;
- Enhanced opportunities for economic development;
- A local financing plan that the community could support; and

- A plan that addresses the entire watershed countywide

The goal is to once again make the Napa River a living river by:

- Conveying variable flows and restoring habitat in the floodplain;
- Balancing sediment input with sediment transport;
- Providing natural fish and wildlife habitat;
- Maintaining high water quality and supply;
- Offering improved recreation opportunities; and
- Maintaining its aesthetic qualities

2.4.1.2. *Implementation of Plans & Goals*

With the near completion of the $160,000,000 Napa River Flood Project the downtown Napa area will be protected from a projected 100 year flood. In 2005 while the project was under construction, the Napa River flooded but the downtown Napa area was spared major damage that it had experienced in previous floods. With the Napa River Flood Management Plan extending to all rural streams & tributaries, local flooding has been mitigated and the vulnerability of properties adjacent to flood prone areas is minimized.

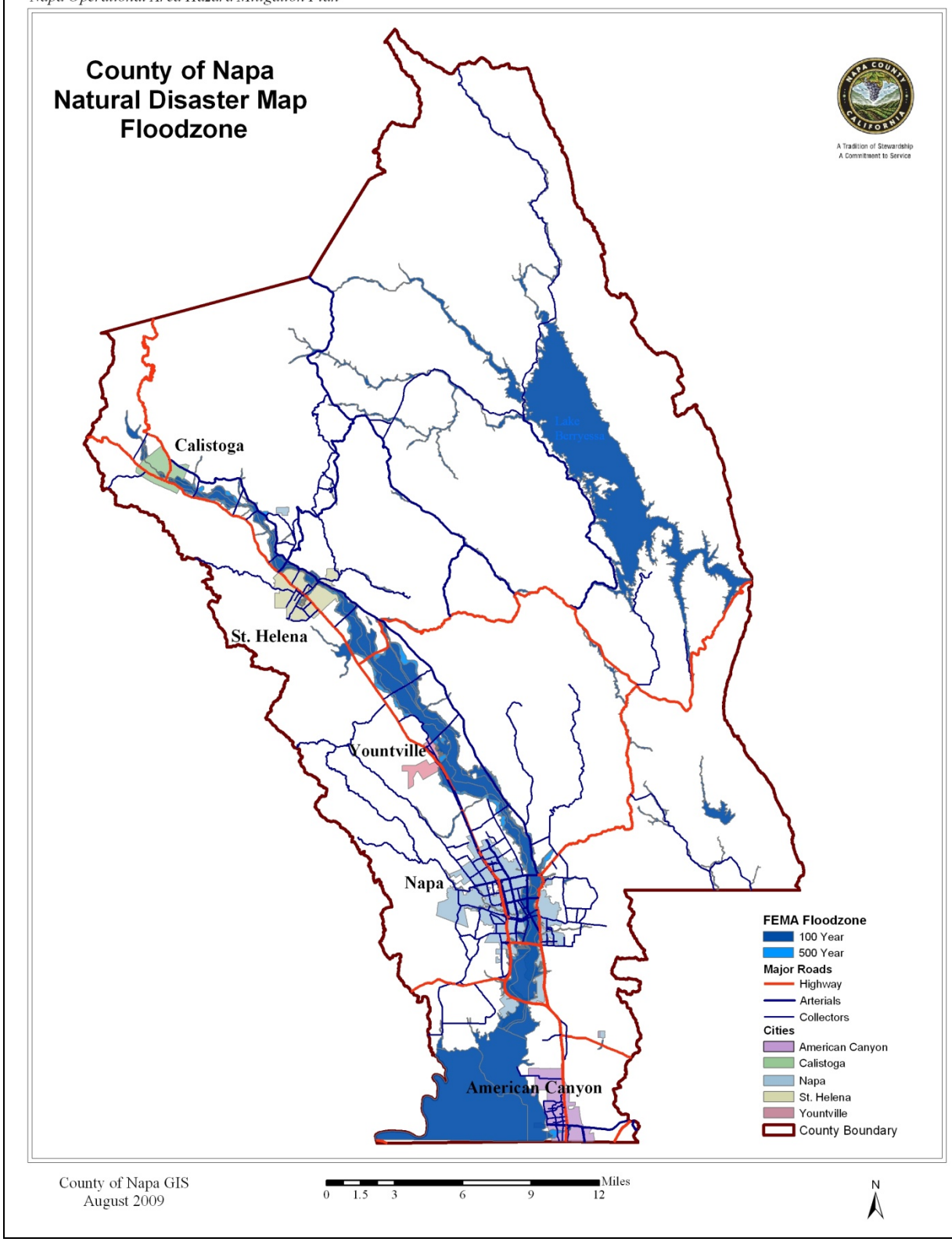

Figure 2-15: Napa County Flood Zone Map

2.4.2. Major Threat: Earthquake

Napa County faces a potential $1.5 billion earthquake risk. This is an estimate based on Hazus Loss Estimation Models due to building damages and business losses. One billion dollars damages would result from a local 6.5 magnitude earthquake caused by the West Napa Fault, running through Napa Valley. The Rodgers Creek Fault would cause estimated damages to Napa County in the one-half billion-dollar range with a 7.1 magnitude quake.

2.4.2.1. *Mitigation*

To further its proactive mitigation posture, Napa County has joined FEMA's Disaster Resistant Communities initiative, which is based on establishing public-private partnerships in order to leverage resources necessary to create a disaster-resistant community. The U. S. Geological Survey, California Division of Mines and Geology, California Governor's Office of Emergency Services, and the Napa County Office of Emergency Services are all Disaster Resistant Communities program partners with FEMA.

Napa County experienced a 5.2 earthquake in September 2000 on the West Napa Fault. Damages were estimated at $30-50 million.

Implementation of Earthquake Resistant Buildings

The communities in the Napa County Operational Area have all adopted Seismic Retrofit ordinances to reinforce all historic buildings. During the last Building & Fire Code update all jurisdictions in the county adopted a single Countywide Building & Fire Code to streamline permitting and enforcement.

An analysis of our primary Emergency Services facilities construction standards shows that Napa County will be able to provide immediate & sustained response from our facilities. All new facilities will be built to current Essential Service Facility Standards.

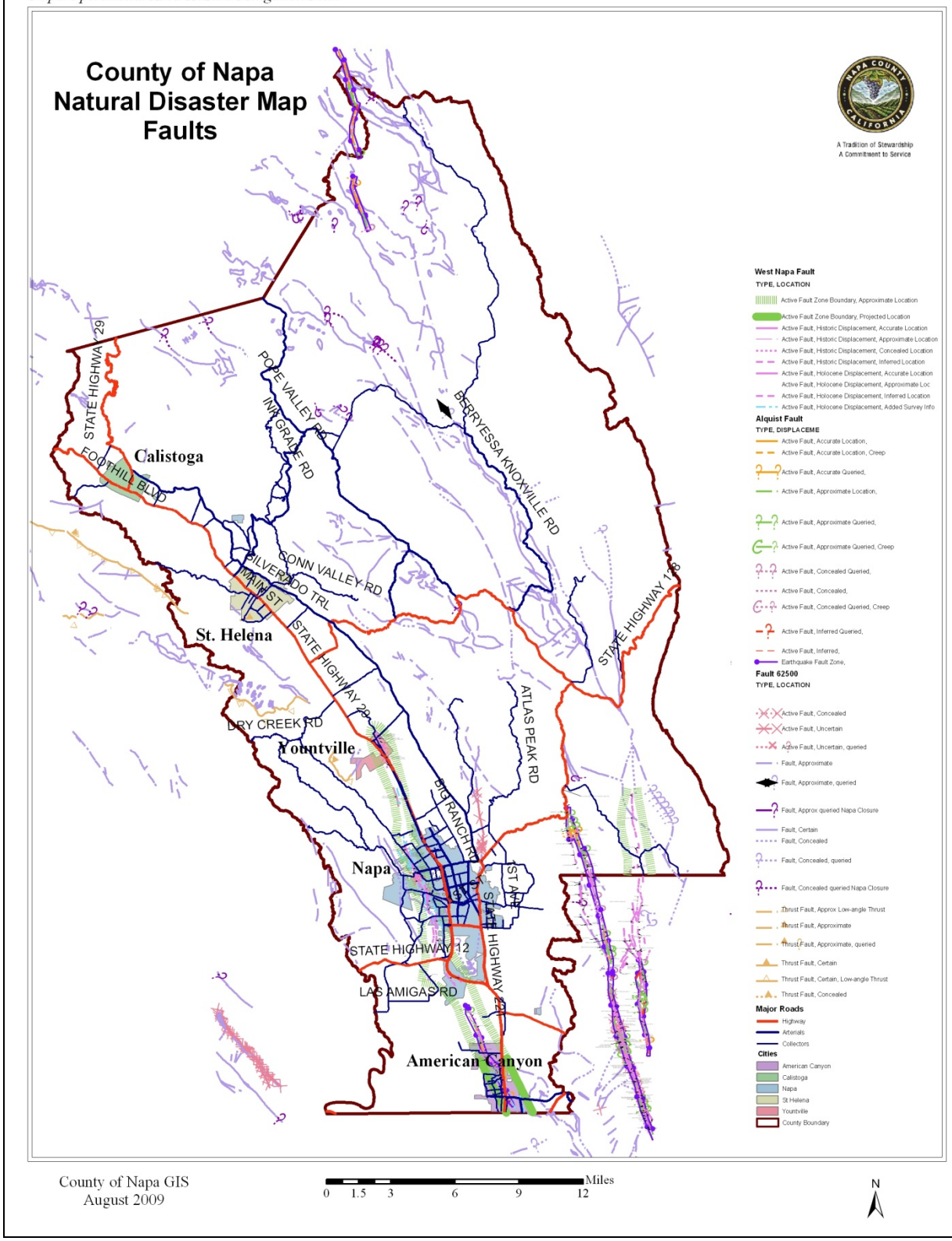

Figure 2-16: Napa County Fault Map

2.4.3. Major Threat: Wildland Interface Fires

A narrow valley floor surrounded and intermingled with steep, hilly, wooded terrain that contains areas that are very susceptible to wildland fires characterizes the County. Such fires expose residential and other development within the County to an increased risk of conflagration. The hilly/mountainous terrain on the east and west side of Napa Valley strongly influences both wildland fire behavior and the suppression capability of firefighters and their equipment.

Wind is a predominant factor in the spread of fire in that burning embers are carried with the wind to adjacent exposed areas. The Napa Valley has a characteristic southerly wind that originates from the San Francisco Bay and becomes a factor in fire suppression. Also, during the dry season the Valley experiences an occasional north wind of significant velocity that is recognized by firefighters to be a significant factor in the spread of wildland fires.

2.4.3.1. *Firewise Conference*

The public participation for the initial wildland fire interface portions of this Plan was developed from the input of participants at the Napa County Firewise Conference that was held on June 4-6, 2003. From this initial Firewise group's strategies, the mitigation action items were developed for this Plan. This public process was facilitated by CDF and the United States Forestry Service and gave us a firm foundation for our fire hazard mitigation planning efforts.

Under the leadership of the County Fire Marshal's Office two competitive mitigation grants were awarded to the County. Working in conjunction with the Firewise group, County OES, Napa City Fire Marshal's Office an aggressive program of fire mitigation, education and organization was launched countywide.

2.4.3.2. *Firewise grants*

Mitigation actions taken using the firewise grants are listed below.

2.4.3.2.1. **Defensible Space Inspections**

Currently we have conducted 100 using defensible space evaluators who were trained during the last grant period, 100 using County fire crews doing preseason fire inspections and we intended to complete the remaining 800 using the following methodology, visits and door hangers on target properties.

2.4.3.2.1.1. Defensible Space Evaluator's Course

The defensible space evaluator course has been completely reworked from our initial offering. At the conclusion of the second pilot the California state Fire Marshal's Office will become the proponent of the class and will finalize the presentation package. The success of the course is demonstrated by the State Fire Marshal's Office selecting the course for further development and statewide delivery. The Napa County DSE course was accepted as a model course by the State Fire Marshal's Office and will become the basis for a new statewide DSE course.

A comprehensive list of Firewise activities is included below:

- Firewise Trade Conference
- Angwin/Deer Park Community Workshop
- Pope Valley Community Meeting

- Berryessa Highlands community meeting
- Circle Oaks community meeting
- Direct mail outreach to promote chipping program
- Countywide free chipping program
- Public Service Announcements (Radio) promoting fire prevention
- Utility bill inserts promoting defensible space
- Newspaper ads promoting free chipping program
- "Door Hangers" promoting defensible space planning
- Update of Countywide risk map
- Defensible space inspection class for qualified contractors
- Information display at Home & Garden Show and Earth Day
- Information display at Angwin town center
- Sponsorship of free defensible space home inspections
- Update and management of Napa Firewise website
- Period press releases announcing Firewise events
- Bi-weekly Firewise columns in Napa Register (fire prevention messages)
- Display banners promoting fire prevention and DS planning
- Ongoing support for Fire Safe Councils and community action organizations

2.4.3.2.2. **Community Firewise Development**

After the success of the exercise and community education events with the Montecito Heights neighborhood within the City of Napa, the program branched out and assisted the Angwin, Mt. Veeder, Circle Oaks and Gordon Valley Firewise/Firesafe Councils in developing their local programs.

2.4.3.2.3. **Chipping and Fuel Management Programs**

The program is in its fifth year of chipping and anticipates up to 150 day of chipping with this grant. As of today we have chipped over 1,225,000 cubic yards of waste from over 200 sites. This is a very cost effective mitigation effort. We have collaborated with the Bay Area Air Pollution Control District and have received a dedicated high performance chipper. The County Corrections Department, Public Works and Risk Management staffs have created an annual, seasonal program using supervised inmate labor. Mechanical fuel reduction is critical in the Bay Area as the number of burn days even for agricultural products is extremely limited. The reduction in fire danger to structures is currently the most efficacious means of creating defensible space, the keystone of a fire safe community. Additionally, we have tracked the volunteer labor involved in creating piles to be chipped and over 12,600 voluntary hours have been expended in this program.

The Firewise and beneficial environmental impact of this program is now a very recognized part of our service to the residents of the County. The partnership developed under the grant has led to a locally funded, sustainable program using donated chippers, County Correctional labor, and County Fire managed annuitant supervisors who manage the program and the inmates assigned to the project.

2.4.3.2.4. **Implementation of Firewise & Fuel Reduction Program**

Since 2007 both Northern and Southern California have experienced devastating large wildfires. In the same time period, Napa County has had relatively small fires in comparison. This is

directly attributed to our Firewise Program and Fuel Reduction programs. Only two structures have been lost to wildland fire since these programs were implemented.

2.4.3.2.5. **Mitigation actions**

To directly reduce the threat of wildfire in Napa County, the Board of Supervisors has passed various Ordinances & Resolutions. In 2007 they passed Ordinance 1290, which abates Weeds & Rubbish for Fire Protection. Also in 2007 they passed Resolution 08-45 Defensible Space Guidelines to reduce vegetation surrounding building and structures. In 2008 under Residential Development Guidelines the County required Automatic Fire Sprinkler Systems in all new residential occupancies, set requirement for Water Storage, and Access Road Standards.

2.4.3.2.6. **Recent Plan Update & Review**

In the past 8 months the Planning Team reviewed each section of the Plan focusing on recent FEMA review comments. Our focus was directed on making the plan a 'working' document that could be utilized in actual disasters. In the recent update, the Planning Team eliminated areas of the plan that did not 'detail' actual hazards & mitigations that are the major threat to our communities: flood, earthquake, & fire. They followed the FEMA Mitigation Plan 'Crosswalk'. Each section was updated as part of this process.

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Section 3. RISK ASSESSMENT

3.1. Hazard Identification

The planning process used FEMA tools to evaluate all the possible threats faced. Through the threat analysis process the most probable threats, the most devastating threats and the most significant threats to Napa County were identified. The three most significant hazards faced are: floods, earthquakes, and wildland interface fires.

The initial development of the Plan and the Plan update addressed the fact that no jurisdiction in Napa County has unique or varied risks: all jointly share the same significant hazards and threats.

Mitigation of these significant hazards has the side benefit of appreciably enhancing the overall disaster resistance in the community from related threats. For example, the clearing of roads of intrusive vegetation eliminating a wildfire hazard will also speed the restoration of the road after an earthquake. The effect of mitigation actions carried out is recognized as a synergistic effect.

3.2. Assigning Risk Factors

The HMP Planning Committee assigned risk factors for each hazard profiled through a facilitated jurisdictional focus group meeting. During the group exercise, risk factor (RF) criteria worksheets were used to examine each identified hazard for potential risk. This methodology produces RF numerical values that allow identified hazards to be ranked against one another (the higher the RF value, the greater the hazard risk). Final RF values are obtained by assigning numerical criteria index values to five risk assessment categories. Risk assessment categories include probability, impact, spatial extent, warning time and duration.

To obtain RF's for each hazard, each jurisdictional focus group assigned a numerical range (1-4) to each risk assessment category. Based upon unique concerns for the planning area, a weighing factor was agreed upon for each RF category. The RF weighting scheme is used to establish a higher degree of importance to selected risk assessment categories. To calculate the RF value for a given hazard, the Planning Committee developed the RF weighting scheme below:

RF Value = [(Probability x .30) + (Impact x .30) +
(Spatial Extent x .20) + (Warning Time x .10) + (Duration x .10)]

The sum of all five categories shown in the equation above equals the RF final risk factor values presented in Table 3-2. Table 3-1 provides a summary of the RF criteria the Planning Committee used to assign criteria index values during the first jurisdictional focus group meeting. This RF approach uses hazard data, local knowledge, and consensus opinions to produce numerical values that allow identified hazards to be ranked against one another. The final RF developed can be used to evaluate hazards and classify perceived hazard risk for Napa County and each jurisdiction within Napa County. Risk factors for each jurisdiction are provided in Appendices B-H.

Table 3-1: Risk Factor Criteria

Risk Assessment Category	Degree of Risk	Level	Criteria Index	Weight Value
PROBABILITY **What is the likelihood of a hazard event occurring in a given year?**	**UNLIKELY**	LESS THAN 1% ANNUAL PROBABILITY	**1**	**30%**
	POSSIBLE	BETWEEN 1 & 10% ANNUAL PROBABILITY	**2**	
	LIKELY	BETWEEN 10 &100% ANNUAL PROBABILITY	**3**	
	HIGHLY LIKELY	100% ANNUAL PROBABILTY	**4**	
IMPACT **In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs?**	**MINOR**	VERY FEW INJURIES, IF ANY. ONLY MINOR PROPERTY DAMAGE & MINIMAL DISRUPTION ON QUALITY OF LIFE. TEMPORARY SHUTDOWN OF CRITICAL FACILITIES.	**1**	**30%**
	LIMITED	MINOR INJURIES ONLY. MORE THAN 10% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR MORE THAN ONE DAY.	**2**	
	CRITICAL	MULTIPLE DEATHS/INJURIES POSSIBLE. MORE THAN 25% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR MORE THAN ONE WEEK.	**3**	
	CATASTROPHIC	HIGH NUMBER OF DEATHS/INJURIES POSSIBLE. MORE THAN 50% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR 30 DAYS OR MORE.	**4**	
SPATIAL EXTENT **How large of an area could be impacted by a hazard event? Are impacts localized or regional?**	**NEGLIGIBLE**	LESS THAN 1% OF AREA AFFECTED	**1**	**20%**
	SMALL	BETWEEN 1 & 10% OF AREA AFFECTED	**2**	
	MODERATE	BETWEEN 10 & 50% OF AREA AFFECTED	**3**	

Risk Assessment Category	Degree of Risk	Level	Criteria Index	Weight Value
	LARGE	BETWEEN 50 & 100% OF AREA AFFECTED	4	
WARNING TIME Is there usually some lead time associated with the hazard event? Have warning measures been implemented?	MORE THAN 24 HRS	SELF DEFINED	1	10%
	12 TO 24 HRS	SELF DEFINED	2	
	6 TO 12 HRS	SELF DEFINED	3	
	LESS THAN 6 HRS	SELF DEFINED	4	
DURATION How long does the hazard event usually last?	LESS THAN 6 HRS	SELF DEFINED	1	10%
	LESS THAN 24 HRS	SELF DEFINED	2	
	LESS THAN 1 WEEK	SELF DEFINED	3	
	MORE THAN 1 WEEK	SELF DEFINED	4	

Table 3-2 displays RF index criteria and weighting determinations from the HMP Planning Committee. Final RF scores determine High, Moderate, or Low risk designations based upon the conclusion index. It should be noted that although some hazards are classified as posing "Low Risk", their occurrence of varying or unprecedented magnitudes is still possible and will continue to be re-evaluated during future updates of this plan. Due to the inherent errors possible in any disaster risk assessment, the results of the risk assessment should only be used for planning purposes and in developing projects to mitigate potential losses.

3.2.1. Hazard Risk Factor

Table 3-2: Napa County Risk Factor Results Table

Rank	Natural Hazards	Probability	Wt.	Impact	Wt.	Spatial Extent	Wt.	Warning Time	Wt.	Duration	Wt.	RF Factor
1	Wildfire	4	1.2	2	0.6	3	0.6	4	0.4	3	0.3	**3.1**
2	Flooding	2	0.6	2	0.6	4	0.8	4	0.4	4	0.4	**2.8**
3	Earth-Quake	3	0.9	2	0.6	3	0.6	1	0.1	4	0.4	**2.6**

Risk Factor Conclusion	
HIGH RISK (3.0 – 4.0)	Wildfire
MODERATE RISK (2.0 – 2.9)	Flooding, Earthquake
LOW RISK (0.1 – 1.9)	

The RF results assist planners to classify risk for each hazard regardless of hazard type. For purposes of this plan the following classifications are used:

Low Risk—Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.

Moderate Risk —Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.

High Risk—Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past.

3.3. Flood Hazard

Flood Vulnerability Analysis		
Community Vulnerability Rating	2.8	Moderate Risk, Moderate potential impact.

Risk to Napa County citizens and property from flood is of moderate concern, as calculated in the flood hazard risk factor in Table 3-2. The Napa River drainage basin is located just north of San Pablo Bay between the eastern Howell Mountains and the western Mayacamas Mountains. The drainage basin is about 50 miles long on a north-south axis, ranges from five to ten miles in width and covers approximately 426 square miles.

The Napa River originates near Mount St. Helena, traverses the center of the basin, and empties into the Mare Island Strait, which flows into the tidal marshlands and sloughs of San Pablo Bay. The relatively flat lands of the basin are centered about the river and consist of farm valley areas north of the City of Napa and tidal marshlands, reclaimed tidal lands and industrial areas south of the City.

The Napa River is navigable from San Pablo Bay to Third Street in downtown Napa. Tidal waters extend through downtown Napa to Trancas Street, which is the upstream limit of the flood protection project. The river is sinuous throughout its course and has a large oxbow area within the City of Napa. Many residential, business and industrial buildings are located along the Napa River within the city limits.

Napa Creek is a tributary to the Napa River in the City of Napa. Its headwaters rise in the Mayacamas Mountains on the west side of the valley and flow southeasterly to discharge through a narrow, meandering channel into the Napa River in downtown Napa. The Napa Creek drainage area is 14.9 square miles.

A flood occurs when the existing channel of a stream, river, canyon, or other water course cannot contain excess runoff from rainfall or snowmelt, resulting in overflow on to adjacent lands. Flooding may also occur due to high tides and wind.

A ‘floodplain’ is the area adjacent to a watercourse or other body of water that is subject to recurring floods. Floodplains may change over time due to natural processes, changes in the characteristics of a watershed, or human activity such as construction of bridges or channels.

Nationwide, floods result in more deaths than any other hazard. Physical damage from floods includes the following:

- Inundation of structures, causing water damage to structural elements and contents.
- Erosion or scouring of stream banks, roadway embankments, foundations, footings for bridge piers, and other structures.
- Impact damage to structures. Roads, bridges, culverts, and other features from high velocity flow and from debris carried by flood waters. Such debris may also accumulate on bridge piers and in culverts, increasing loads on these features or causing overtopping or backwater effects.

- Destruction of agriculture, erosion of topsoil, and deposits of debris and sediment on crop lands.
- Release of sewage and hazardous or toxic materials as wastewater treatment plants are inundated, storage tanks are damaged, and pipelines severed.

Floods also cause economic losses through closure of businesses and government facilities; disrupt communications; disrupt the provision of utilities such as water and sewer; result in excessive expenditures for emergency response; and generally disrupt the normal function of a community.

In regions such as Napa County that do not have extended periods of below freezing temperatures or significant snowfall, floods usually occur during the season of highest precipitation or during heavy rainfalls after prolonged dry periods. Napa County is dry during the late spring, summer, and early fall and receives most of its rain during the winter months. The average annual precipitation in Napa County is 24.84 inches per year with most of this precipitation occurring in the winter months. The peak historic rainfall intensity recorded in Napa County occurred in 1983 with 51.29 inches and the driest year was 1939 with 10.37 inches. The most rainfall in one month was 16.13 inches in 1955 when major flooding occurred in the area. The most rainfall in 24 hours was 5.95 inches on November 21, 1977. Although snow is rare 1.0 inch fell in March 22, 1987.

For purposes of conducting a risk assessment at a given location, it is necessary to determine the likelihood of flooding in specific locations. Factors contributing to the frequency and severity of riverine flooding include the following:

- Rainfall intensity and duration
- Antecedent moisture conditions
- Watershed conditions, including steepness of terrain, soil types, amount and type of vegetation, and density of development
- The existence of attenuating features in the watershed, including natural features such as swamps and lakes and human built features such as dams.
- The existence of flood control features, such as levees and flood control channels.
- Velocity of flow

These factors are evaluated using a hydrologic analysis to determine the probability that a discharge of a certain size will occur; and a hydraulic analysis to determine the characteristics and depth of the flood that results from that discharge.

The magnitude of flood used as the standard for floodplain management in the United States is a flood having the probability of occurrence of one percent in any given year. This flood is also known as the 100 year flood or base flood. The most readily available source of information regarding the 100 year flood is the system of Flood Insurance Rate Maps (FIRMs) prepared by FEMA. These maps are used to support unincorporated areas of Napa County and for each incorporated city and town in the County. The FIRMs show 100 year flood plain boundaries for most flooding sources in the County. The FIRMs also show floodplain boundaries for the 500 year flood, which is the flood having a 0.2 percent chance of occurrence in any given year. Rivers and streams where FEMA has prepared detailed engineering studies may also have designated floodways. A designated floodway is the channel of a watercourse and portion of the

adjacent floodplain that is needed to convey the base or 100 year flood event without increasing flood levels by more than one foot and without increasing velocities of flood water.

Figure 2-15 shows the 100 year and the 500 year floodplains for flooding sources throughout Napa County. Additional flood maps are located in Appendix A and are based on flood hazard data obtained from the FIRMs, awareness maps, and 100 year flood data prepared by the Napa County Flood Control District.

The extent of floodplains in Napa County is greatly affected by structures built to control flooding. These structures have been built throughout the populated west side of the County and are operated and maintained by a number of agencies. A major flood control project on the Napa River and its tributaries is described in this section on pages 27-29. A number of levees have been built along the Napa River to protect agricultural lands and populated parts of the County and to withstand a 100 year flood event.

Napa County and all the incorporated cities within the County have all adopted Floodplain Management ordinances consistent with the National Flood Insurance Program (NFIP) and remain current in amending and updating their local codes to remain compliant with the NFIP. These ordinances are intended to protect the NFIP from costly claims. This minimizes the risk and danger to the safety and welfare of the public due to flooding events.

3.3.1. Flood History

Almost all of the land adjacent to the Napa River is subject to flooding. Numerous damaging floods have been recorded since 1862 on the Napa River. Seven major floods occurred between 1862 and 1900. The 15 most recent serious floods occurred in 1942, 1943, 1955, 1962, 1963, 1965, 1967, 1973, 1978, 1982, 1983, 1986, 1995, 1997, 1998 and 2005.

The February 1986 flood was estimated to have been a 35-year event. The flood resulted in three people dead, 27 injured, 5,000 evacuations, 250 homes destroyed, and another 2,500 residences damaged countywide, totaling $100 million in damages. The most recent flooding occurred in December 2005.

The flood threat to each of our communities is illustrated by the following series of maps. Since flooding routinely develops from north to south, the maps are presented in that order.

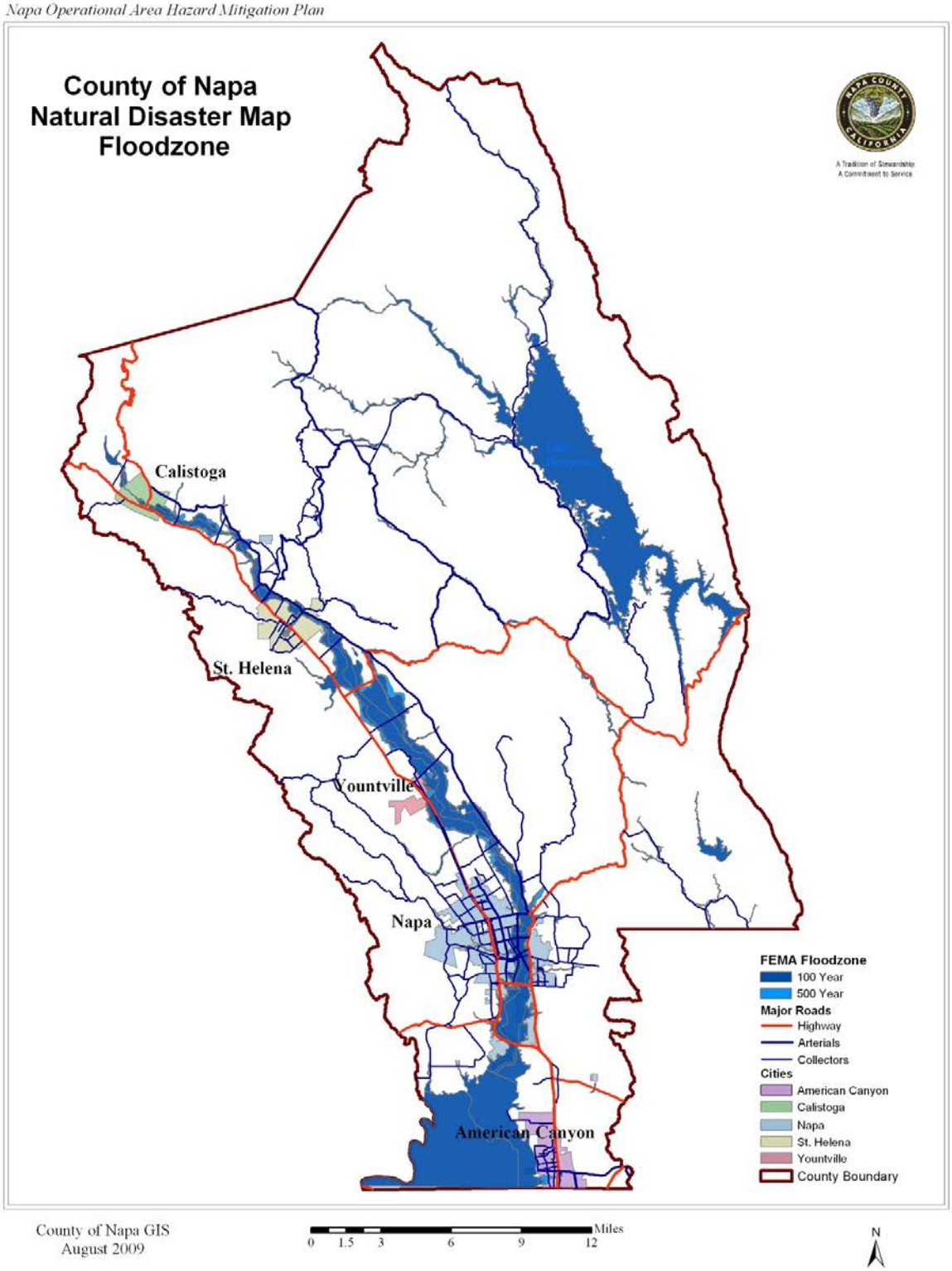

Figure 3-1: Napa County Flood Zone Map

3.3.2. Napa River Flood Control Project

The Federal Government first became involved with the Napa River in 1938 when "preliminary examinations and surveys" were authorized by the Secretary of War. Six years later, House Document 626 of the 78th Congress was released. The report recommended channel improvements for reaches of the Napa River and Conn Creek, and construction of a dam to create a 37,000 acre-foot flood damage reduction and water conservation reservoir on Conn Creek. Although these features were authorized by the Flood Control Act of 1944, Congress never appropriated construction funds. So, during 1948, the City of Napa built a dam on Conn Creek to establish a 31,000 acre-foot water conservation reservoir.

The flood of 1955 compelled the Committee on Public Works of the House of Representatives to request the Board of Rivers and Harbors "to review reports on Napa River and its tributaries" and "determine the need for modification of the recommendations in such reports and the advisability of adopting further improvements for flood control and allied purposes in view of the heavy damages caused by recent floods." The committee's request was fulfilled in 1963 by the "Review Report for Flood Control and Allied Purposes" which recommends that previously authorized flood control improvements above Soscol Street be rescinded and that the Federal Government should "adopt a project in the basin below Trancas Street for flood control and recreation purposes."

Three years passed before funding for "Advanced Engineering and Design (1967) was provided and in September of 1975 a General Design Memorandum (GDM) and Environmental Impact Statement (EIS) was completed. The 1975 Plan included recreation features that were requested by the local sponsor, the Napa County Flood Control and Water Conservation District (NCFCWCD). Voters opposed the 1975 Plan by referendum election in 1976 and again in 1977. After its second defeat, the project was placed in inactive status at the request of NCFCWCD.

The 1986 flood revived public interest in flood damage reduction. Subsequently, in 1987, the NCFCWCD requested the project be reactivated. The project was reactivated in Oct. 1988 and Preconstruction, Engineering and Design (PED) activities were initiated. In April 1995 the Sacramento District submitted a plan to provide 100-year flood protection for the City of Napa, California for public review.

This Plan followed a more traditional approach of enlarging the existing channel and constraining the river to its main channel. The proposed Plan received numerous adverse comments. Major concerns were salinity intrusion due to channel deepening, degradation of water quality in the river, disposal of contaminated dredge material, and the general environmentally insensitive nature of the project. Because of these concerns, many local and environmental groups requested modifications to the Plan.

The San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), which must provide a Section 401 Water Quality Certification, stated, "Without major improvements in the project and the Draft Supplemental Environmental Impact Statement/Environmental Impact Report (SEIS/EIR) as currently submitted, approval of this project will be difficult." With this reaction, the local sponsor did not believe they could get sufficient community support to provide the local financing. It appeared as if the Napa River Project could not be implemented.

To foster community consensus and support for a flood protection plan, NCFCWCD initiated a community-wide coalition process. Its purpose was to consider various ways to modify the Plan initially proposed so it would be more acceptable to the community and resource agencies. The Community Coalition, with the assistance of outside consultants, resource agency personnel, and the Corps of Engineers Napa Project Delivery Team (PDT) held numerous meetings from January 1996 to May 1997 to develop modifications to the Plan that would bring broader acceptance.

During this collaborative process, many meetings were held and much information was prepared and presented for consideration by community stakeholders. These meetings addressed the engineering, environmental and economic aspects of the Napa River Project. The process started with distrust of the Corps of Engineers; however, through open and honest communication with all stakeholders this distrust was alleviated. The PDT was open to all suggestions and the mission became to better understand what the stakeholders wanted in this project. A "living river" concept was developed. This would be a river system with structure, function, and diversity. It would have physical, chemical, and biological components that function together to produce complex, diverse communities of plants, and animals.

To support such a concept, some environmental restoration would need to be integrated into the project. However the Corps was working with an old authorization (1964) that did not include environmental restoration as a purpose. It became a requirement to design a project that stayed within the original authorization yet could still meet this additional requirement. Working with other professionals both within and outside the Corps, the PDT successfully developed such a design. River conveyance was increased by excavating in the overbank and leaving the existing river intact. This channel modification design was guided by an understanding of the geomorphic fluvial and estuarine processes forming the channel in this tidal reach. This approach also provided a structure for the restoration of tidal wetlands, previously destroyed in this estuary system. All stakeholders were in support of this design.

The result of this collaborative process was a modified Plan that provided the desired flood protection, eliminated the environmental concerns associated with the previously developed Plan, and also provided significant associated environmental quality outputs. The revised Plan underwent public and policy review in 1998. The Plan has received much media attention and has been touted as the new approach to flood protection. NCFCWCD held a local election in 1998 to increase the County sales tax to provide their portion of the financing. The PDT assisted in providing informational material about the project and meeting with interested groups during the election campaign. The ballot measure was named ‘Measure ‘A’. This ‘Measure ‘A’ vote was successful in March 1998 and another major hurdle was overcome. The Project Cooperation Agreement (PCA) for the Napa River/Napa Creek Flood Protection Project was signed in February 2000 with the Federal Government and the first construction contract was awarded in July 2000.

As of 2010, construction of the Project is approximately 50% complete. Funding for construction is through annual federal appropriations to the Corps and ‘Measure ‘A’ funds. The schedule for completion, which is currently projected to be 2016 relies on sufficient federal appropriations each year.

The Flood District has spent a total of $192 million on the project through the end of last fiscal year. The Army Corps has allocated approximately $180 million including the ARRA funding.

Two major construction efforts are underway on the Flood Project--specifically the Napa Creek Project and the Rail Bridge Relocation. The Project has lowered dikes creating over 900 acres of wetland in the South Wetlands Opportunity Area. Almost four miles of overbank excavation has been completed in the southern reach creating tidal marsh plains and floodplain terraces to increase the channel's flood carrying capacity.

Also, at the southern end, dikes and levees have been constructed, 236,000 tons of contaminated soil was removed, and over two miles of recreation trails were created. In 2008, the award-winning Hatt to First floodwall project in the downtown area was completed. The Flood Project has also constructed four roadway bridges and two pedestrian bridges and accomplished many utility relocations. The final phases of the Project will include the Oxbow/Bypass excavation and the construction of floodwalls and pump stations.

3.3.3. Napa County Small Stream Flood Threat

Although the Napa River is the main drainage for the surrounding watershed, and the Napa River/Napa Creek Flood Protection Project when completed will prevent catastrophic flooding along the river's banks, there remains a significant threat of flooding along the many feeder streams in the Napa River watershed.

Garnett Creek is the uncontrolled headwaters of the Napa River in the northwest end of the valley, numerous low-lying properties and two bridges are subject to damage along its length. On the west side of the watershed, Sulphur Creek, Dry Creek, Hopper Creek, Redwood Creek, Napa Creek and Browns Valley Creek all contribute substantial runoff to the Napa River drainage during the wet season. All these creeks bisect developed area and are crossed by late 19^{th} and early 20^{th} century bridges with low approaches and low stream clearance.

On the east side Conn Creek, which is fed by the spillway at Conn Dam when Lake Hennessey is at full capacity, Rector Creek, and Milliken Creek all have the same characteristics. The desirability of creek side real estate as a residential location has moved residents into the high water zones of all these creeks. Historic land use polices of development in Napa County did little to preclude development in these areas and even today control of the riparian corridors by government is still very controversial, as witnessed by the recent extreme public opposition exhibited against our proposed Stream Setback Ordinance.

Mitigation can lessen the threat to these residents and local infrastructure. The areas of greatest efficacy would be in improving bridge approaches, elevating homes in the floodplain, vegetation and streambed management and land use practices.

3.3.4. Probability of Future Flooding

Napa County will experience local flooding in future years. During the months of November through April winter storms saturate soils. Napa County experiences 'Atmospheric River Storms' that can deliver over 1" rain per hour over extended time frames. That event produces local tributary streams and the Napa River flooding. The '100 Year Flood' is calculated to be the level of flood water expected to be equaled or exceeded every 100 years on. The term is used to describe an event that has a 1-in-100 chance of happening in any given year. When you do the

math, there is a 65% chance that there will be a "100-year flood" in 100 years. Likewise, a "50-year flood" has a 2% chance of happening in any given year, and there's a 4% chance of a "25-year flood" every year. Keep in mind that calculations are based on less than a hundred years of flood records. The Napa River Flood Project is being constructed to protect the community from this 100-year event, which would be a larger flood than the 1986, 1995, or the 2005 flood events.

3.3.5. Vulnerability Assessment of Structures, Infrastructure, & Critical Facilities

The threat of damage to structures from flooding has been reduced due to completion and near completion of flood projects in St. Helena, Yountville, and Napa. There is no threat of structure damage due to flooding in Calistoga and American Canyon.

The Yountville flood wall was completed in 2006 and has eliminated the flood threat to 250 homes. The St. Helena Flood Project is complete and offers flood protection to 200 mobile homes, and the Napa Flood Project has the Oxbow channel near completion.

No critical facilities are located in designated flood areas. All infrastructures (roads, utilities) are installed to minimize flood damage. Any new structures & infrastructure built in the flood plain must meet Napa County Building Standards & Flood Mitigation measures and are built to the 2010 Uniform Building Code.

3.3.6. Repetitive Flood Loss

Napa County is required to assemble a plan that addresses areas of repetitive loss (RL) claims as prescribed by the FEMA's National Flood Insurance Program (NFIP) and Hazard Mitigation Program. A RL property is a FEMA designation defined as an insured property that has made two or more claims of more than $1,000 in any rolling 10-year period since 1978. The term "rolling 10-year period" means that a claim of $1,000 can be made in 1991 and another claim for $2,500 in 2000; or one claim in 2001 and another in 2007, as long as both qualifying claims happen within 10 years of each other. Claims must be at least 10 days apart but within 10 years of each other. RL properties may be classified as a Severe Repetitive Loss property under certain conditions. A Severe Repetitive Loss property (SRL) has had four or more claims of at least $5,000, or at least two claims that cumulatively exceed the building's reported value. A property that sustains repetitive flooding may or may not be on Napa County's RL property list for a number of reasons:

- Not everyone is required to carry flood insurance. Structures carrying federally-backed mortgages that are in a SFHA are required to carry flood insurance in Napa County;
- Owners who have completed the terms of the mortgage or who purchased their property outright may not choose to carry flood insurance and instead bear the costs of recovery on their own;
- The owner of a flooded property that does carry flood insurance may choose not to file a claim;
- Even insured properties that are flooded regularly with filed claims may not meet the $1,000 minimum threshold to be recognized as an RL property; or

- The owner adopted mitigation measures that reduce the impact of flooding on the structure, removing it from the RL threat and the RL list (in accordance with FEMA's mitigation reporting requirements).

Many jurisdictions are required to address only the individual properties on the updated FEMA RL list. A property appears on FEMA's RL inventory because the structure had flood insurance and received two or more claims. These properties are merely representative of the community's overall repetitive flooding problem.

Extensive FEMA NFIP databases are used to track claims for every participating community. Currently, Napa County contains a total of 122 RL properties under their jurisdictional umbrella. The total dollar amount of claims paid to date by the NFIP is $8,799,352 of structural and $2,632,231 content claims. Together, the total claims paid by the NFIP are in excess of $11,431,583 for Napa County since 1977. This includes claims within Napa County jurisdictions (City of Napa, City of St. Helena and Town of Yountville), as well as claims within the unincorporated area of the County. Although the City of Calistoga has had several NFIP claims in the past, none of the claims have been reported to be on the same property and therefore are not recorded in the RL property database.

In order to make the NFIP a viable program it works to reduce the flood risk in the community and develop mitigation measures to reduce insurance payouts. A property does not have to be currently carrying a flood insurance policy to be considered a RL or SRL property. Often homes in communities are not carrying flood insurance but are still on the community's repetitive loss list. The "repetitive loss" designation follows a property from owner to owner; from insurance policy to no insurance policy, and even after the property has been mitigated. Having an insurance policy and making claims that fall into the repetitive loss criteria will put a property on the RL list. Even after the policy on a property has lapsed or been terminated, the property will remain on Napa County's RL list.

The Privacy Act of 1974 (5 U.S.C. 522a) restricts the release of certain types of data to the public. Flood insurance policy and claims data are included in the list of restricted information. FEMA can only release such data to state and local governments, and only if the data are used for floodplain management, mitigation, or research purposes. Therefore, this plan does not identify the repetitive loss properties or include claims data for any individual property.

This section will provide an overview of the jurisdictions in Napa County that have experienced repetitive loss due to flooding.

3.3.6.1. *Unincorporated Napa County*

FEMA has reported 43 RL properties in the unincorporated area of Napa County, of which there have been 137 loss payments issued since 1977. The RL properties account for a total of $3,792,876 in damages, of which $3,109,001 are related to building damage and $683,875 are related to content damage.

Total RL Properties	Total Number of Property Loss Payments	Building Loss Payments	Contents Loss Payments	Total Paid	Average Payment Per Incident
43	**137**	**$3,109,001**	**$683,875**	**$3,792,876**	**$27,685**

3.3.6.2. *City of Napa*

FEMA has reported 72 RL properties in the City of Napa, of which 214 loss payments have been issued since 1977. The RL properties account for a total of $7,128,624 in damages, of which $5,339,562 are related to building damage and $1,789,062 are related to content damage.

Total RL Properties	Total Number of Property Loss Payments	Building Loss Payments	Contents Loss Payments	Total Paid	Average Payment Per Incident
72	**214**	**$5,339,562**	**$1,789,062**	**$7,128,624**	**$33,311**

3.3.6.3. *City of St. Helena*

FEMA has reported four RL properties in the City of St. Helena, of which 11 loss payments have been issued since 1977. The RL properties account for a total of $472,416 in damages, of which $313,122 are related to building damage and $159,294 are related to content damage.

Total RL Properties	Total Number of Property Loss Payments	Building Loss Payments	Contents Loss Payments	Total Paid	Average Payment Per Incident
4	**11**	**$313,122**	**$159,294**	**$472,416**	**$42,946**

3.3.6.4. *Town of Yountville*

FEMA has reported three RL properties in the Town of Yountville, of which six loss payments have been issued since 1977. The RL properties account for a total of $37,666 in damages, of which all $37,666 have been related to building damage.

Total RL Properties	Total Number of Property Loss Payments	Building Loss Payments	Contents Loss Payments	Total Paid	Average Payment Per Incident
3	**6**	**$37,666**	**$0**	**$37,666**	**$6,277**

3.4. Earthquake Hazard

Earthquake Vulnerability Analysis		
Community Vulnerability Rating	2.6	Moderate Risk, Moderate potential impact.

Earthquakes are considered to be one of the most potentially destructive threats to life and property in Napa County. A moderate to severe seismic incident on any of several fault zones in relative close proximity to the County is expected to cause:

- Extensive property damage, particularly to pre-1930's unreinforced masonry structures
- Significant numbers of fatalities and injuries
- Damage to water and sewage systems
- Disruption of communications systems
- Broken gas mains and petroleum pipelines, resulting in numerous fires
- Disruption of transportation arteries
- Competing requests for scarce mutual aid response resources

Major faults that directly affect Napa County include the Northern San Andreas, the Rodgers Creek, the Northern Hayward, the Concord Green Valley and the West Napa Fault. Additionally most of Napa County's resources and population are on the Napa Valley floor. The valley floor consists of alluvial soils that enhance and amplify the shaking from earthquakes.

3.4.1. Earthquake Loss Estimation Modeling

As part of its efforts to mitigate hazards and protect lives and property from the devastating effects of natural disasters, FEMA provides individuals, businesses, and communities with information and tools to work proactively to mitigate hazards and prevent losses resulting from disasters. One of these tools is HAZUS or Hazards U.S., a natural hazard loss estimation methodology developed by FEMA under contract with the National Institute of Building Sciences.

Using Geographic Information Systems (GIS) technology, HAZUS allows users to compute estimates of damage and losses that could result from an earthquake. To support FEMA's mitigation and emergency preparedness efforts, HAZUS is being expanded into HAZUS-MH , a multi-hazard methodology with new modules for estimating potential losses from wind and flood (riverine and coastal) hazards.

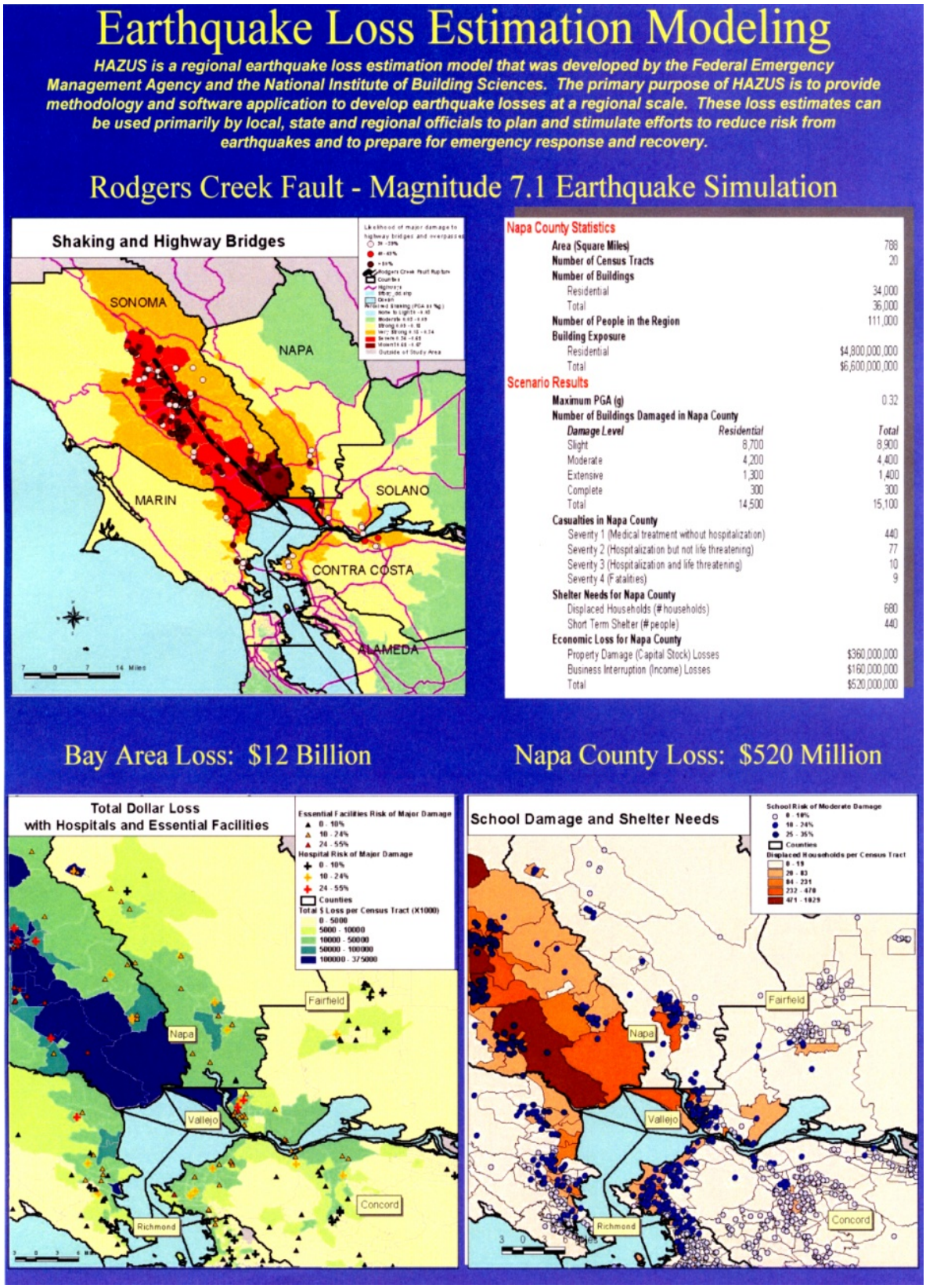

Figure 3-2: HAZUS Modeling Rodgers Creek Fault

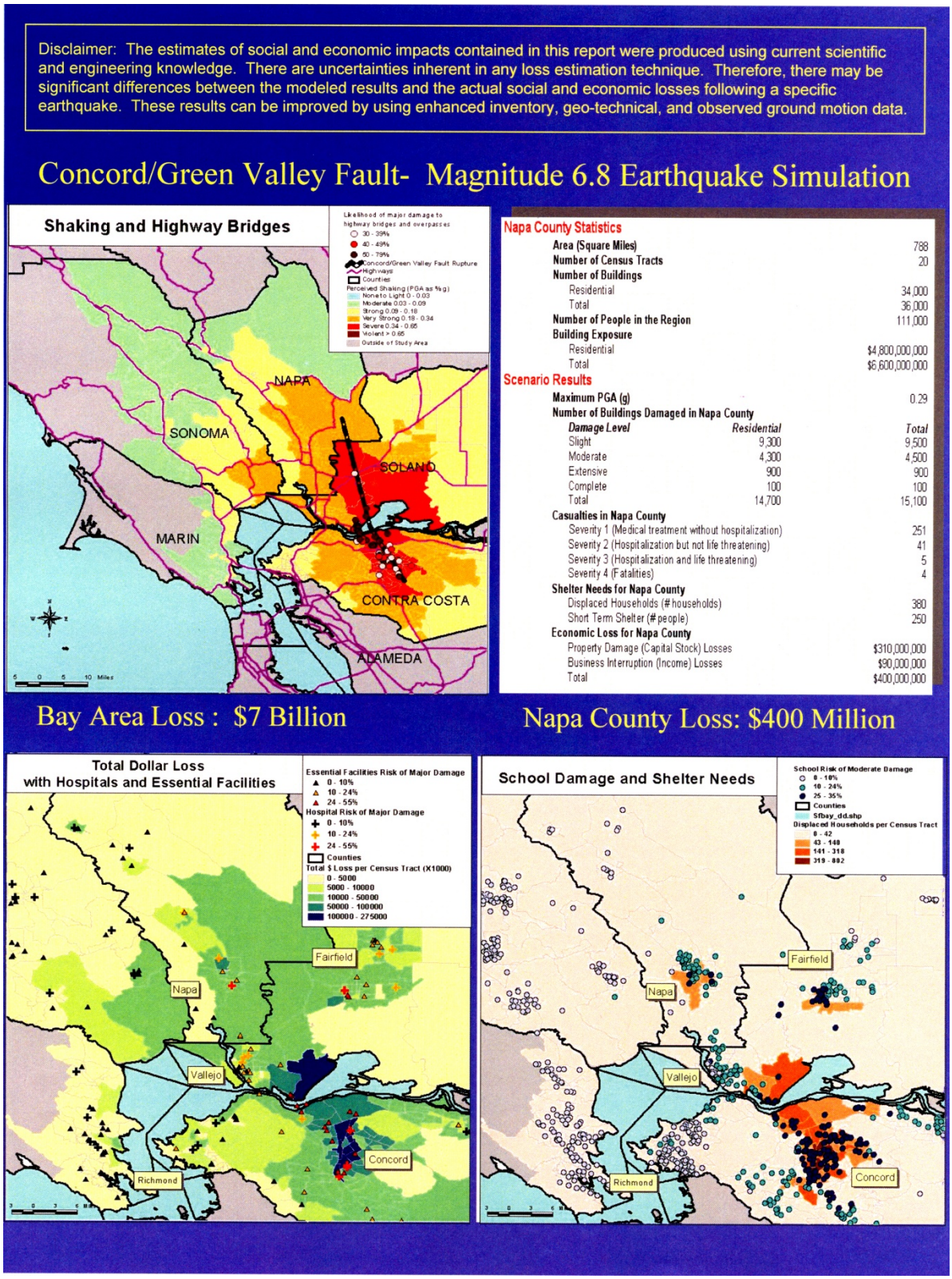

Figure 3-3: HAZUS Modeling Concord/Green Valley Fault

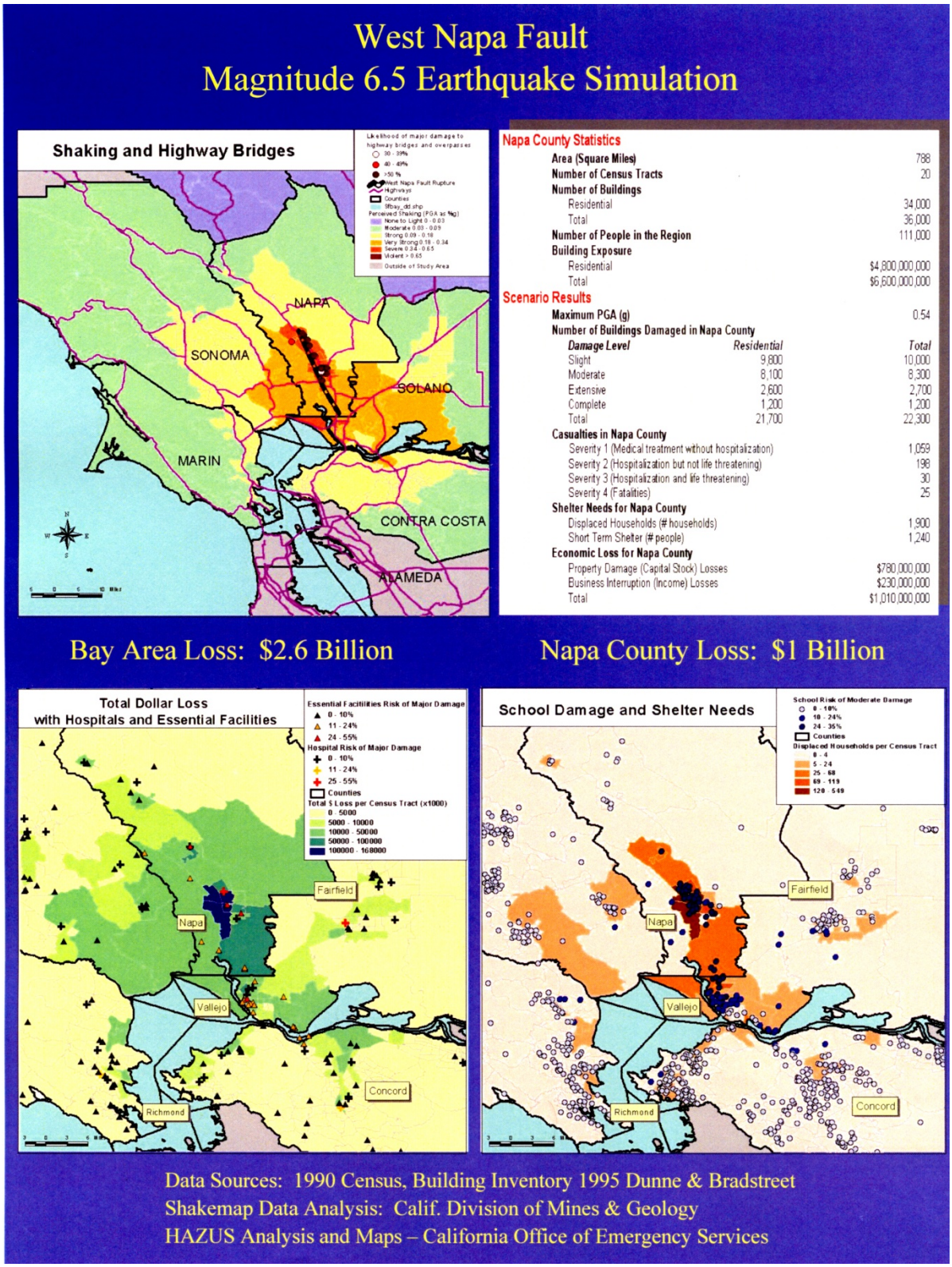

Figure 3-4 HAZUS Modeling West Napa Fault

As the preceding studies demonstrate even a “moderate” earthquake occurring in or near this area could result in deaths, casualties, property and environmental damage, and disruption of normal government and community services and activities. The effects could be aggravated by collateral emergencies such as fires, flooding, hazardous material spills, utility disruptions, landslides, transportation emergencies and the possible failure of the Napa County dams.

In this type of disaster, the community needs would exceed the response capability of the County's emergency management organization, requiring mutual assistance from volunteer and private agencies, the Governor's Office of Emergency Services, and the Federal Emergency Support Functions.

In any earthquake, the primary consideration is saving lives. Time and effort must also be given to providing for people's mental health by reuniting families, providing shelter to the displaced persons and restoring basic needs and services. A major effort will be needed to remove debris and clear roadways, demolish unsafe structures, assist in reestablishing public services and utilities and provide continuing care and temporary housing for affected citizens.

The West Napa Fault is the most serious known fault that threatens Napa County. Up to a Richter scale 7.0 magnitude quake is possible on this fault with the most likely large event being in the range of Richter magnitude 6.7.

This scenario earthquake is for a magnitude 6.7 earthquake on the West Napa Fault in Napa County. An event along the West Napa Fault would cause the most severe damage in Napa County. Out of the total Bay Area uninhabitable units of 9,652, almost half (43%) would be in Napa County. San Francisco, Alameda, and Solano counties would share the majority of the rest of the damage. As is the case with previous events, the older housing stock in Alameda and San Francisco counties would experience the most damage. In the more recently urbanized counties of Napa and Solano, on the other hand, most of the damage would be experienced by mobile homes and one-to-three story wood-frame buildings.

Napa County is clearly the hardest hit county in both gross numbers and percentages. Over twice as many people from Napa County are expected to be displaced than from San Francisco, and over three times than from Alameda County. Similarly, Napa County's peak shelter population is larger than Alameda and San Francisco counties combined. Over 40% of this event's displaced and peak shelter populations are expected to be from Napa County.

Within Napa County, 79% of the projected shelter population is a result of red-tagged dwelling units, and most (over 80% of the uninhabitable dwelling units) are either mobile homes or 1-3 story post-1939 multi-family buildings. These relationships alone are not enough to prove a correlation between uninhabitable mobile homes, multi-family dwelling units and the generation of shelter populations. However they do seem to suggest an association between certain housing types and the probability of going to a shelter in the event of a major earthquake."

After any earthquake there will be a loss of income. Individuals can lose wages due to businesses inability to function because of damaged goods or facilities. Due to business losses, the County of Napa and the cities in the Napa Operational Area will lose revenue. Economic recovery from even a minor earthquake is critical to these communities.

The Rodgers Creek fault is believed to be a northern continuation of the Hayward Fault. It begins under San Pablo Bay directly south of Napa County, travels toward Sears Point, under the hills to Sonoma Mountain then North to the vicinity of Windsor. The West Napa Fault begins under San Pablo Bay and travels north up the west side of the Napa Valley to the vicinity of Yountville. The Green Valley Fault is a northern extension of the Concord Fault and cuts through the southeast side of Napa County. We are in near proximity of several other major faults including the San Andreas, Hayward, Mayacamas and Mt. Diablo Fault. The combined probability of a major quake on one of these major faults exceeds 70% over the next thirty years.

The County's Office of Emergency Services has identified the potential hazard areas within Napa County if a major earthquake should occur. These potential hazard areas are identified on the Napa County Major Hazards Maps. For the modeled future earthquake hazards, HAZUS results show potential losses from damage to building stock and business interruption alone range from approximately $400 million dollars for the Concord-Green Valley Fault, magnitude 6.8 running just east of Napa County and $500 million for the Rodgers Creek magnitude 7.1 earthquake, running 10 miles west of Napa County. The West Napa Fault earthquake, magnitude 6.5, running along the floor of the Napa Valley, would cause the most damaging earthquake. The West Napa Fault has never moved in historic times but does show evidence of active movement sometime during the last 11,000 years.

It is important to note that these same earthquakes will have an economic impact well beyond the boundaries of Napa County. For example, the Rodgers Creek earthquake HAZUS simulation estimated a total damage picture of $12 billion. The Concord-Green Valley earthquake totals $7 billion, while the West Napa earthquake totals $2.6 billion.

3.4.2. GIS Maps and HAZUS

In addition to using HAZUS for the descriptive earthquake scenarios in this Plan, the Napa County GIS Department has developed a series of data maps demonstrating hazards and the location critical facilities in relationship to these hazards. This graphically illustrates the concentration of assets versus the various included threats. Since useable flat and buildable land in Napa County is primarily on the valley floor, the threat of flooding and loss from ground shaking is exasperated.

3.4.3. Summary of Expected Damage

There are four hospitals located within Napa County: Queen of the Valley is located the City of Napa; St Helena Hospital is located in the unincorporated town of Angwin; Napa State Hospital (including a facility for the criminally insane) is located within the City of Napa; and the State Veterans Home's Holderman Hospital is located in the Town of Yountville. Approximately half of the beds could be lost during a major earthquake due to the age and construction type of each of the hospitals. Smaller private medical facilities such as the Kaiser Clinic serve the public and augment the ability of our hospitals to care for their client populations.

Telephone systems will be affected by system failure, overloads, loss of electrical power and possible failure of some alternate power systems. Immediately following an event, numerous failures will occur, compounded by system use overloads. This will likely disable up to 80% of the telephone system for one day. County UHF/VHF and microwave radio systems are expected

to operate at 40% effectiveness the first 12 hours following an earthquake, increase to 50% for the second 12 hours then begin to slowly decline to approximately 40% within 36 hours. Microwaves systems will likely be 30% or less effective following a major earthquake.

Damage to natural gas facilities serving the Napa communities will consist primarily of isolated breaks in major transmission lines. Breaks in mains and individual service connections within the distribution system will be significant, particularly near the fault zones, especially in the cities of American Canyon and Napa. These many leaks pose a fire threat in these susceptible areas of intense ground shaking and/or poor ground near the shoreline. Breaks in the system will affect large portions of the County and restoration of natural gas service could be significantly delayed.

Water availability and distribution for supporting life, and treating the sick and the injured are of major concern to the County of Napa. It is expected that the primary water source, Lake Hennessey, may be inaccessible due to damage to the pipelines that distribute potable water. However, Napa is also connected to the State Water Project at Jameson Canyon and has a tertiary source in Milliken Dam water treatment facility. Any one of these three facilities remaining in operation is able to supply the emergency potable water needs to the City of Napa and its immediately contiguous County areas, if the distribution system can be repaired.

There are three water reservoirs within the City of Napa that have all been recently retrograded and covered, and one reservoir in the City of St Helena. If the reservoirs and water tanks remain intact, they will likely provide ample potable water to meet demands during the time the water treatment stations are being repaired.

The three reservoirs in Napa are on solid ground and are expected to be usable after a major earthquake. However, the other cities' water tank survivability is low. Therefore, potable water will most likely have to be supplied in these area communities.

Significant damage is expected on the road system. State Highway 12 is expected to be impassable from Cordelia to the Highway 29 Intersection. Interstate 80 could suffer severe surface distortion in the Fairfield and Vacaville areas, as well as damage to its numerous bridges and viaducts in the greater Bay Area. Highway 128 is subject to landslides both up valley toward Geyserville and in the hills around Lake Berryessa. Highway 29 leaving the County to the north is subject to landslides and debris flows to the south where it crosses over old bay mud and fills areas and is subject to liquefaction and surface distortion. Any combination of failures of these main highways could isolate the County for up to 72 hours with complete road restoration taking perhaps several weeks. Vehicular traffic will be limited on the foothill roads due to potential and actual landslides.

Soil liquefaction problems could cause the closure of several roads in American Canyon and areas of other cities built on unconsolidated river soils.

3.4.4. Vulnerability Assessment of Structures, Infrastructure, & Critical Facilities

The threat of damage to structures from earthquakes has been greatly reduced due to each Napa County jurisdictions adoption of Seismic Retrofit Ordinance and 2010 California Uniform Building & Fire Codes. Critical facilities that have been constructed in the past 15 years are seismically safe. An evaluation of critical facilities built prior to 1989 was completed and those

facilities have been eliminated from the critical facility inventory. All infrastructures (roads, utilities) are installed to minimize earthquake damage.

3.4.5. Probability of Future Earthquakes

The USGS, the California Office of Emergency Services, the California Geological Survey, and the Association of Bay Area Governments jointly conducted a loss estimation study focused on the ten most likely damaging earthquakes forecast for the Bay Region by the Working Group. These earthquakes occur on six of the seven major fault systems in the Bay Area. The report rates the Rogers Creek Fault a high of 15.2% for a M7.0 rupture over 30-year probability.

3.5. Fire Hazard - Wildland Urban Interface

Wildfire Vulnerability Analysis		
Community Vulnerability Rating	3.1	High Risk, Widespread potential impact.

The County's vulnerability rating for wildfires in the wildland/urban interface presents the highest and most widespread potential impact to the County. The term "wildland/urban interface" was coined in 1976 by California Department of Forestry and Fire Protection (CDF) to identify the condition where highly flammable native vegetation meets high value structures, primarily residences. In most cases, there is not a clearly defined boundary or interface between the structures and vegetation that present the hazard. Historically, residences in these ill-defined wildland/urban intermix boundary areas were particularly vulnerable to wildfires because they were constructed with a reliance on fire department response for protection rather than fire resistance, survivability and self-protection. However, in the recent past, there has developed a greater appreciation for the need to regulate development in these hazardous areas as a result of a number of serious statewide wildland fire conflagrations.

When a wildfire ignites in a high-risk wildland interface area, the priority is life and property protection. Historically, CDF forces began their attack from the most advantageous topographical or physical location, and surrounded the fire perimeter. Now, with hundreds or even thousands of structures inside the fire perimeter, the CDF's initial and extended resources are forced to divert to individual structure protection. This causes wildfire control to become secondary to protecting lives and property, thus allowing wildfires to spread unchecked, threatening and destroying more houses and natural resources.

The major wildland fire hazard risks for residential development are in the County's hilly areas characterized by steep slopes, poor fire suppression delivery access, inadequate water supply and highly flammable vegetation.

The severity of the wildland fire hazard is determined by the relationship between three factors: fuel classification, topographic slope, and critical fire weather frequency. The box at right lists fuel classifications; Napa's Fire Hazard Areas generally fall into the Medium Fuel category. Critical fire weather conditions occur in periods of relative low humidity, high heat and high winds. The Napa area typically has critical fire weather from two to seven days annually. Fuel, slope, and weather conditions combine to give Napa urban wildland interface areas an overall "High" hazard rating based on the Federal Emergency Management Agency's Urban Wildland Interface Code: 2000.

3.5.1. Fire Hazard Severity

Fuel Classification	Critical Fire Weather Frequency								
	< 1 Day/Year			2 to 7 Days/Year			> 8 Days/Year		
	Slope (%)			Slope (%)			Slope (%)		
	< 40	41 – 60	> 61	< 40	41 – 60	> 61	< 40	41 – 60	> 61
Light Fuel	M	M	M	M	M	M	M	M	H
Medium Fuel	M	M	H	H	H	H	E	E	E
Heavy Fuel	H	H	H	H	E	E	E	E	E

3.5.2. Wildland Interface Fire History

Napa County has a rich wildfire history; in the last thirty years the combination of firefighting technology and tactics, environmental restraints and developmental trends has led to increasing fuel loads, greater occupancy of high threat areas and greater potential for catastrophic wildfire. In the last thirty years Napa County wildfires have burnt 232,000 acres of land in Napa County a county of approximately 482,000 acres! There are four major factors that contribute to this history:

1. Extreme vegetation diversity
2. Diverse fire weather and fire behavior
3. Dynamic fire history
4. Complex land use patterns

A.1 Fuel Classifications

Heavy fuel – vegetation consisting of round wood 3 to 8 inches in diameter

Medium fuel – vegetation consisting of round wood 1/3 to 3 inches in diameter

Light Fuel – vegetation consisting or herbaceous plants and round wood less than ¼ inch in diameter.

To a greater or lesser degree all the proposed mitigation actions in this Plan in the wildfire portion attempt to address strategies for dealing with these interrelated factors. Figure 3-5 identifies the fire severity zones within Napa County. Additional wildfire maps in Appendix A summarize our historical fire experience.

3.5.3. Vulnerability Assessment of Structures, Infrastructure, & Critical Facilities

The threat of wildfire damage to structures has been reduced due to adoption of the 2010 Uniform Fire Code, the Firewise program, and the Fuel Reduction (Chipping Program). There have only been two homes lost by fire in the last 10 years in Napa County. Wildfire threat to power lines is being mitigated by an aggressive line clearing program by PG&E. All critical facilities are located on the valley floor and not threatened by a wildland urban interface fire.

3.5.4. Probability of Wildland Fire

Napa County faces a wildland fire threat each and every year. In 2010 Ernie Loveless, Chief, CAL FIRE Napa-Lake-Sonoma Unit stated: "We must be honest with ourselves. Wildland fires are part of our history and will certainly be part of our future. Being prepared is critical." The wildland fire risk in Napa County can be attributed to two factors. The first is ignition sources and the second fuel loading. Mitigation measures must address reducing the fuel ignition sources, such as juveniles playing with matches, lighters or fireworks in the open vegetation areas, educating the public on better abatement procedures when using mechanical equipment, and proper disposal of cigarettes.

The second is reducing the immediate fuel load surrounding residences in the Urban Interface and Rural areas of Napa County. The Firewise Chipping Program is available free of charge to County residents. This program has had a major impact in fuel reduction each year.

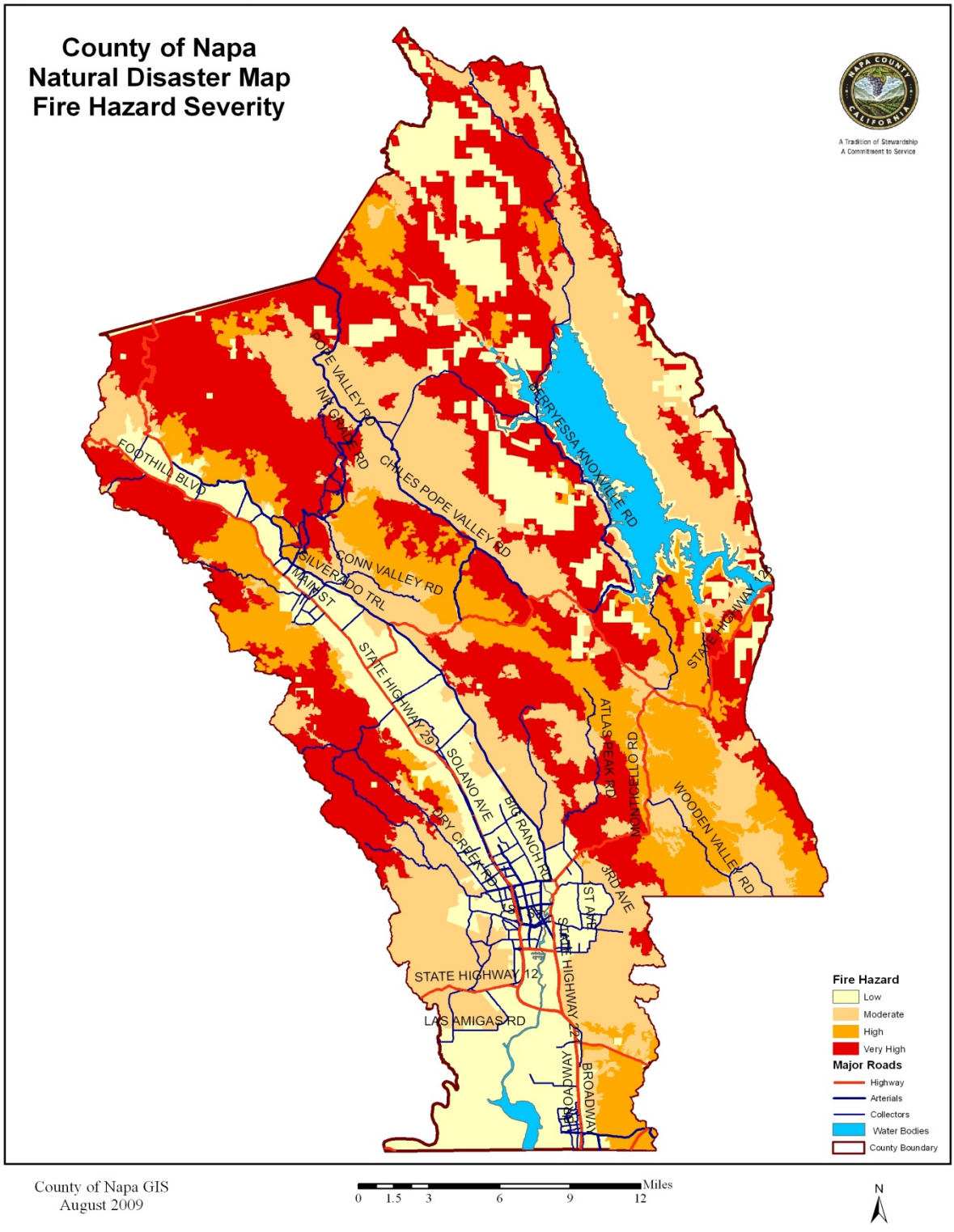

Figure 3-5: Napa County Fire Severity Zones

Section 4. MITIGATION STRATEGY

The development of the mitigation strategy includes a review of the goals, objectives and mitigation actions identified in the 2004 Napa County HMP, a capabilities assessment, and the creation of a Mitigation Action Strategy, which includes a prioritization process for selecting the mitigation actions to be implemented. Specific mitigation objectives and action items were developed for Napa County in conjunction with the public meetings held in the three locations, as cited in Section 1. The list of action items identifies mitigation projects, cost, funding sources, responsible agencies, and time frames for implementing each mitigation action. The action items were developed to provide public policy makers with a list for potential implementation as mitigation resources, time, equipment and funding become available for the selected projects.

4.1. Hazard Mitigation Goals and Objectives

The HMP goals and objectives are building blocks in the efforts to mitigate potential natural and potential human-caused hazards and build on the community's existing capabilities. Project implementation and legal framework are discussed at the conclusion of this section.

The Napa County HMP Planning Committee reviewed the 2004 goals and objectives throughout the planning process. A discussion on the goal's continued validity for the 2013 Napa County HMP ensued, and concluded with the HMP Planning Committee voting to develop an entirely new set of goals and objects based upon hazard mitigation best practices and current day priorities. The HMP Planning Committee decided to develop goals and objectives to address each hazard identified in Section 3. More details of this particular meeting are provided in Appendix I. The following goals and objectives have been developed as part of the 2013 planning effort:

- **Goal 1:** Promote disaster resistance for existing and future development
- **Goal 2:** Promote public understanding, support for disaster mitigation
- **Goal 3:** Protect Napa County from the devastation of large and small scale disasters
- **Goal 4:** Reduce deaths, injuries, structural damage from flooding
- **Goal 5:** Reduce deaths, injuries, structural damage from wildfires
- **Goal 6:** Reduce deaths, injuries, structural damage from earthquakes

The broad range of potential mitigation activities were considered, and below is a list of mitigation objectives and the actions identified by the County. Although some of these projects may not be eligible for FEMA funding, counties may secure alternate funding sources to implement these projects in the future.

In General, these project areas fall in three general categories:

- Reduce impacts from flooding
- Reduce impacts of earthquakes
- Minimize risk of wildfire at urban interface

4.2. Capabilities Assessment

In preparing the mitigation actions, the Napa County HMP Planning Committee members were asked to consider their overall capability to mitigate identified hazards. The mitigation strategy includes an assessment of Napa County's planning and regulatory, administrative/technical, fiscal, and political capabilities to complete the identified mitigation actions. In addition to a capabilities assessment for Napa County, each jurisdictional focus group completed their own assessment to evaluate the specific capabilities of their jurisdiction.

4.2.1. Planning and Regulatory Mitigation Capabilities

Napa County has several plans and programs in place that guide the County's mitigation of development in hazard-prone areas. The following table lists planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities. Table 4-1 provides a sample list of possible planning and regulatory capabilities.

Table 4-1: Napa County's Regulatory Mitigation Capabilities

Hazard	Plan/Program/ Regulation	Responsible Agency	Comments
Multi-Hazard	Hazard Mitigation Plan	Napa County Office of Emergency Services (NCOES)	Implementation and updates over a 5 Year Period.
Multi-Hazard	Emergency Operations Plan (EOP)	NC OES	To address disasters, whether they are natural, technological or manmade. The Hazard Mitigation Plan addresses natural hazards only.
Multi-Hazard	Evacuation Plan	NC OES	NC might have an evacuation plan with the following elements: ▪ Transportation ▪ Housing / Shelters ▪ Large and Small animal Evacuation
Multi-Hazard	California Building Codes	Planning, Building & Environmental Services (PBES)	Napa County has adopted new building codes and regulations that protect new development and buildings from flooding, wildfire and EQ.
Multi-Hazard	Zoning Regulations	PBES	See Napa County Building Regulations under Wildfire, Flood and Earthquake.
Multi-Hazard	Subdivision Regulations	PBES	See Napa County Building Regulations under Wildfire, Flood and Earthquake.
Multi-Hazard	Comprehensive Land Use Plan (or General, Master or Growth Mgmt. Plan)	PBES	
Multi-Hazard	Capital Improvement Plan	CEO	

Multi-Hazard	Community Facility Development and Infrastructure Assistance	Planning, Building & Environmental Services	
Multi-Hazard	Statewide Historic Preservation Plan: Local Government Assistance	Office of Historic Preservation Napa County Historical Society	OHP's Local Government Unit (LGU) offers guidance and assistance to city and county governments in the following areas: ▪ Drafting or updating historic preservation plans and ordinances ▪ Developing historic context statements ▪ Planning for and conducting architectural, historical, and archeological surveys ▪ Developing criteria for local designation programs, historic districts, historic preservation overlay zones (HPOZs), and conservation districts ▪ Developing and implementing design guidelines using the Secretary of the Interior's Standards - Developing economic incentives for historic preservation - Training local historic preservation commissions and review boards Meeting CEQA responsibilities with regard to historical resources
Wildfire	Community Wildfire Protection Plan (CWPP)	Fire Safe Council	- Update edits occurring, expect approval 2013.
Wildfire	Local Community Codes	Local Communities	
Wildfire / Flood	USDA	NRCS	Flood and Fire Recovery on Private Lands
Flood	Prop 50/84 Integrated Regional Water Management (IRWM)	DWR	DWR has a number of IRWM grant program funding opportunities. Current IRWM grant programs include: planning, implementation, and stormwater flood management. http://www.water.ca.gov/iwrm/grants/index.cfm
Flood	USDA	NRCS	Improve floodplain function and reduce effects of flooding on private lands
Flood	Central Valley Flood Protection Plan	DWR	State legislative requirements provide Napa County local planning responsibilities for floodplain management (e.g., general plans, zoning ordinances, development agreements, tentative maps, and other actions).

Flood	NFIP	Napa County Flood Control / Buildings Dept.	NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in participating communities. As a participating member of the NFIP, Napa County Officials are dedicated to protecting homes of more than 160 policies currently in force. ▪ 163 policies in force ▪ $37,987,500 insurance in force ▪ 34 paid losses ▪ $680,554 total paid losses 6 substantial damage claims since 1978
Flood	DWR Prop 84	DWR	Grant funding just came out from the Flood Operations Center.
Flood	***USDA***	Natural Resources Conservation Service (NRCS)	Emergency Watershed Protection Program Environmental Quality Incentive Program
Flood	***Farmland Preservation***	Statewide Drought Mitigation Plan	
Flood		Flood Control, DWR, Army Corps	
Earthquake		Response = EOC State OES	

4.2.2. Administrative/Technical Capabilities

Napa County has several departments and agencies that have both the administrative authority and technical capabilities related to hazard mitigation and loss prevention, as identified below:

Table 4-2: Napa County Administrative and Technical Mitigation Capabilities

Staff/Personnel Resources	***Yes***	***No***	***Department / Agency***	***Comments***
Planners (with land use / land development knowledge)	x		PBES	
Planners or engineers (with natural and/or human caused hazards knowledge) Public Works has capability.	x		PBES	

Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	x		PBES	
Emergency Manager	x		OES	
Floodplain Manager (Planning Director / Public Works Director)	x		Flood Control	
Land surveyors	x		PBES	
Scientists or staff familiar with the hazards of the community	x		PBES, NOAA	
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program	x		NC GIS	
Grant writers or fiscal staff to handle large/complex grants	x		UASI	Limited to Public Health
Construction Equipment	X		PBES	
Public Works: ▪ Technical Assistance ▪ Personnel Assistance	X		PBES	
Utilities / Dam Safety Experts ▪ Dam Safety Personnel ▪ PG&E Arborist	x		PBES	

State Emergency Management Personnel ▪ State OES Access ▪ CCIC Access ▪ Mobile Emergency Personnel ▪ Medical Air Evacuation (Based in Auburn & Redding)	x		OES	
Regional Medical Assistance Personnel	x		EMS	
National Weather Service Weather Watchers	X		OES, PBES	

4.2.3. Fiscal Capabilities

This section identifies the financial tools or resources that the County could potentially use to help fund mitigation activities. These include County-specific capabilities, as well as state and federal resources. It is also important to note that funding can also be sourced from participating agencies/organizations that collaborate with the County in the implementation of mitigation actions.

Table 4-3: Napa County Fiscal Capabilities

Financial Resources	*Yes*	*No*	*Department / Agency*	*Comments*
Capital improvement programming	x		CEO	
Community Development Block Grants (CDBG)	x		PBES	
Special purpose taxes	x		CEO BOS	
Gas / electric utility fees		x		
Water / sewer fees	x		Special Districts	
Stormwater Utility fees	x		PBES	
Development impact fees	x		PBES	
General obligation, revenue, and/or special tax bonds	x		CEO BOS	
Partnering arrangements or intergovernmental agreements	x		Public Safety	
DWR Position 84 Bond Funding		x		
Weatherization Services		x		

4.2.4. Community Political Capability

Political capability in this instance is being measured by the degree to which local political leadership (including appointed boards) is willing to enact policies and programs that reduce hazard vulnerabilities in your community, even if met with some opposition. Examples may include guiding development away from identified hazard areas, restricting public investments or capital improvements within hazard areas, or enforcing local development standards that go beyond minimum State or Federal requirements (e.g., building codes, floodplain management, etc.). The Napa County HMP Planning Committee Focus Group rated the political capability to enact policies and programs that reduce hazard vulnerabilities.

The diagram below provides a simple 0 to 5 scale for which the Napa County hazard mitigation planners used to assess the County's political capability. The Napa County focus group agreed that political boards are "Moderately Willing" to change policy or programs. Generally, a higher score corresponds to a higher degree of community political capability.

Very Willing ***Moderately Willing*** ***Unwilling to Adopt Policies/ Programs***

Score: 2.5

4.2.5. Self-Assessment of Capability

The Napa County HMP Planning Committee conducted a short Capabilities Assessment Self-Survey in order to understand the degree of capability for categories reviewed previously in this section. Using Table 4-4 as an outline, the Planning Committee agreed "as a group" upon the degree of capability; limited, moderate, or high for each capability area. The survey conclusion results are based upon information provided previously in this Section and working knowledge of County operations.

Table 4-4: Capabilities Assessment Self-Survey Conclusion

	Degree of Capability		
Capability Area	***Limited***	***Moderate***	***High***
Planning and Regulatory Capability		X	
Administrative and Technical Capability		X	
Fiscal Capability	X		
Community Political Capability		X	

4.3. Mitigation Action Items

With the results of the hazard risk assessment finalized, mitigation goal established, and capabilities assessed, mitigation actions are set to reduce the impacts of the identified natural hazards. Brief descriptions of the mitigation action categories are provided below, followed by a discussion of the process undertaken to identify and prioritize mitigation actions. Supporting documentation for this section is provided in Appendix A.

4.3.1. Mitigation Action Categories

Mitigation actions are based on the hazard risk assessment results and FEMA's six hazard mitigation actions categories. Mitigation action categories include prevention, property protection, public education and awareness, natural resource protection, emergency services, and structural projects. FEMA's six hazard mitigation categories are described below:

- Prevention (PRV): Government administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses.
- Property Protection (PP): Actions that involve modifying or removing existing buildings or infrastructure to protect them from a hazard.
- Public Education and Awareness (PE&A): Actions to inform and educate citizens, elected officials, and property owners about potential risks from hazards and potential ways to mitigate them.
- Natural Resource Protection (NRP): Actions that, in addition to minimizing hazard losses also preserve or restore the functions of natural systems.
- Emergency Services (ES): Actions that typically are not considered mitigation techniques but reduce the impacts of a hazard event on people and property.
- Structural Projects (SP): Mitigation projects intended to lessen the impact of a hazard by using structures to modify the environment.

4.3.2. Identification of Mitigation Actions

To begin the process of identifying mitigation actions for the 2013 HMP update, the Napa County HMP Planning Committee reviewed mitigation actions from the 2004 HMP in June of 2013. During this process, the HMP Planning Committee reevaluated the mitigation measures from the 2004 plan and streamlined, edited and developed new mitigation actions where appropriate. All mitigation actions, including those that were completed, removed or are still in progress can be found in Appendix A along with the status of the action, cost, responsible agency and funding source.

As part of the mitigation action identification process, the HMP Planning Committee and Jurisdictional Focus Groups identified issues and/or weaknesses in the County's existing/current hazard mitigation activities and developed a new set of goals, objectives and actions identified in this section. The mitigation actions were prioritized based upon the below goals and actions. For details on mitigation actions See Appendix A.

Goal 1: Promote a Flood Safer Community

Objectives 1.1: Develop and improve the countywide flood surveillance and early warning system.

Actions 1.1.1: Maintain City County Storm Watch Program

Objective 1.2: Support the completion of the Measure 'A' Flood Control Project

Action 1.2.1: Completion of the Measure 'A' Flood Control Project as budgeted

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Objective 1.3: Housing elevation project

Action 1.3.1: Elevate 100 most flood prone houses along areas not receiving direct protection from the Measure 'A' Flood Project.

Objective 1.4: Napa River Restoration Efforts

Action 1.4.1: Secure grant funding to develop and implement river restoration program that would reduce flood damages and increase environmental quality on the river, maintain fish habitat, decrease impediment to drainage by preventing silt build up and loss of stream bed capacity.

Objective 1.5: Reduce the possibility of Localized Flooding

Action 1.5.1: Routinely inspect storm water channels for vegetation build up or encroachment, trash and debris, silt and gravel build up, and erosion or bank failure and maintain said channels were permitted by California Department of Fish and Game.

Action 1.5.2: Routinely inspect and maintain storm water inlets and outfalls for debris and obstructions, sand & gravel build-up, and structural damage or vandalism.

Goal 2: Promote an Earthquake Safer Community

Objective 2.1: Train communities to be earthquake ready

Action 2.1.1: Continue CERT Training Program

Action 2.1.2: Earthquake month public education program

Action 2.1.3: Participate in 'The Great Shake Out' Statewide Drill

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Objective 2.2: Ensure the ability of emergency response units to communicate in the post quake environment.

Action 2.2.1: Hardening and building redundant capability into Public Safety Alerting Points

Action 2.2.2: Type standardizes and purchase mobile command/EOC vehicles

Action 2.2.3: Retrofit Critical Public Safety Infrastructure

Action 2.2.4: Build and Equip a County Emergency Operations Center

Goal 3: Promote a Fire Safer Community

Objective 3.1: Develop a defensible space program to minimize impact of wildland-Urban interface fires.

Action 3.1.1: Develop & conduct a Defensible Space community education program

Action 3.1.2: Draft and Promulgate Defensible Space Ordinance

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Objective 3.2: Create a sustainable public private partnership on building a safer community in the interface zone

Action 3.2.1: Foster and form neighborhood based Firewise Councils

Action 3.2.2: Revise General Plan with lessons learned from Firewise programs and analysis

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Objective 3.3: Develop a program to reduce shared threat in the Interface zone

Action 3.3.1: Maintain and further develop the Fuel Reduction Program

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Objective 3.4: Maintain Emergency Operations Center for coordination on information and resources

Action 3.4.1: Ensure training is provided for Command & General Staff positions in EOC's. Ensure EOC exercises are performed at least annually.

Objective 3.5: Reduce the probability of Fire Ignitions

Action 3.5.1: Focus on human causes of ignition and address the problem through education and enforcement actions, to include vigorous investigation and prosecution of arson.

4.3.3. Project Implementation

This section discusses plan adoption and implementation, as well as the processes for monitoring, evaluating, and updating the HMP, to ensure that the HMP remains relevant and continues to address the changing environment in the County. In addition, this section describes the incorporation of the HMP into existing Napa County planning mechanisms, as well as how the County will continue to engage the public.

Some projects are currently budgeted or completed by the local governments without recourse to the grant process. Projects requiring grant funds will be conducted as time, staff, priority and funding allow. The Napa Operational Area has sought mitigation funding from numerous sources with the Pre-Disaster Hazard Mitigation Grant program being recognized as only one of several potential sources.

The plan allows for an umbrella of integrated approaches to mitigation to the threats all the signatory jurisdictions face. The cohesiveness of the area, its small size and the proximity of all jurisdictions to the Napa River, The wildland urban interface, the Northern California fault complexes and their shared major transportation routes make the projects and work done on the projects potentially beneficial to all.

The Napa Operational Area Council will be the coordination body for the day to day tracking of projects in the County. The Napa Valley association of governments will represent the opportunity to address the political issues of project prioritization and implementation in a forum that represents all the governmental stakeholders.

The Napa County Office of Emergency Services will be the central coordination point for maintaining this Plan and will serve as the lead staff for grant project applications on the countywide projects selected for application under the PDM grant program.

4.3.4. Legal Framework

The legal protections for the selection, administration and financing these projects is provided by the local government governing board or council. For the County the Board of Supervisors (and for the Cities/Town their Councils) provide guaranteed public access and scrutiny through the open public meetings and agenda, budget authority, accountability, and inclusion of any granted funds into the federal annual single audit. All grant efforts are approved by these bodies prior to application and accepted formally by these bodies upon their award. As elected public officials, they are the stewards of the public trust.

Local ordinance in all signatory agencies all reflect the state model ordinance. The County CEO and/or City/Town Managers are by ordinance the directors' of emergency services, as such they will have day to day oversight of any of these mitigation programs. Since all involved staff is within their chain of supervision, this provides an additional legal safeguard for the management and implementation of these projects.

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Section 5. PLAN MAINTENANCE PROCEDURES

Napa County Operational Area Hazard Mitigation Plan will be used to focus project prioritization. Mitigation projects will be considered for funding through federal and state grant programs, and when other funds are made available through the County. The Napa County Operational Area Disaster Committee will be the coordinating agency for project implementation. Individual jurisdictions have the capacity to organize resources, prepare grant applications, and oversee project implementation, monitoring, and evaluation. Coordinating organizations may include local, county, or regional agencies that are capable of, or responsible for, implementing activities and programs. The Napa County OES Operational Area Coordinator (County OES Manager) will be responsible for mitigation project administration.

A number of state and local regulations and policies form the legal framework to implement Napa County's hazard mitigation goals and projects. A list of these regulations and plans is presented in the references list at the end of this section.

5.1. Plan Adoption

To comply with DMA 2000, the Napa County Board of Supervisors will officially adopt the 2013 Napa County HMP within one year of FEMA approval. The adoption of the updated HMP recognizes the County's commitment to reducing the impacts of natural hazards on the County. A copy of the 2013 HMP resolution is included in Section 1.

5.2. Plan Maintenance

The Plan maintenance section of this document details the formal process that will ensure that the Napa County Operational Area Hazard Mitigation Plan remains an active and relevant document. The Plan maintenance process includes a schedule for monitoring and evaluating the Plan and producing a Plan revision every five years. This section describes how the County will integrate public participation throughout the Plan maintenance process. Also included in this section is an explanation of how Napa County government intends to incorporate the mitigation strategies outlined in this Plan into existing planning mechanisms.

5.3. Future Participation

The Napa County Planning Committee, established for this update, will become a permanent advisory body to administer and coordinate the implementation and maintenance of the HMP. The Napa County Office of Emergency Services Manager will lead the HMP Planning Committee in all associated HMP maintenance requirements. On a bi-annual basis, the Planning Committee will convene at their already established Napa County Operational Area meetings to discuss and report progress on mitigation actions. Other duties such as reviewing and promoting mitigation opportunities, informing and soliciting input from the public, and hearing and addressing stakeholder concerns about hazard mitigation will occur on an as needed basis.

5.4. Monitoring, Evaluating and Updating the Plan

The Napa County Operational Area Hazard Mitigation Plan is a living document, and will be updated as needed with knowledge of new hazards, vulnerabilities, or other pertinent information. Bi-annual review and status updates on mitigation actions will identify new mitigation projects and evaluate the effectiveness of mitigation priorities and existing programs.

The County OES Operational Area Coordinator will be responsible for scheduling a meeting of the Napa County Operational Area Planning Committee to review and update the Plan every five years. The meeting will be open to the public and advertised in the local newspaper to solicit public input. The public will have the opportunity to review the goals and mitigation projects in light of changing situations in the County and changes in state or federal policy to ensure that this Plan is addressing current and expected needs. Consistent with current technology the approved existing plan will be available both in hard copy at each office of emergency services throughout the County and posted on the official jurisdiction website. This will ensure public access to the Plan. The Plan will also be made available as an adobe acrobat file on CD for a nominal fee.

The County OES Operational Area Coordinator with this public input will also review the risk assessment portion of the plan to determine if this information should be updated or modified, given any newly available data and completion of major mitigation programs such as the Napa County Flood Control Project. County OES Operational Area Coordinators will review HMP sections on a regular basis through Operational Area committee meetings to update language and data as need be. The list of critical facilities in the Appendices will also be reviewed and enhanced with additional details.

The County OES Operational Area Coordinator will give a status report detailing the success of various mitigation projects, difficulties encountered, and success of coordination efforts and which strategies should be revised. The status report will be published on the Napa County web sites and an executive summary will be published in the local newspaper to update the citizens of Napa County at the conclusion of each plan review.

The County OES Operational Area Coordinator will be responsible for the five-year update of the Plan, and will have six months to make appropriate changes to the Plan before submitting it to the Board, Councils and public for review and approval. At the end of the five-year period, the updated Plan will be submitted to the State Hazard Mitigation Officer and the FEMA for acceptance. The OES Coordinator will notify all holders of the County Plan when changes have been made.

5.5. Implementation through Existing Programs

Within six months of formal adoption of the Napa County Operational Area Hazard Mitigation Plan, mitigation goals will be incorporated into future development of the Napa County General Plan. In addition to Planning Committee meetings, meetings of the Board of Supervisors and public hearings will provide an opportunity for local officials to report back on the progress made on the integration of mitigation planning elements into County planning documents and procedures.

5.6. Continued Public Involvement

Napa County is dedicated to involving the public directly in review and updates of the Napa County Operational Area Hazard Mitigation Plan. Copies of the Plan will be catalogued and kept at all appropriate agencies in the County as well as at the Main Public Library, posted on official websites and be available on read only files on CD ROM.

Public meetings will be held as part of the required five-year update of the Plan. The meetings will provide a forum for public input to the Plan.

Appendix A. **Napa County Operational Area**

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A.1 Mitigation Goals, Objectives, and Actions Tracking

A.1.1 GOAL 1: Promote a Flood Safer Community

OBJECTIVE	ACTION	Action Type	2004 Carry Over	STATUS / REASON	PRIORITY	TIME FRAME	COST	RESPONSIBLE AGENCY	FUNDING SOURCE
Objectives 1.1: Develop and improve the countywide flood surveillance and early warning system.	**Actions 1.1.1:** Maintain City / County Storm Watch Program	N/A	Y	**ON-GOING / SEE PROGRESS REPORT IN APPENDIX A.2**	1	Ongoing	$30,000 / YR	NCFCD and other participating jurisdictions.	Local Watershed Assessment
	~~**Actions 1.1.X:** Small Stream Warning System~~	~~N/A~~	~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~1~~	~~5-10 Years~~	~~$250,000~~	~~County and City of Napa~~	~~N/A~~
	~~**Action 1.1.X** Storm early warning enhancements~~	~~N/A~~	~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~1~~	~~5-10 Years~~	~~$25,000~~	~~County Disaster Education Task Force~~	~~N/A~~
	~~**Action 1.1.X:** Community education flood fighting techniques~~	~~N/A~~	~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~1~~	~~1-3 years~~	~~$5,000 / YR~~	~~CERT Teams and Dept. of Water Resources~~	~~N/A~~
Objective 1.2: Support the completion of the Measure 'A' Flood Control as budgeted.	**Action 1.2.1:** Completion of the Measure 'A' Flood Control Project as budgeted	S&I	Y	**ON-GOING / SEE PROGRESS REPORT IN APPENDIX A.2**	1	2018	~$500,000,000 (total)$	Napa County Flood Control District	Measure A Tax Funds, federal funding
	~~**Action 1.2.X:** Streambed Vegetation Management Plan~~	~~S&I~~	~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~2~~	~~3-5 Years~~	~~$1,000,000~~	~~County Planning Department and all participating jurisdictions~~	~~N/A~~
	~~**Action 1.2.X:** Streambed and Bank Management Plan~~	~~S&I~~	~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~2~~	~~3-5 Years~~	~~$500,000~~	~~County and City Planning Staffs~~	~~N/A~~
	~~**Action 1.2.X:** Increasing Reservoir Capacity~~	~~S&I~~	~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~3~~	~~5-10 Years~~	~~$15,000,000~~	~~City/County Planning & Public Works Departments (Calistoga and City of Napa)~~	~~N/A~~

OBJECTIVE	ACTION	Action Type	2004 Carry Over	STATUS / REASON	PRIORITY	TIME FRAME	COST	RESPONSIBLE AGENCY	FUNDING SOURCE
	~~**Action 1.2.X:** Elevation of Secondary Bridges Plan and Program~~	~~S&I~~	~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~3~~	~~5-10 Years~~	~~$10,000,000~~	~~City/County Planning & Public Works Departments~~	~~N/A~~
Objective 1.3 Floodproof Residential Structures	**Action 1.3.1:** Floodproof 100 most flood prone residential structures along areas not receiving direct protection from the Measure 'A' Flood Project.	S&I	Y	**ON-GOING / SEE PROGRESS REPORT IN APPENDIX A.2**	2	ongoing	$5,000,000	Napa County, individual jurisdictions	Federal Grants
Objective 1.4: Napa River Restoration Efforts	**Action 1.4.1:** Secure grant funding to develop and implement river restoration program that would reduce flood damages and increase environmental quality on the river, maintain fish habitat, decrease impediment to drainage by preventing silt build up and loss of stream bed capacity.	NS	N	**TO BE COMPLETED / SEE IMPLEMENTATION PLAN IN APPENDIX A.2**	3	Annually	$500,000 / YR	Napa County	Federal Grants/Local Sales Tax
Objective 1.5: Reduce the possibility of Localized Flooding	**Action 1.5.1:** Routinely inspect storm water channels for vegetation build up or encroachment, trash and debris, silt and gravel build up, and erosion or bank failure and maintain said channels ~~were~~ permitted by California Department of Fish and Game.	S&I	N	**TO BE COMPLETED / SEE IMPLEMENTATION PLAN IN APPENDIX A.2**	2	Annually	$30,000	All participating jurisdictions.	General Funds/ Watershed Assessment
	Action 1.5.2: Routinely inspect and maintain storm water inlets and outfalls for debris and obstructions, sand & gravel build-up, and structural damage or vandalism.	S&I	N	**TO BE COMPLETED / SEE IMPLEMENTATION PLAN IN APPENDIX A.2**	2	Annually	$30,000	All participating jurisdictions.	General Funds/ Watershed Assessment

A.1.2 Goal 2: Promote an Earthquake Safer Community

OBJECTIVE	ACTION	Action Type	2004 Carry Over	STATUS / REASON	PRIORITY	TIME FRAME	COST	RESPONSIBLE AGENCY	FUNDING SOURCE
Objective 2.1: Train Communities to be earthquake ready.	**Action 2.1.1:** Earthquake month public education program	PE&A	N	**ON-GOING / SEE PROGRESS REPORT IN APPENDIX A.2**	1	ANNUALLY	$25,000 / YR	ALL JURS.	GENERAL FUND?
	Action 2.1.2: Participate in 'The Great Shake Out' Statewide Drill	PE&A	N	**TO BE COMPLETED / SEE IMPLEMENTATION PLAN IN APPENDIX A.2**	1	ANNUALLY	$25,000 / YR	ALL JURS.	GENERAL FUND?
	~~**Action 2.1.X:** Earthquake insurance education campaign~~	~~S&I~~	~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~1~~	~~1-3 YEARS~~	~~$15,000~~	~~City/County Disaster Education Task Force (all jurisdictions involved)~~	~~?~~
Objective 2.2: Ensure the ability of government to function in a post-quake environment.	**Action 2.2.1:** Hardening and building redundant capability into Public Safety buildings.	S&I	Y	**ON-GOING / SEE PROGRESS REPORT IN APPENDIX A.2**	2	2020	$11,000,000	ALL JURS.	FEDERAL GRANTS
	Action 2.2.2: Retrofit Critical Public Safety Infrastructure.	S&I	N	**ON-GOING / SEE PROGRESS REPORT IN APPENDIX A.2**	3	2025	$16,725	ALL JURS.	FEDERAL GRANTS
	~~**Action 2.2.X:** Replacing and hardening county microwave and simulcast system~~		~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~1~~	~~1-3 YEARS~~	~~$5,000,000~~	~~City/County Public Safety Communications~~	~~?~~
	~~**Action 2.2.X:** Hazard Mitigation Model Home Project~~		~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~1~~	~~3-5 YEARS~~	~~$250,000~~	~~City/County Disaster Education Task Force/Building Departments~~	~~?~~
	~~**Action 2.2.X:** Conduct a mobile home tie down program~~		~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~1~~	~~3-5 YEARS~~	~~$6,250,000~~	~~City and County Public Works Departments~~	~~?~~

A.1.3 Goal 3: Promote a Fire Safer Community

OBJECTIVE	ACTION	Action Type	2004 Carry Over	STATUS / REASON	PRIORITY	TIME FRAME	COST	RESPONSIBLE AGENCY	FUNDING SOURCE
Objective 3.1: Develop a defensible space program to minimize impact of wildland-urban interface fires.	**Action 3.1.1:** Develop & conduct a Defensible Space community education program.	PE&A	Y	**ON-GOING / SEE PROGRESS REPORT IN APPENDIX A.2**	1	ANNUALLY	$10,000 / YR	NAPA FIREWISE	GENERAL FUND
	Action 3.1.2: Draft and Promulgate Defensible Space Ordinance.	LPR	Y	**ON-GOING / SEE PROGRESS REPORT IN APPENDIX A.2**	2	2015	$15,000 / 5 YR	NAPA CO FIRE	GENERAL FUND
	~~**Action 3.1.X:** Develop Defensible Space enforcement and compliance program~~	~~S&I~~	~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~2~~	~~1-3 Years~~	~~$100,000~~	~~County Fire Marshall and Staff~~	~~?~~
	~~**Action 3.1.X:** Develop voluntary Defensible Space inspection program~~	~~S&I~~	~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~1~~	~~1-3 Years~~	~~$40,000~~	~~County Fire Marshall and Staff~~	~~?~~
	~~**Action 3.1.X:** Develop GIS Vegetation Layer Maps~~	~~S&I~~	~~Y~~	**COMPLETED**	~~1~~	~~Completed~~	~~$10,000~~	~~County Fire, Ag and GIS~~	~~?~~
Objective 3.2: Create a sustainable public private partnership on building a safer community in the interface zone	**Action 3.2.1:** Foster and form neighborhood based Firewise Councils.	LPR	Y	**ON-GOING / SEE PROGRESS REPORT IN APPENDIX A.2**	1	2013	$10,000 / YR	NAPA FIREWISE	GENERAL FUND
	Action 3.2.2: Revise General Plan Safety Element with lessons learned from Firewise programs and analysis.	LPR	Y	**ON-GOING / SEE PROGRESS REPORT IN APPENDIX A.2**	2	EVERY 10 YRS	$50,000 / 10 YRS	PLANNING, FIREWISE, CO FIRE	GENERAL FUND
	~~**Action 3.2.X:** Develop elected official Firewise education program~~	~~PE&E~~	~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~1~~	~~1-3 Years~~	~~$10,000~~	~~County Fire Marshall and Staff (County with City of Napa)~~	~~?~~
	~~**Action 3.2.X:** Develop Defensible Space Grant application program for homeowners (Model Defensible Space landscaping projects)~~	~~PE&E~~	~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~2~~	~~1-3 Years~~	~~$5,000 / YR~~	~~County Fire Marshall and Staff~~	~~?~~
Objective 3.3: Develop a program to reduce shared threat in the Interface zone.	**Action 3.3.1:** Maintain and further develop the Fuel Reduction Program.	NS	Y	**ON-GOING / SEE PROGRESS REPORT IN APPENDIX A.2**	2	3-5 Years	$1,600,000 (to initiate), $1,250,000/YR (to maintain)	County Fire and Planning Department Staff (County with City of Napa)	?
	~~**Action 3.3.X:** Enforce Interface Zone road ordinances~~		~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~1~~	~~3-5 Years (ANNUALLY)~~	~~$100,000 / YR~~	~~County Fire and Planning Department Staff~~	~~?~~

OBJECTIVE	ACTION	Action Type	2004 Carry Over	STATUS / REASON	PRIORITY	TIME FRAME	COST	RESPONSIBLE AGENCY	FUNDING SOURCE
	~~**Action 3.3.X:** Implement Public Road Clearance and Improvement Program~~		~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~2~~	~~5-10 Years~~	~~$600,000 to initiate~~	~~County Fire and Planning Department Staff~~	
	~~**Action 3.3.X:** Implement Defensible Space measures into all Interface Zone building permit processes~~		~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~2~~	~~5-10 Years~~	~~$40,000 to initiate~~	~~County Fire and Planning Department Staff (Napa County and City of Napa)~~	
	~~**Action 3.3.X:** Develop an Insurance Incentive Program with Insurance Agencies~~		~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~3~~	~~5-10 Years~~	~~$50,000~~	~~County Fire Marshall and Insurance Companies~~	
	~~**Action 3.2.X:** Develop structural protection plans for urban interface areas~~	~~S&I~~	~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~1~~	~~MID~~	~~$100,000~~		
Objective 3.4: Maintain Emergency Operations Center for coordination on information and resources.	**Action 3.4.1:** Ensure training is provided for Command & General Staff positions in EOC's. Ensure EOC exercises are performed at least annually.	PE&A	N	**TO BE COMPLETED / SEE IMPLEMENTATION PLAN IN APPENDIX A.2**	1	BI-ANNUALLY	$20,000	NAPA CO OES	GENERAL FUND
Objective 3.5: Reduce the probability of Fire Ignitions.	**Action 3.5.1:** Focus on human causes of ignition and address the problem through education and enforcement actions, to include vigorous investigation and prosecution of arson.	LPR	N	**TO BE COMPLETED / SEE IMPLEMENTATION PLAN IN APPENDIX A.2**	1	ANNUALLY	$25,000	COUNTY FIRE	GENERAL FUND
Objective 3.X: Maintain quality of watershed by managing fuel and fire as part of the water quality environment	~~**Action 3.X.X:** Develop a comprehensive watershed evaluation and maintenance plan~~		~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~1~~	~~3-5 Years~~	~~$250,000~~	~~County Fire and Planning Department Staff (All jurisdictions)~~	~~?~~
	~~**Action 3.X.X:** Institute the watershed maintenance program~~		~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~1~~	~~5-10 Years~~	~~$1,000,000 / YR~~	~~County Fire and Contractors (All jurisdictions)~~	~~?~~

OBJECTIVE	ACTION	Action Type	2004 Carry Over	STATUS / REASON	PRIORITY	TIME FRAME	COST	RESPONSIBLE AGENCY	FUNDING SOURCE
	~~**Action 3.X.X:** Fire and Fuel Imaging and Residential Evolution Program Project~~		~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~2~~	~~3-5 Years~~	~~$1,600,000 to initiate~~	~~County Fire and Planning Department staff (County and City of Napa)~~	~~?~~
	~~**Action 3.X.X:** Forester Technical Specialist Advisory Program~~		~~Y~~	**DELETED / CONSOLIDATED FROM 2004 PLAN**	~~2~~	~~5-10 Years~~	~~$600,000~~	~~CDF / OSFM~~	~~?~~

A.2 Mitigation Action Tracking Sheets

A.2.1 Action 1.1.1:

Mitigation Action	
Action 1.1.1: Maintain City / County Storm Watch Program	
Implementing Agencies	
Lead Agency (ies):	Napa County Flood Control District
Roles and Responsibilities of Lead Agency (ies):	Maintain gauges and Onerain website
Support Agency (ies):	City of Napa
Roles and Responsibilities of Support Agency (ies):	Physical maintenance of gauges and communications equipment
Preliminary Identified Tasks: Napa County Flood Control District	
Maintain physical features of stream/precipitation gauges and associated software and website. Identify locations for new stations, coordinate and facilitate the meeting of local agencies interested in system	
Implementation Costs	
Estimated Capital Costs:	$80,000 (upgrade Contrail base station/servers)
Estimated Maintenance Costs:	$30,000
Implementation Resources	
Financial Resources (Funding):	Napa County Watershed Assessment
Technical Assistance Resources:	Napa City and Napa County RCD
Materials Needed	
(Equipment, Vehicles, and Supplies):	**Readily Available (RA)/Need to Purchase (NTP)**
Upgraded/Alert 2 compatible Contrail base station and server.	
Implementation Timeframe	
Estimated Mitigation Action Start Date:	N/A
Estimated Mitigation Action Completion Date:	

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Action 1.1.1 Progress Report

Progress Report Period: 2009 to 2013

Project Title: Maintain City / County Storm Watch Program Project ID# _____

Responsible Agency: Napa County Flood control District

Address: 804 First Street

City: Napa

Contact Person: Rick Thomasser

Phone#: 707-259-8657 email address: richard.thomasser@countyopfnapa.org

List Supporting Agencies and Contacts: _____

Total Project Cost: _____

Funding Source: Napa County Watershed Assessment

Anticipated Cost Overrun/Underrun: _____

Date of Project Approval: _____ Start date of the project: _____

Anticipated completion date: ongoing

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase): Maintain physical features of stream/precipitation gauges and associated software and website. Identify locations for new stations, coordinate and facilitate the meeting of local agencies interested in system

Milestones	Completed (✓)	Projected Date of Completion
Three new stream/precipitation gauge stations were installed in the Putah Creek watershed, consistent with recommendations from the County wide precipitation/stream flow monitoring report prepared in 2010.	Yes	

MHMP Goal Addressed: _____

Indicator of Success: _____

Project Status

☒ Project on schedule

☐ Project completed

☐ Project delayed*

*explain _____

☐ Project cancelled*

*explain _____

Project Cost Status

☐ Cost unchanged

☐ Cost overrun*

*explain_____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

Three new stream/precipitation gauge stations were installed in the Putah Creek watershed, consistent with recommendations from the County wide precipitation/stream flow monitoring report prepared in 2010.

B. What successes have you encountered, if any?

Installation of three new stations mentioned above.

C. What obstacles, problems, or delays have you encountered, if any?

Coordination installation and calibration of equipment.

D. How was each problem resolved?

E. Based on the past experiences (successes and obstacles), what changes, if any, need to be made to ensure completion?

Next Steps: What are the next step(s) to be accomplished over the next reporting period?

Project network software upgrade.

Other Comments:

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A.2.2 Action 1.2.1:

Mitigation Action	
Action 1.2.1: Completion of the Measure 'A' Flood Control Project	
Implementing Agencies	
Lead Agency (ies):	Napa County Flood Control District
Roles and Responsibilities of Lead Agency (ies):	Support construction of project, acquire ROW
Support Agency (ies):	City of Napa
Roles and Responsibilities of Support Agency (ies):	Support construction
Preliminary Identified Tasks: Napa County Flood Control District	
Finish Contract 2 construction	
Finish Contract 3 construction	
Re-map the City of Napa's floodplain	
Implementation Costs	
Estimated Capital Costs:	~$500,000,000 (total cost)
Estimated Maintenance Costs:	$50,000/year
Implementation Resources	
Financial Resources (Funding):	County sales tax/federal funding
Technical Assistance Resources:	
Materials Needed	
(Equipment, Vehicles, and Supplies):	**Readily Available (RA)/Need to Purchase (NTP)**
Implementation Timeframe	
Estimated Mitigation Action Start Date:	1998
Estimated Mitigation Action Completion Date:	2018

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Action 1.2.1 Progress Report

Progress Report Period: 2004 to 2009

Project Title: Completion of the Measure 'A' Flood Control Project Project ID# _____

Responsible Agency: Napa County Flood Control District

Address: 804 First Street

City: Napa

Contact Person: Phil Miller

Phone#: _____ email address: phillip.miller@countyofnapa.org

List Supporting Agencies and Contacts: _____

Total Project Cost: ~$500,000,000

Funding Source: County Sales Tax / Federal Funding

Anticipated Cost Overrun/Underrun: _____

Date of Project Approval: _____ Start date of the project: 1998

Anticipated completion date: 2018

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase): Flood protection project with the goal of providing most structures in the City of Napa with 100 year flood protection

Milestones	Completed (✓)	Projected Date of Completion
Completed Contract 1	Yes	
Completed Contract 4	Yes	

MHMP Goal Addressed:

Indicator of Success:

Project Status

☐ Project on schedule

☐ Project completed

☐ Project delayed*

*explain

☐ Project cancelled*

*explain

Project Cost Status

☐ Cost unchanged

☐ Cost overrun*

*explain

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

Construction of flood protection along Napa Creek in downtown Napa

B. What successes have you encountered, if any?

Continued support of project and ongoing construction.

C. What obstacles, problems, or delays have you encountered, if any?

Delays due to uncertain federal funding

D. How was each problem resolved?

E. Based on the past experiences (successes and obstacles), what changes, if any, need to be made to ensure completion?

Next Steps: What are the next step(s) to be accomplished over the next reporting period?

Complete Contract 3 construction

Other Comments:

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A.2.3 Action 1.3.1:

Mitigation Action	
Action 1.3.1: Elevate 100 most flood prone residential structures along areas not receiving direct protection from the Measure 'A' Flood Project.	
Implementing Agencies	
Lead Agency (ies):	Napa County Planning & Building, City of Calistoga, American Canyon Public Works
Roles and Responsibilities of Lead Agency (ies):	Project Work
Support Agency (ies):	All Participating Jurisdictions
Roles and Responsibilities of Support Agency (ies):	Homeowner Outreach
Preliminary Identified Tasks: Napa County Planning & Building	
1- Identify Repetitive Loss Properties	
2- Identify Property Owners (and approach?)	
3- Identify Mitigation for Flood	
4- Identify Funding Source	
5- Get Project Shovel Ready	
Preliminary Identified Tasks for Participating Jurisdictions with RL Properties.	
1- Identify repetitive loss properties & approach owners	
2- Apply for funding	
3- Identify flood-proofing techniques suitable	
4- Identify flood prone structures not covered by Measure A	
Preliminary Identified Tasks: American Canyon Public Works	
1- Enhance Knights Bridge Draining (Stormwater)	
2- Regular Inspection/Cleaning of Storm Water Drainages	
Implementation Costs	
Estimated Capital Costs:	$5,000,000
Estimated Maintenance Costs:	Unknown
Implementation Resources	
Financial Resources (Funding):	City Capital Budget Grants, Federal Grants

Technical Assistance Resources:	
Materials Needed	
(Equipment, Vehicles, and Supplies):	**Readily Available (RA)/Need to Purchase (NTP)**
Implementation Timeframe	
Estimated Mitigation Action Start Date:	
Estimated Mitigation Action Completion Date:	

Action 1.3.1 Progress Report

New or Refined Mitigation Action, Progress report will be issued for next update cycle.

Progress Report Period: _____ to _____

Project Title: _____ Project ID# _____

Responsible Agency: _____

Address: _____

City: _____

Contact Person: _____

Phone#: _____ email address: _____

List Supporting Agencies and Contacts: _____

Total Project Cost: _____

Funding Source: _____

Anticipated Cost Overrun/Underrun: _____

Date of Project Approval: _____ Start date of the project: _____

Anticipated completion date: _____

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase): _____

Milestones	Completed (✓)	Projected Date of Completion

MHMP Goal Addressed: _____

Indicator of Success: _____

Project Status

☐ Project on schedule

☐ Project completed

☐ Project delayed*

*explain _____

☐ Project cancelled*

*explain _____

Project Cost Status

☐ Cost unchanged

☐ Cost overrun*

*explain_____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

B. What successes have you encountered, if any?

C. What obstacles, problems, or delays have you encountered, if any?

D. How was each problem resolved?

E. Based on the past experiences (successes and obstacles), what changes, if any, need to be made to ensure completion?

Next Steps: What are the next step(s) to be accomplished over the next reporting period?

Other Comments:

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A.2.4 Action 1.4.1

Mitigation Action	
Action 1.4.1: Secure grant funding to develop and implement river restoration program that would reduce flood damages and increase environmental quality on the river, maintain fish habitat, decrease impediment to drainage by preventing silt build up and loss of stream bed capacity.	
Implementing Agencies	
Lead Agency (ies):	Napa County
Roles and Responsibilities of Lead Agency (ies):	Administer program
Support Agency (ies):	Napa County Flood Control District
Roles and Responsibilities of Support Agency (ies):	Support program
Preliminary Identified Tasks: Napa County	
1- Refer to Dept. of Water Resources TMDL Plan	
Implementation Costs	
Estimated Capital Costs:	$1.5 M/ yr
Estimated Maintenance Costs:	
Implementation Resources	
Financial Resources (Funding):	Federal Funding Needed
Technical Assistance Resources:	
Materials Needed	
(Equipment, Vehicles, and Supplies):	**Readily Available (RA)/Need to Purchase (NTP)**
Implementation Timeframe	
Estimated Mitigation Action Start Date:	
Estimated Mitigation Action Completion Date:	ongoing

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Action 1.4.1 Progress Report

New or Refined Mitigation Action, Progress report will be issued for next update cycle.

Progress Report Period: _____ to _____

(date) (date)

Project Title: _____ Project ID# _____

Responsible Agency: _____

Address: _____

City: _____

Contact Person: _____

Phone#: _____ email address: _____

List Supporting Agencies and Contacts: _____

Total Project Cost: _____

Funding Source: _____

Anticipated Cost Overrun/Underrun: _____

Date of Project Approval: _____ Start date of the project: _____

Anticipated completion date: _____

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase): _____

Milestones	Completed (✓)	Projected Date of Completion

MHMP Goal Addressed: _____

Indicator of Success: _____

Project Status

☐Project on schedule

☐Project completed

☐Project delayed*

*explain _____

☐Project cancelled*

*explain _____

Project Cost Status

☐Cost unchanged

☐Cost overrun*

*explain_____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

B. What successes have you encountered, if any?

C. What obstacles, problems, or delays have you encountered, if any?

D. How was each problem resolved?

E. Based on the past experiences (successes and obstacles), what changes, if any, need to be made to ensure completion?

Next Steps: What are the next step(s) to be accomplished over the next reporting period?

Other Comments:

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A.2.5 Action 1.5.1

Mitigation Action	
Action 1.5.1: Routinely inspect storm water channels for vegetation build up or encroachment, trash and debris, silt and gravel build up, and erosion or bank failure and maintain said channels permitted by California Department of Fish and Game.	
Implementing Agencies	
Lead Agency (ies):	Napa County Flood Control District
Roles and Responsibilities of Lead Agency (ies):	Coordinate with Cities
Support Agency (ies):	Local Jurisdictions, Napa Valley College
Roles and Responsibilities of Support Agency (ies):	
Preliminary Identified Tasks: Napa County Flood	
1- Attend Annual Flood Meetings	
2- Report Public Works Department Progress on Clearing and Cleaning	
3- Coordinate Effort between Flood Control, Cities and County	
Preliminary Identified Tasks: Napa Valley Community College	
1- Quarterly Inspection of Tulocay Creek	
2- Repair Corridor and College Pond and Drainage Pathway	
3- Maintain drainage pathway through College Property focusing on Pond and Corridor	
Implementation Costs	
Estimated Capital Costs:	$100,000
Estimated Maintenance Costs:	$15,000 local funding/ general fund
Implementation Resources	
Financial Resources (Funding):	Local watershed assessment / Federal Funding Needed
Technical Assistance Resources:	Local Biologist, Waterway Materials Contractor
Materials Needed	
(Equipment, Vehicles, and Supplies):	**Readily Available (RA)/Need to Purchase (NTP)**

County Roads	
City Public Works	
Implementation Timeframe	
Estimated Mitigation Action Start Date:	
Estimated Mitigation Action Completion Date:	ongoing

Action 1.5.1 Progress Report

New or Refined Mitigation Action, Progress report will be issued for next update cycle.

Progress Report Period:_____ to _____

(date) (date)

Project Title:_____ Project ID#_____

Responsible Agency:_____

Address:_____

City:_____

Contact Person:_____

Phone#: _____ email address:_____

List Supporting Agencies and Contacts:_____

Total Project Cost:_____

Funding Source:_____

Anticipated Cost Overrun/Underrun:_____

Date of Project Approval:_____ Start date of the project:_____

Anticipated completion date: _____

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase):_____

Milestones	Completed (✓)	Projected Date of Completion

MHMP Goal Addressed: _____

Indicator of Success:_____

_____

_____

_____

Project Status

□ Project on schedule

□ Project completed

□ Project delayed*

*explain _____

_____

□ Project cancelled*

*explain _____

_____

Project Cost Status

□ Cost unchanged

□ Cost overrun*

*explain_____

_____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

_____

_____

B. What successes have you encountered, if any?

_____

_____

_____

C. What obstacles, problems, or delays have you encountered, if any?

_____

_____

_____

D. How was each problem resolved?

E. Based on the past experiences (successes and obstacles), what changes, if any, need to be made to ensure completion?

Next Steps: What are the next step(s) to be accomplished over the next reporting period?

Other Comments:

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A.2.6 Action 1.5.2

Mitigation Action	
Action 1.5.2: Routinely inspect and maintain storm water inlets and outfalls for debris and obstructions, sand & gravel build-up, and structural damage or vandalism.	
Implementing Agencies	
Lead Agency (ies):	Local Agencies
Roles and Responsibilities of Lead Agency (ies):	County and All Cities
Support Agency (ies):	Napa Valley College, City of Calistoga
Roles and Responsibilities of Support Agency (ies):	
Preliminary Identified Tasks: Napa County	
1- Schedule Annual Inspections	
2- Coordinate with Napa Flood Control and Fish & Game	
3- Schedule work to be completed prior to October 15th each year	
4- Create maps of stormwater: inlets and outfill	
Preliminary Identified Tasks Napa Valley Community College:	
1- Quarterly and (Weekly Seasonal Basis): inspect and maintain stormwater inlet and outfalls	
on College property.	
Preliminary Identified Tasks: City of Calistoga	
1- Inspection Program: Already in Progress	
Implementation Costs	
Estimated Capital Costs:	$30,000
Estimated Maintenance Costs:	$100,000
Implementation Resources	
Financial Resources (Funding):	Local Jurisdictions Annual Budget, General Fund, Local Funding
Technical Assistance Resources:	
Materials Needed	
(Equipment, Vehicles, and Supplies):	**Readily Available (RA)/Need to Purchase (NTP)**

Implementation Timeframe	
Estimated Mitigation Action Start Date:	
Estimated Mitigation Action Completion Date:	On-Going

Action 1.5.2 Progress Report

New or Refined Mitigation Action, Progress report will be issued for next update cycle.

Progress Report Period:_____ to _____

(date) (date)

Project Title:_____ Project ID#_____

Responsible Agency:_____

Address:_____

City:_____

Contact Person:_____

Phone#: _____ email address:_____

List Supporting Agencies and Contacts:_____

_____

_____

Total Project Cost:_____

Funding Source:_____

Anticipated Cost Overrun/Underrun:_____

Date of Project Approval:_____ Start date of the project:_____

Anticipated completion date: _____

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase):_____

_____

Milestones	Completed (✓)	Projected Date of Completion

MHMP Goal Addressed: _____

Indicator of Success:_____

_____

_____

_____

Project Status

□ Project on schedule

□ Project completed

□ Project delayed*

*explain _____

_____

□ Project cancelled*

*explain _____

_____

Project Cost Status

□ Cost unchanged

□ Cost overrun*

*explain_____

_____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

_____

_____

B. What successes have you encountered, if any?

_____

_____

_____

C. What obstacles, problems, or delays have you encountered, if any?

_____

_____

_____

D. How was each problem resolved?

E. Based on the past experiences (successes and obstacles), what changes, if any, need to be made to ensure completion?

Next Steps: What are the next step(s) to be accomplished over the next reporting period?

Other Comments:

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A.2.7 Action 2.1.1

Mitigation Action	
Action 2.1.1: Earthquake month public education program	
Implementing Agencies	
Lead Agency (ies):	Napa County OES
Roles and Responsibilities of Lead Agency (ies):	Coordinate/Participate
Support Agency (ies):	All Jurisdictions and Op Area, City Fire Depts.
Roles and Responsibilities of Support Agency (ies):	Schedule/Participate
Preliminary Identified Tasks: Napa County OES	
1- Utilize Info from Great Shake Out	
2- Coordinate with OP Area cooperators	
3- Encourage all agencies participation & reporting on results	
4- Report at Op Area Meeting prior to Earthquake Vote	
5- Identify number of Earthquake Kits needed for Public Outreach	
Preliminary Identified Tasks: American Canyon	
1- Participate in Earthquake Month Public Education	
Preliminary Identified Tasks: Calistoga	
1-Distribute information materials	
2-Public Workshop (school, city, mobile home parks)	
Implementation Costs	
Estimated Capital Costs:	$25,000
Estimated Maintenance Costs:	
Implementation Resources	
Financial Resources (Funding):	Federal Grants, General Funds, Public Education, Fire District, and County
Technical Assistance Resources:	OES Coordinator
Materials Needed	
(Equipment, Vehicles, and Supplies):	**Readily Available (RA)/Need to Purchase (NTP)**
Earthquake Kits	NTP

Educational Supplies	NTP
Implementation Timeframe	
Estimated Mitigation Action Start Date:	
Estimated Mitigation Action Completion Date:	Annual

Action 2.1.1 Progress Report

Progress Report Period: _January 2010_____ to ___June 2013_____

Project Title: _Earthquake Month Public Education Program__

Project ID#_2.1.1_____

Responsible Agency: __County of Napa OES_____

Address:_1195 Third Street_____

City: __Napa, CA 94559_____

Contact Person: _Kevin C. Twohey, OES Coordinator_____

Phone#:_707-299-1892_____

email address:_Kevin.twohey@countyofnapa.org_____

List Supporting Agencies and Contacts:___City Of Napa B/C Steve Brassfield (707) 257-9576, Napa County Office of Education Jim Tomlinson (707) 480-8750, City of American Canyon Fire Chief Glen Weeks (707) 551-0651, City of Calistoga Fire Chief Steve Campbell (707) 889-2783, City of St. Helena Police Chief Jackie Rubin (707) 967-2855_____

Total Project Cost:_$10,000_____

Funding Source: __Grants/Annual Budget_____

Anticipated Cost Overrun/Underrun:_$0_____

Date of Project Approval: Jan 2010_____ Start date of the project: _Jan 2010_____

Anticipated completion date: _Annual program_____

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase):___Begin planning meetings in June each year with staff to complete training on date selected by State in October. Have agencies register on The Great Shakeout website as participant. Utilize materials and plans developed by Shakeout organization for Public agencies and school districts to implement and execute education materials and actual drill. Complete an After Action Review and identify 'gaps' by November and complete follow up on gap items by January._____

Milestones	Completed (✓)	Projected Date of Completion
Announce October as Earthquake Month at Operational Area meeting Encourage registration on Great Shake Out website Contact Non Profits and encourage participation	X	Annually In May
Request planning updates/progress report from partners at Op Area Meeting Re contact Non Profits and report on registration/planned participation	X	Annually in August
Distribute Earthquake kits at Public Events		Oct 2013
Participate in Statewide Drill		Oct 2013

MHMP Goal Addressed: Yes

Indicator of Success: Actual number of jurisdictions, non profits and employees that participate each year. Number of people that received earthquake kits.

A. What was accomplished during this reporting period?

Participation in each of the last 3 years in the Great Shake Out/Earthquake Awareness Month

B. What successes have you encountered, if any?

Increased employee & student education on Earthquake safety

C. What obstacles, problems, or delays have you encountered, if any?

Participation from all five Public Jurisdictions, non profits and all schools

D. How was each problem resolved?

Continued communication on success of program based on past participation

E. Based on the past experiences (successes and obstacles), what changes, if any, need to be made to ensure completion?

n/a

Next Steps: What are the next step(s) to be accomplished over the next reporting period?

Encourage participation by each of the five jurisdictions, school districts and non profit groups
Have NCOE require all schools in the County to participate in the education and drill.
Utilize PIOs to distribute information on earthquake safety, increase public awareness of Earthquake Month, identify/publish links on public websites, encourage participation by all citizens and highlight human interest stories on participation

Other Comments:

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A.2.8 Action 2.1.2

Mitigation Action	
Action 2.1.2: Participate in "The Great Shake Out" Statewide	
Implementing Agencies	
Lead Agency (ies):	Napa County OES
Roles and Responsibilities of Lead Agency (ies):	Coordination
Support Agency (ies):	All Jurisdictions and School Districts
Roles and Responsibilities of Support Agency (ies):	Participate
Preliminary Identified Tasks: Napa County OES	
1- Report at Op Area Meeting on date of Great Shake Out Event	
2- Encourage jurisdictions to participate	
3- Coordinate at bi-monthly Op Area Meeting	
4- Report on final implementation	
Preliminary Identified Tasks: Calistoga	
1- Participate in Statewide Drill	
Preliminary Identified Tasks: Napa Valley College	
1- Conduct annual duck/cover/hold on drill	
2- Conduct annual emergency communications test	
Implementation Costs	
Estimated Capital Costs:	Minimal
Estimated Maintenance Costs:	
Implementation Resources	
Financial Resources (Funding):	General Fund
Technical Assistance Resources:	OES Coordinator
Materials Needed	
(Equipment, Vehicles, and Supplies):	**Readily Available (RA)/Need to Purchase (NTP)**
Materials Available thru Cal EMA	RA

Implementation Timeframe	
Estimated Mitigation Action Start Date:	October 2013/ On-going for Napa Valley College
Estimated Mitigation Action Completion Date:	Annual

Action 2.1.2 Progress Report

Progress Report Period: Jan 2009 to June 2013

Project Title: Participate in 'The Great Shake Out' Statewide Earthquake Drill Project ID# 2.1.2

Responsible Agency: County of Napa OES

Address: 1195 Third Street

City: Napa, CA 94559

Contact Person: Kevin C. Twohey, OES Coordinator

Phone#: 707-299-1892 email address: Kevin.twohey@countyofnapa.org

List Supporting Agencies and Contacts: City Of Napa B/C Steve Brassfield (707) 257-9576, Napa County Office of Education Jim Tomlinson (707) 480-8750, City of American Canyon Fire Chief Glen Weeks (707) 551-0651, City of Calistoga Fire Chief Steve Campbell (707) 889-2783, City of St. Helena Police Chief Jackie Rubin (707) 967-2855

Total Project Cost: Varies per Agency – Staff Time Costs

Funding Source: Annual Budgets

Anticipated Cost Overrun/Underrun: $0

Date of Project Approval: Annual Start date of the project: by June each year

Anticipated completion date: December each year

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase): Plan is to enlist all Local Government agencies and school districts to participate in the Statewide Earthquake drill scheduled in October each year. Have agencies register on The Great Shake Out website as participant. Begin planning meetings in June each year with staff to complete training on date selected in October. Utilize materials and plans developed by Shake Out organization for Local Government agencies and school districts to implement and execute education materials and actual drill . Complete an After Action Review and identify 'gaps' by November and complete follow up on gap items by January.

Milestones	Completed (✓)	Projected Date of Completion
Register on Great Shake Out website as participant	✓	May 2013
Announce date of annual drill at Operational Area May Meeting	✓	May 2013
Monitor Operational Area Partners registration on website		Sept 2013
Review Operational Area Partners plans/participation at Sept Meeting		Sept 2013
Drill participation		Oct 2013

Review After Action/ Identify Gaps in Plan/Develop Work List		Nov 2013
Complete Work List		Dec 2013

MHMP Goal Addressed: ___yes__

Indicator of Success: Actual number of jurisdictions, students and employees that participate each year.

Project Status

☒Project on schedule

☐Project completed

☐Project delayed*

*explain _____

☐Project cancelled*

*explain _____

Project Cost Status

☒Cost unchanged

☐Cost overrun*

*explain_____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

Numerous agencies participated in each of the last 3 years

B. What successes have you encountered, if any?

Employee & student education on Earthquake safety has been improved

C. What obstacles, problems, or delays have you encountered, if any?

Getting all Local government agencies and schools to participate. Most that did not participate claim lack of planning time and work/school interruption

D. How was each problem resolved?

Emphasize that participation credits agencies Emergency Action Planning requirements

E. Based on the past experiences (successes and obstacles), what changes, if any, need to be made to ensure completion?

Next Steps: What are the next step(s) to be accomplished over the next reporting period?

Focus on success of agencies participating and utilize PIO officers to highlight all participating agencies efforts

Other Comments:

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A.2.9 Action 2.2.1

Mitigation Action	
Action 2.2.1: Hardening and building redundant capability into Public Safety buildings.	
Implementing Agencies	
Lead Agency (ies):	Napa County OES / Risk Management
Roles and Responsibilities of Lead Agency (ies):	
Support Agency (ies):	All Jurisdictions
Roles and Responsibilities of Support Agency (ies):	Schedule/Participate
Preliminary Identified Tasks: Napa County IF	
1- Develop a plan through outside communication consultant	
2- Survey all communication and data sites for seismic compliance	
3- Identify sites to provide adequate redundancy during major disasters	
Implementation Costs	
Estimated Capital Costs:	$1,000,000
Estimated Maintenance Costs:	
Implementation Resources	
Financial Resources (Funding):	Federal Grant Funds
Technical Assistance Resources:	
Materials Needed	
(Equipment, Vehicles, and Supplies):	**Readily Available (RA)/Need to Purchase (NTP)**
Implementation Timeframe	
Estimated Mitigation Action Start Date:	
Estimated Mitigation Action Completion Date:	2018

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Action 2.2.1 Progress Report

Progress Report Period: Jan 2009 to Jun 2013

Project Title: Hardening and Building Redundant Communication Capability into Public Safety Buildings

Project ID# 2.2.1

Responsible Agency: County of Napa Communications

Address: Water Street

City: Napa, CA 94559

Contact Person: Eric Parks

Phone#: 252-1300 email address: eric.parks@countyofnapa.org

List Supporting Agencies and Contacts: City of Napa Communications - Gus Ulloth gulloth@cityofnapa.org;

Total Project Cost: 1,000,000

Funding Source: General fund/grants

Anticipated Cost Overrun/Underrun:

Date of Project Approval: June 2013 Start date of the project: Dec 2013

Anticipated completion date: 2018

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase):

Milestones	Completed (✓)	Projected Date of Completion
Budget for consultant contact to survey Communications infrastructure Develop cost estimate and implementation plan	✓	June 2013
Survey all communication and data sites for seismic compliance		May 2014
Identify sites to provide adequate redundancy		May 2014
Develop RFP for Site Upgrades		Nov 2014
Award Contract for Upgrades		April 2015
Project Completion		Dec 2017

MHMP Goal Addressed: _____

Indicator of Success: The development of a comprehensive analysis, plan and timeline to build a hardened communications system is the primary step. Actually meeting the milestones and completing the project would indicate a successful project.

Project Status

☒Project on schedule

☐Project completed

☐Project delayed*

*explain _____

☐Project cancelled*

*explain _____

Project Cost Status

☒Cost unchanged

☐Cost overrun*

*explain_____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

Developed cost estimate for consultant and had it approved in 2013-2014 budget.

B. What successes have you encountered, if any?

C. What obstacles, problems, or delays have you encountered, if any?

No immediate obstacles encountered

D. How was each problem resolved?

E. Based on the past experiences (successes and obstacles), what changes, if any, need to be made to ensure completion?

Next Steps: What are the next step(s) to be accomplished over the next reporting period?

Award contact for services

Other Comments:

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A.2.10 Action 2.2.2

Mitigation Action	
Action 2.2.2: Retrofit Critical Public Safety Infrastructure.	
Implementing Agencies	
Lead Agency (ies):	Napa County Fire, Calistoga City
Roles and Responsibilities of Lead Agency (ies):	
Support Agency (ies):	Napa County Building and Planning, Public Works
Roles and Responsibilities of Support Agency (ies):	
Preliminary Identified Tasks: Napa County Fire	
1- Identify 9 Napa County Fire Stations	
2- Start Feasibility Study that will identify which buildings are structurally sound and will remain and which buildings will be demolished and estimate costs.	
3- Hire Architect to develop building plans and building documents.	
Preliminary Identified Tasks: Calistoga	
1- Identify Critical Infrastructure (Utilities)	
2- Replace Infrastructure	
Implementation Costs	
Estimated Capital Costs:	$9,000,000 (1 million per station)
Estimated Maintenance Costs:	
Implementation Resources	
Financial Resources (Funding):	General Fund/Grants
Technical Assistance Resources:	
Materials Needed	
(Equipment, Vehicles, and Supplies):	**Readily Available (RA)/Need to Purchase (NTP)**

Implementation Timeframe	
Estimated Mitigation Action Start Date:	2013
Estimated Mitigation Action Completion Date:	2020

Action 2.2.2 Progress Report

Progress Report Period: 2004 to 2013
(date) (date)

Project Title: Retrofit Critical Public Safety Infrastructure Project ID# 2.2.2

Responsible Agency: Napa County Executive Office

Address: 1195 Third Street

City: Napa, CA 94559

Contact Person: Kerry John Whitney

Phone#: 707-253-4821 email address: Kerry.whitney@countyofnapa.org

List Supporting Agencies and Contacts: County Building – Jason

Napa County Fire Dept. – Chief Scott Upton

Total Project Cost: 9,000,000

Funding Source: General Fund/Grants

Anticipated Cost Overrun/Underrun: 500,000

Date of Project Approval: 2011 Start date of the project: 2012

Anticipated completion date: 2020

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase): _____

Milestones	Completed (✓)	Projected Date of Completion
Develop a Facilities Assessment Report	✓	2012
Hire Architect to Develop Retrofit Plans inclu ADA Compliance		2013
Develop Bid Packages for each Facility		2014
Award Bids for Contracts/ complete work		2015-2019

MHMP Goal Addressed: _____

Indicator of Success: _____

Project Status

☐ Project on schedule

☐ Project completed

☐ Project delayed*

*explain _____

☐ Project cancelled*

*explain _____

Project Cost Status

☐ Cost unchanged

☐ Cost overrun*

*explain_____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

Completion of the facilities Condition Report

B. What successes have you encountered, if any?

C. What obstacles, problems, or delays have you encountered, if any?

D. How was each problem resolved?

E. Based on the past experiences (successes and obstacles), what changes, if any, need to be made to ensure completion?

Next Steps: What are the next step(s) to be accomplished over the next reporting period?

Hire an architect to develop plans to retrofit/upgrade each of the 9 facilities including ADA compliance

Other Comments:

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A.2.11 Action 3.1.1:

Mitigation Action	
Action 3.1.1: Develop & conduct a Defensible Space community education program.	
Implementing Agencies	
Lead Agency (ies):	Napa County OES
Roles and Responsibilities of Lead Agency (ies):	Grant Administration
Support Agency (ies):	Napa Firewise Council
Roles and Responsibilities of Support Agency (ies):	Project Work
Preliminary Identified Tasks: Napa County	
See Progress Report	
Implementation Costs	
Estimated Capital Costs:	
Estimated Maintenance Costs:	
Implementation Resources	
Financial Resources (Funding):	
Technical Assistance Resources:	
Materials Needed	
(Equipment, Vehicles, and Supplies):	**Readily Available (RA)/Need to Purchase (NTP)**
Implementation Timeframe	
Estimated Mitigation Action Start Date:	
Estimated Mitigation Action Completion Date:	

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Action 3.1.1 Progress Report

Progress Report Period: July, 2004 (date) to June, 2013 (date)

Project Title: Defensible Space Community Education Project ID# 3.1.1

Responsible Agency: Napa Firewise

Address: Box 4151

City: Napa, CA 94558

Contact Person: Stephen Gort

Phone#: 707-265-9624 email address: sgort@napafirewise.org

List Supporting Agencies and Contacts: Napa County Fire Department

Total Project Cost: Approximately $6,000/yr. currently. See Comments below.

Funding Source: See Comments section below

Anticipated Cost Overrun/Underrun: None

Date of Project Approval: Annually – in July Start date of the project: 2007 as configured

Anticipated completion date: Ongoing - Annually

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase): Each year a new community (or two) is exposed to the program in a "Home Ignition Zone" – 3 hour workshop. With cooperation, this proceeds to Action 3.2.1.

Milestones	Completed (✓)	Projected Date of Completion
Mt. Veeder FSC	X	
Circle Oaks FSC	X	
Berryessa Estates FSC	X	
Berryessa Highlands FSC	X	
Atlas Peak FSC	X	
Soda Canyon FSC	X	
Deer Park FSC	X	
East Napa/Alta Heights	X	

Tucker Acres	X	
Angwin	X	
Napa County Services Elks Hall	X	

MHMP Goal Addressed: ___Defensible Space Community Education (Action 3.1)_____

Indicator of Success: __High attendance and volunteers willing to take the next step and form a Community Fire Safe Council.

Project Status

[X] Project on schedule

[ ] Project completed

[ ] Project delayed*

*explain _____

_____

[ ] Project cancelled*

*explain _____

_____

Project Cost Status

[X] Cost unchanged

[ ] Cost overrun*

*explain_____

_____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

Since 2007, eleven Defensible Space education seminars have been conducted (refer to table "completed" above)

B. What successes have you encountered, if any?

Of these communities all but two have formed Fire Safe Councils and have Community Wildfire Protection Plans (CWPP) in place, and Deer Park's is under development.

C. What obstacles, problems, or delays have you encountered, if any?

Most communities accept and welcome the education, occasionally they may not follow-through to the next step; this has only happened twice.

D. How was each problem resolved?

Constant follow-up and support for new Fire Safe Councils typically resolves most problems or

occasional inertia.

E. Based on the past experiences (successes and obstacles), what changes, if any, need to be made to ensure completion?

Satisfied that our template is working very well.

Next Steps: What are the next step(s) to be accomplished over the next reporting period?

Continuing to educate one or two communities every year until all have been reached.

Other Comments:

From 2007 through 2010 – Funding was through various federal grants and the annual expenditure was approximately $18,000 to $24,000. With the cut back of federal grants, and problems with staffing, funding has come from Napa County Fire Department and activity has been reduced to one community per year, at an annual cost of approximately $6,000. This is for FY 2011-2012 and FY 2012-2013. In the earlier years – (2007-2010) as many as three or four communities were undertaken a year.

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A.2.12 Action 3.1.2:

Mitigation Action	
Action 3.1.2: Draft and Promulgate Defensible Space Ordinance.	
Implementing Agencies	
Lead Agency (ies):	Napa County OES
Roles and Responsibilities of Lead Agency (ies):	Grant Administration
Support Agency (ies):	Napa County Firewise Councils
Roles and Responsibilities of Support Agency (ies):	Project Work
Preliminary Identified Tasks: Napa County	
Ordinance was completed in 2007 (attached as Appendix K)	
Review and monitor that existing Ordinance is meeting CWPP objectives	
Implementation Costs	
Estimated Capital Costs:	n/a
Estimated Maintenance Costs:	Staff work as necessary
Implementation Resources	
Financial Resources (Funding):	n/a
Technical Assistance Resources:	
Materials Needed	
(Equipment, Vehicles, and Supplies):	**Readily Available (RA)/Need to Purchase (NTP)**
n/a	
Implementation Timeframe	
Estimated Mitigation Action Start Date:	
Estimated Mitigation Action Completion Date:	

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Action 3.1.2 Progress Report

New or Refined Mitigation Action, Progress report will be issued for next update cycle.

Progress Report Period:_____ to _____

(date) (date)

Project Title:_____ Project ID#_____

Responsible Agency:_____

Address:_____

City:_____

Contact Person:_____

Phone#: _____ email address:_____

List Supporting Agencies and Contacts:_____

_____

_____

Total Project Cost:_____

Funding Source:_____

Anticipated Cost Overrun/Underrun:_____

Date of Project Approval:_____ Start date of the project:_____

Anticipated completion date: _____

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase):_____

_____

Milestones	Completed (✓)	Projected Date of Completion

MHMP Goal Addressed: _____

Indicator of Success:_____

_____

_____

_____

Project Status

□ Project on schedule

□ Project completed

□ Project delayed*

*explain _____

_____

□ Project cancelled*

*explain _____

_____

Project Cost Status

□ Cost unchanged

□ Cost overrun*

*explain_____

_____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

_____

_____

B. What successes have you encountered, if any?

_____

_____

_____

C. What obstacles, problems, or delays have you encountered, if any?

_____

_____

_____

D. How was each problem resolved?

E. Based on the past experiences (successes and obstacles), what changes, if any, need to be made to ensure completion?

Next Steps: What are the next step(s) to be accomplished over the next reporting period?

Other Comments:

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A.2.13 Action 3.2.1:

Mitigation Action	
Action 3.2.1: Foster and form neighborhood based Firewise Councils.	
Implementing Agencies	
Lead Agency (ies):	Napa County OES
Roles and Responsibilities of Lead Agency (ies):	Grant Administration
Support Agency (ies):	Napa County Firewise Council
Roles and Responsibilities of Support Agency (ies):	Project Work
Preliminary Identified Tasks: Napa County	
Continue to identify neighborhoods/communities to develop Firewise Councils in Napa County	
Initiate Community Wildfire Protection Plans for each identified community	
Make necessary improvements to program as needed	
Implementation Costs	
Estimated Capital Costs:	$19,000/yr
Estimated Maintenance Costs:	Included in annual cost
Implementation Resources	
Financial Resources (Funding):	Grants
Technical Assistance Resources:	
Materials Needed	
(Equipment, Vehicles, and Supplies):	**Readily Available (RA)/Need to Purchase (NTP)**
Implementation Timeframe	
Estimated Mitigation Action Start Date:	
Estimated Mitigation Action Completion Date:	

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Action 3.2.1 Progress Report

Progress Report Period: July, 2004 (date) to June, 2013 (date)

Project Title: Foster and Form Neighborhood Firewise Councils Project ID# 3.2.1

Responsible Agency: Napa Firewise

Address: Box 4151

City: Napa, CA 94558

Contact Person: Stephen Gort

Phone#: 707-265-9624 email address: sgort@napafirewise.org

List Supporting Agencies and Contacts: Napa County Fire Department

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Total Project Cost: Approximately $19,000/yr currently – See Comments section below

Funding Source: See Comments section below.

Anticipated Cost Overrun/Underrun: None

Date of Project Approval: Annually - in July

Start date of the project: 2007 as configured

Anticipated completion date: Ongoing – Annually

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase): Each year a new community is exposed to the program which includes: education, a community fire risk evaluation, mapping assistance, Community Wildfire Protection Plan (CWPP), usually a demonstration mitigation project and general organization assistance.

Milestones	Completed (✓)	Projected Date of Completion
Mt, Veeder FSC	X	
Circle Oaks FSC	X	
Berryessa Estates FSC	X	
Berryessa Highlands FSC	X	
Atlas Peak FSC	X	
Soda Canyon FSC	X	
Deer Park FSC	X	

MHMP Goal Addressed: __Foster and form neighborhood Firewise Councils.

Indicator of Success:__ High attendance at new Fire Safe Council meetings, volunteers stepping up to take on Council projects, general progress in undertaking mitigation projects identified in their CWPP.

Project Status

[X] Project on schedule

[ ] Project completed

[ ] Project delayed*

*explain _____

_____

[ ] Project cancelled*

*explain _____

_____

Project Cost Status

[X] Cost unchanged

[ ] Cost overrun*

*explain_____

_____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

In 2012 – 2013, two new communities – Soda Canyon and Deer Park were started. For previous years see table "completed" above.

B. What successes have you encountered, if any?

All of these communities have formed Fire Safe Councils and have Community Wildfire Protection Plans (CWPP) in place, and Deer Park's is under development

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C. What obstacles, problems, or delays have you encountered, if any?

Most communities accept and welcome the education, organization and funding. As with most community action, sustainability and continued motivation are a constant challenge.

D. How was each problem resolved?

Constant follow-up and support for new Fire Safe Councils typically resolves most problems or occasional inertia.

E. Based on the past experiences (successes and obstacles), what changes, if any, need to be made to ensure completion?

Satisfied that our template is working very well.

Next Steps: What are the next step(s) to be accomplished over the next reporting period?

Continuing to enable one or two communities every year until all have been reached.

Other Comments:

From 2007 through 2010 funding was through various federal grants and the annual expenditure was approximately $57,000 to $60,000. With the cut back of federal grants and problems with staffing, funding has come from Napa County Fire Department and activity has been reduced to one community per year, at an annual cost of approximately $19,000. This is FY 2011-2012 and FY 2012-2013. In the earlier years – (2007 – 2010) as many as three or four communities were undertaken a year.

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A.2.14 Action 3.2.2:

Mitigation Action	
Action 3.2.2: Revise General Plan Safety Element with lessons learned from Fire-wise programs and analysis.	
Implementing Agencies	
Lead Agency (ies):	City of Calistoga
Roles and Responsibilities of Lead Agency (ies):	Update General Plan
Support Agency (ies):	Planning Department
Roles and Responsibilities of Support Agency (ies):	Project Work
Preliminary Identified Tasks: City of Calistoga	
1- As Written	
Implementation Costs	
Estimated Capital Costs:	$50,000 per 10 YRS
Estimated Maintenance Costs:	
Implementation Resources	
Financial Resources (Funding):	General Fund
Technical Assistance Resources:	Firewise
Materials Needed	
(Equipment, Vehicles, and Supplies):	**Readily Available (RA)/Need to Purchase (NTP)**
Fire-wise programs & analysis	
Implementation Timeframe	
Estimated Mitigation Action Start Date:	underway
Estimated Mitigation Action Completion Date:	12/14

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Action 3.2.2 Progress Report

New or Refined Mitigation Action, Progress report will be issued for next update cycle.

Progress Report Period:_____ to _____

(date) (date)

Project Title:_____ Project ID#_____

Responsible Agency:_____

Address:_____

City:_____

Contact Person:_____

Phone#: _____ email address:_____

List Supporting Agencies and Contacts:_____

_____

_____

Total Project Cost:_____

Funding Source:_____

Anticipated Cost Overrun/Underrun:_____

Date of Project Approval:_____ Start date of the project:_____

Anticipated completion date: _____

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase):_____

_____

Milestones	Completed (✓)	Projected Date of Completion

MHMP Goal Addressed: _____

Indicator of Success:_____

_____

_____

_____

Project Status

□ Project on schedule

□ Project completed

□ Project delayed*

*explain _____

_____

□ Project cancelled*

*explain _____

_____

Project Cost Status

□ Cost unchanged

□ Cost overrun*

*explain_____

_____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

_____

_____

B. What successes have you encountered, if any?

_____

_____

_____

C. What obstacles, problems, or delays have you encountered, if any?

_____

_____

_____

D. How was each problem resolved?

E. Based on the past experiences (successes and obstacles), what changes, if any, need to be made to ensure completion?

Next Steps: What are the next step(s) to be accomplished over the next reporting period?

Other Comments:

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A.2.15 Action 3.3.1

Mitigation Action	
Action 3.3.1: Maintain and Further Develop the Fuel Reduction Program	
Implementing Agencies	
Lead Agency (ies):	American Canyon (ACFPD)
Roles and Responsibilities of Lead Agency (ies):	Inspection/Enforcement
Support Agency (ies):	City of Napa, JPA
Roles and Responsibilities of Support Agency (ies):	Inspector
Preliminary Identified Tasks: American Canyon	
1- Weed Abatement Enforcement – Private Property	
Implementation Costs	
Estimated Capital Costs:	$5,000 Annually
Estimated Maintenance Costs:	N/A
Implementation Resources	
Financial Resources (Funding):	ACFPD General Fund
Technical Assistance Resources:	
Materials Needed	
(Equipment, Vehicles, and Supplies):	**Readily Available (RA)/Need to Purchase (NTP)**
Office Supplies	
Inspector Vehicle	
Implementation Timeframe	
Estimated Mitigation Action Start Date:	On-going
Estimated Mitigation Action Completion Date:	On-going

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Action 3.3.1 Progress Report

Progress Report Period: July, 2012 (date) to June, 2013 (date)

Project Title: Maintain and further develop fuel reduction program

Project ID# 3.3.1

Responsible Agency: Napa Firewise

Address: Box 4151

City: Napa, CA 94558

Contact Person: Amy Head – for chipping; Stephen Gort for mitigation program

Phone#: 707-967-1407 (Amy Head) or 707-265-9624 (Stephen Gort)

Email address: amy.head@fire.ca.gov and sgort@napafirewise.org

List Supporting Agencies and Contacts: Program consists of a chipping program and mitigation projects run in and by individual community Fire Safe Councils. At present, funding comes from Napa County.

Total Project Cost: Chipping averages $50,000/yr. Mitigation projects vary from $50,000 - $75,000 per year.

Funding Source: Federal Grants and the Napa County Fire Department.

Anticipated Cost Overrun/Underrun: None

Date of Project Approval: Annually- in July Start date of the project: 2007 as configured

Anticipated completion date: Ongoing - Annually

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase): Provide a free chipping program to Napa County residents 8 months a year. Fund and help manage mitigation projects in three to six communities each year.

Milestones	Completed (✓)	Projected Date of Completion
Obtained original chipper with grants from Insurance & BAAQMD	X	
Napa County Department of Corrections to supply labor	X	
Napa County Fire Department supplies crew management	X	
Napa County Fire Department supplies equipment maintenance	X	

Napa County Supervisors approved adding a chipper to NCFD capital equipment inventory	X	
Purchase a new chipper for the 2013 – 2014 season		February, 2014
Provide funding and project assist to Mt. Veeder FSC- two years	X	
Provide funding and project assist to Atlas Peak FSC – two years	X	
Provide funding and project assist to Berryessa Estates FSC – two years	X	
Provide funding and project assist to Berryessa Highlands FSC – three years	X	
Provide funding and project assist to Soda Canyon FSC – one year	X	
Provide funding and project assist to Circle Oaks FSC – one year	x	

MHMP Goal Addressed: Maintain and further develop fuel reduction program.

Indicator of Success: Six community Fire Safe Councils continue to make annual progress against their Community wildfire Protection Plans.

Project Status

[X] Project on schedule

[ ] Project completed

[ ] Project delayed*

*explain _____

_____

[ ] Project cancelled*

*explain _____

_____

Project Cost Status

[X] Cost unchanged

[ ] Cost overrun*

*explain_____

_____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

Have chipped over 1,000,000 cubic yards of vegetation over the ten years of the program. Napa County Fire Department has agreed to buy and be responsible for a chipper – relieving Napa Firewise of the cost.

B. What successes have you encountered, if any?

Six community Fire Safe Councils continue to make annual progress against their Community Wildfire Protection Plans.

C. What obstacles, problems, or delays have you encountered, if any?

Chipping equipment takes a significant beating with our volumes.

D. How was each problem resolved?

The Napa County Fire Department has done a great job of maintenance, giving our original chipper double the manufacturer's predicted life. Additionally, the Napa County Supervisors have approved adding chipper to NCFD capital equipment inventory, relieving Napa Firewise of this capital expense.

E. Based on the past experiences (successes and obstacles), what changes, if any, need to be made to ensure completion?

Satisfied that the template is working very well.

Next Steps: What are the next step(s) to be accomplished over the next reporting period?

1. Purchase a new chipper, develop and implement a maintenance program for it; have it in service for the 2014 season; and add annual allocation to the County capital equipment replacement reserves accounting process.
2. Continue to fund community Fire Safe Council mitigation work.
3. Investigate, pursue and apply for (though limited) federal fire safety grant funding.

Other Comments:

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A.2.16 Action 3.4.1

Mitigation Action	
Action 3.4.1: Ensure training is provided for Command & General Staff positions in EOC's. Ensure EOC exercises are performed at least annually.	
Implementing Agencies	
Lead Agency (ies):	Napa County OES
Roles and Responsibilities of Lead Agency (ies):	
Support Agency (ies):	All Jurisdictions
Roles and Responsibilities of Support Agency (ies):	
Preliminary Identified Tasks: Napa County	
1- Fire Training through VASI	
2- Annual County Drill with Shake Out & Health and Medical Drill(see pdf page 20)	
3- Train County EOC 'A' and 'B' shift in shift changes.	
Implementation Costs	
Estimated Capital Costs:	$20,000 Bi-Annually
Estimated Maintenance Costs:	
Implementation Resources	
Financial Resources (Funding):	General Fund
Technical Assistance Resources:	
Materials Needed	
(Equipment, Vehicles, and Supplies):	**Readily Available (RA)/Need to Purchase (NTP)**
Implementation Timeframe	
Estimated Mitigation Action Start Date:	Bi-Annually
Estimated Mitigation Action Completion Date:	

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Action 3.4.1 Progress Report

New or Refined Mitigation Action, Progress report will be issued for next update cycle.

Progress Report Period:_____ to _____

(date) (date)

Project Title:_____ Project ID#_____

Responsible Agency:_____

Address:_____

City:_____

Contact Person:_____

Phone#: _____ email address:_____

List Supporting Agencies and Contacts:_____

_____

_____

Total Project Cost:_____

Funding Source:_____

Anticipated Cost Overrun/Underrun:_____

Date of Project Approval:_____ Start date of the project:_____

Anticipated completion date: _____

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase):_____

_____

Milestones	Completed (✓)	Projected Date of Completion

MHMP Goal Addressed: _____

Indicator of Success:_____

_____

_____

_____

Project Status

□ Project on schedule

□ Project completed

□ Project delayed*

*explain _____

_____

□ Project cancelled*

*explain _____

_____

Project Cost Status

□ Cost unchanged

□ Cost overrun*

*explain_____

_____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

_____

_____

B. What successes have you encountered, if any?

_____

_____

_____

C. What obstacles, problems, or delays have you encountered, if any?

_____

_____

_____

D. How was each problem resolved?

E. Based on the past experiences (successes and obstacles), what changes, if any, need to be made to ensure completion?

Next Steps: What are the next step(s) to be accomplished over the next reporting period?

Other Comments:

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A.2.17 Action 3.5.1

Mitigation Action	
Action 3.5.1: Focus on human causes of ignition and address the problem through education and enforcement actions, to include vigorous investigation and prosecution of arson.	
Implementing Agencies	
Lead Agency (ies):	Napa County Fire, City of Calistoga
Roles and Responsibilities of Lead Agency (ies):	Project Work
Support Agency (ies):	Local Fire Departments
Roles and Responsibilities of Support Agency (ies):	Education and Enforcement
Preliminary Identified Tasks: Napa County Fire	
1- Currant Contract with all fire and county fire	
2- County local fire marshals	
3- Coordinate with local jurisdictions and fire marshal offices	
Preliminary Identified Tasks: City of Calistoga	
1- Address students at schools	
2- Enforce Muni Code for property maintenance	
3- Require burn permits	
4- Investigate sources of fires	
Implementation Costs	
Estimated Capital Costs:	$25,000 Annually
Estimated Maintenance Costs:	
Implementation Resources	
Financial Resources (Funding):	General Fund
Technical Assistance Resources:	
Materials Needed	
(Equipment, Vehicles, and Supplies):	**Readily Available (RA)/Need to Purchase (NTP)**

Implementation Timeframe	
Estimated Mitigation Action Start Date:	Bi-Annually, On-going
Estimated Mitigation Action Completion Date:	

Action 3.5.1 Progress Report

New or Refined Mitigation Action, Progress report will be issued for next update cycle.

Progress Report Period:_____ to _____

(date) (date)

Project Title:_____ Project ID#_____

Responsible Agency:_____

Address:_____

City:_____

Contact Person:_____

Phone#: _____ email address:_____

List Supporting Agencies and Contacts:_____

_____

_____

Total Project Cost:_____

Funding Source:_____

Anticipated Cost Overrun/Underrun:_____

Date of Project Approval:_____ Start date of the project:_____

Anticipated completion date: _____

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase):_____

_____

Milestones	Completed (✓)	Projected Date of Completion

MHMP Goal Addressed: _____

Indicator of Success:_____

_____

_____

_____

Project Status

□ Project on schedule

□ Project completed

□ Project delayed*

*explain _____

_____

□ Project cancelled*

*explain _____

_____

Project Cost Status

□ Cost unchanged

□ Cost overrun*

*explain_____

_____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

_____

_____

B. What successes have you encountered, if any?

_____

_____

_____

C. What obstacles, problems, or delays have you encountered, if any?

_____

_____

_____

D. How was each problem resolved?

E. Based on the past experiences (successes and obstacles), what changes, if any, need to be made to ensure completion?

Next Steps: What are the next step(s) to be accomplished over the next reporting period?

Other Comments:

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A.3 Napa County Hazard Maps

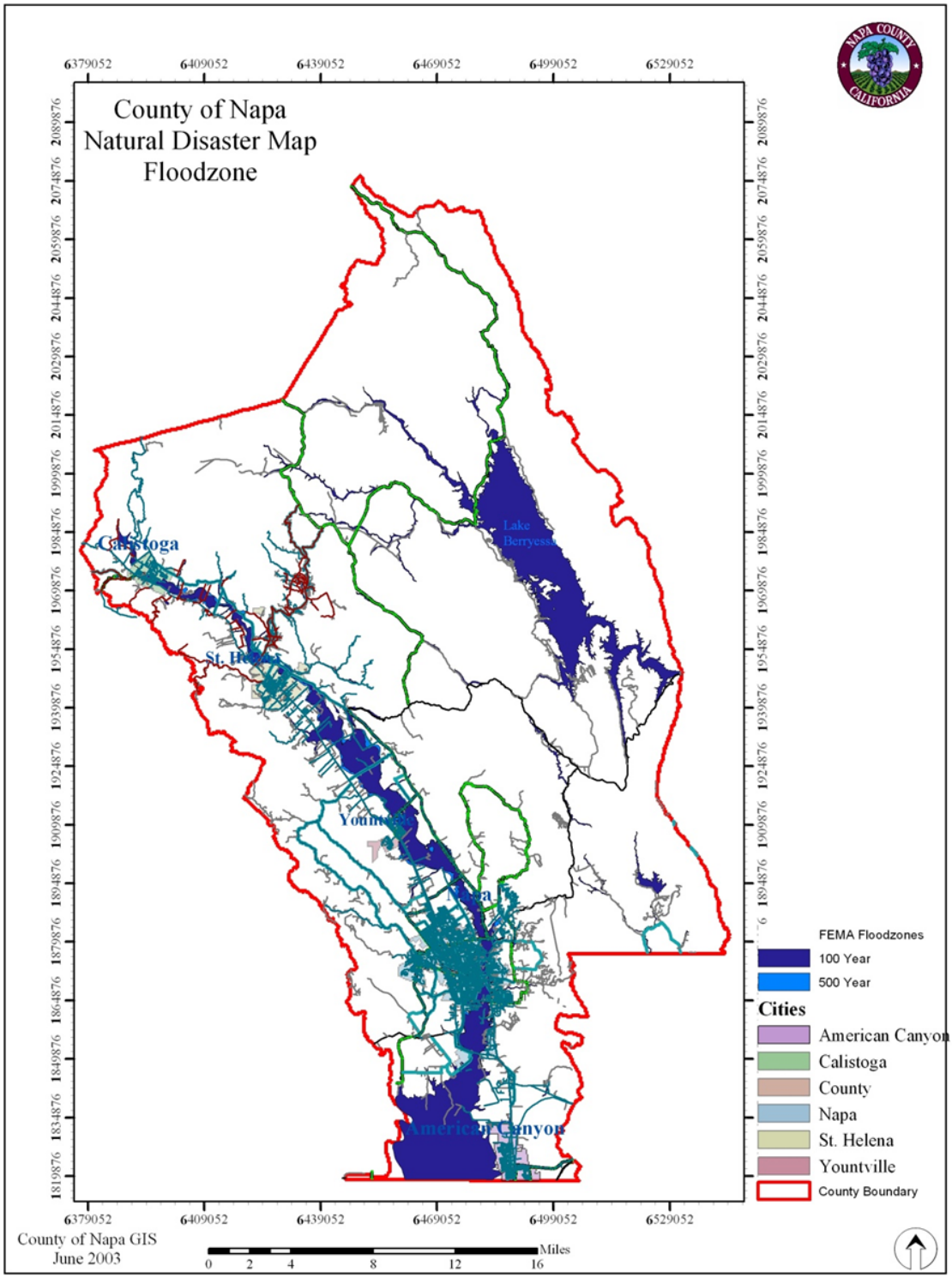

Figure 5-1: Napa County Floodzones

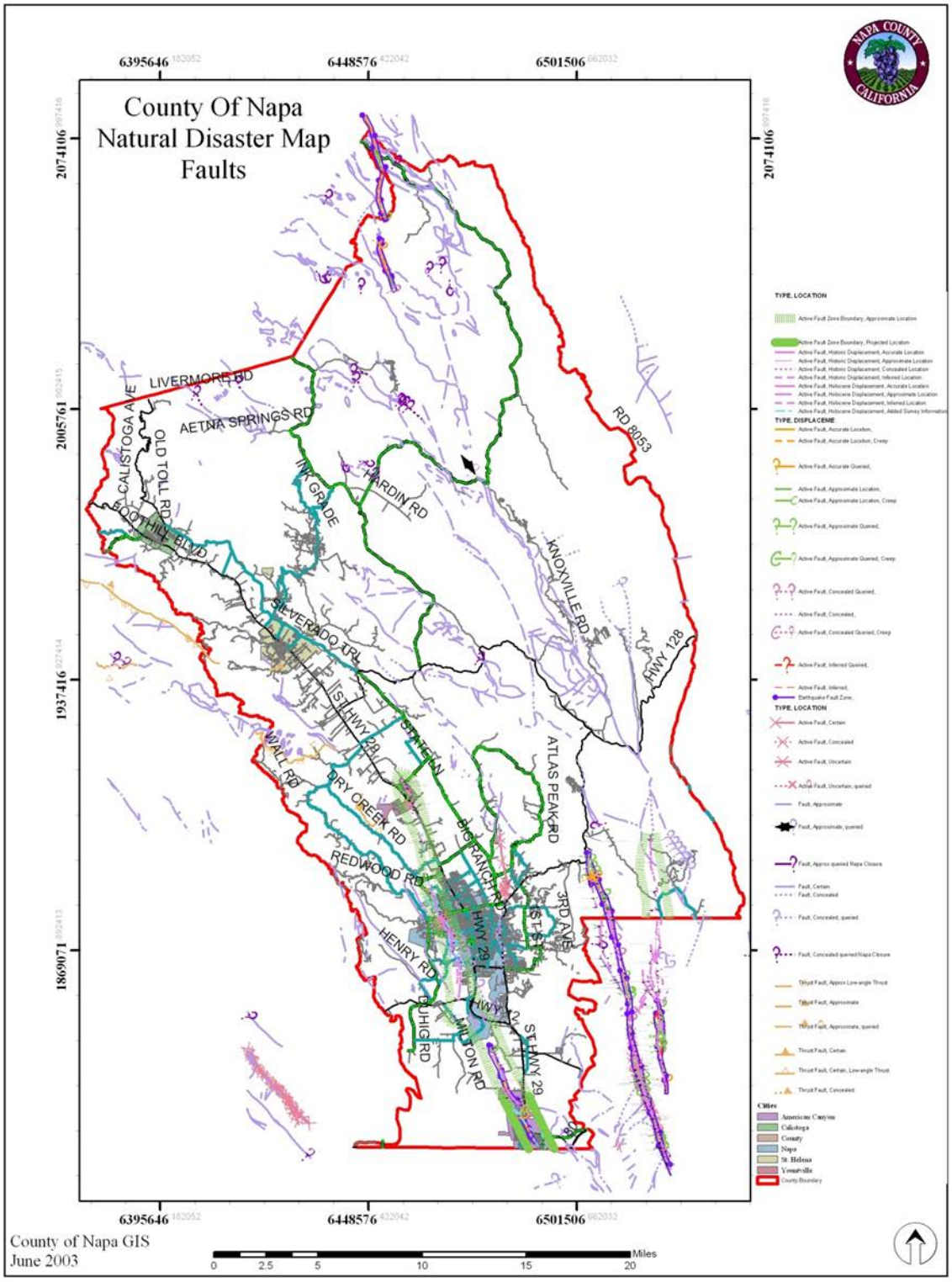

Figure 5-2: Napa County Fault Lines

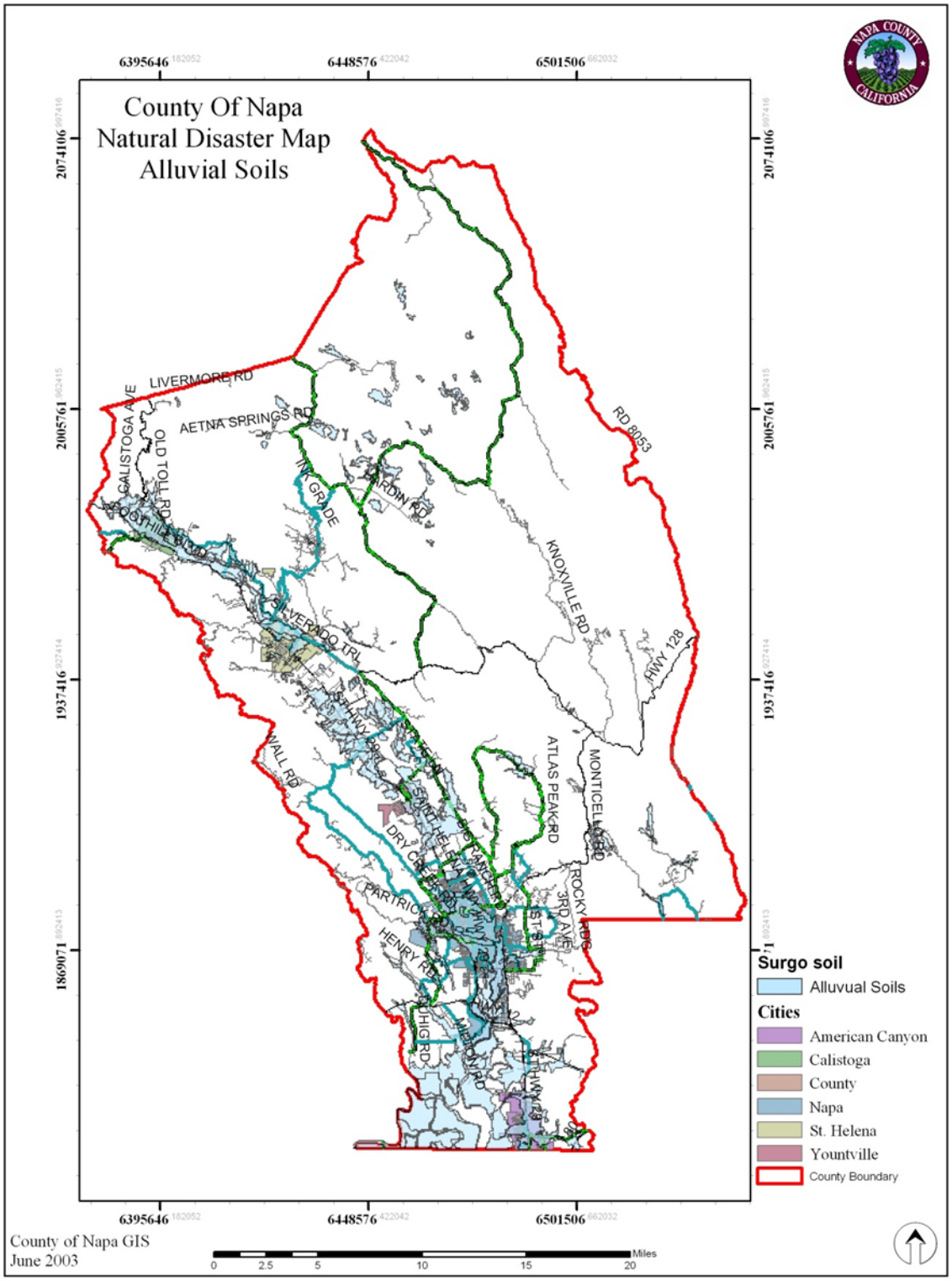

Figure 5-3: Napa County Alluvial Soils

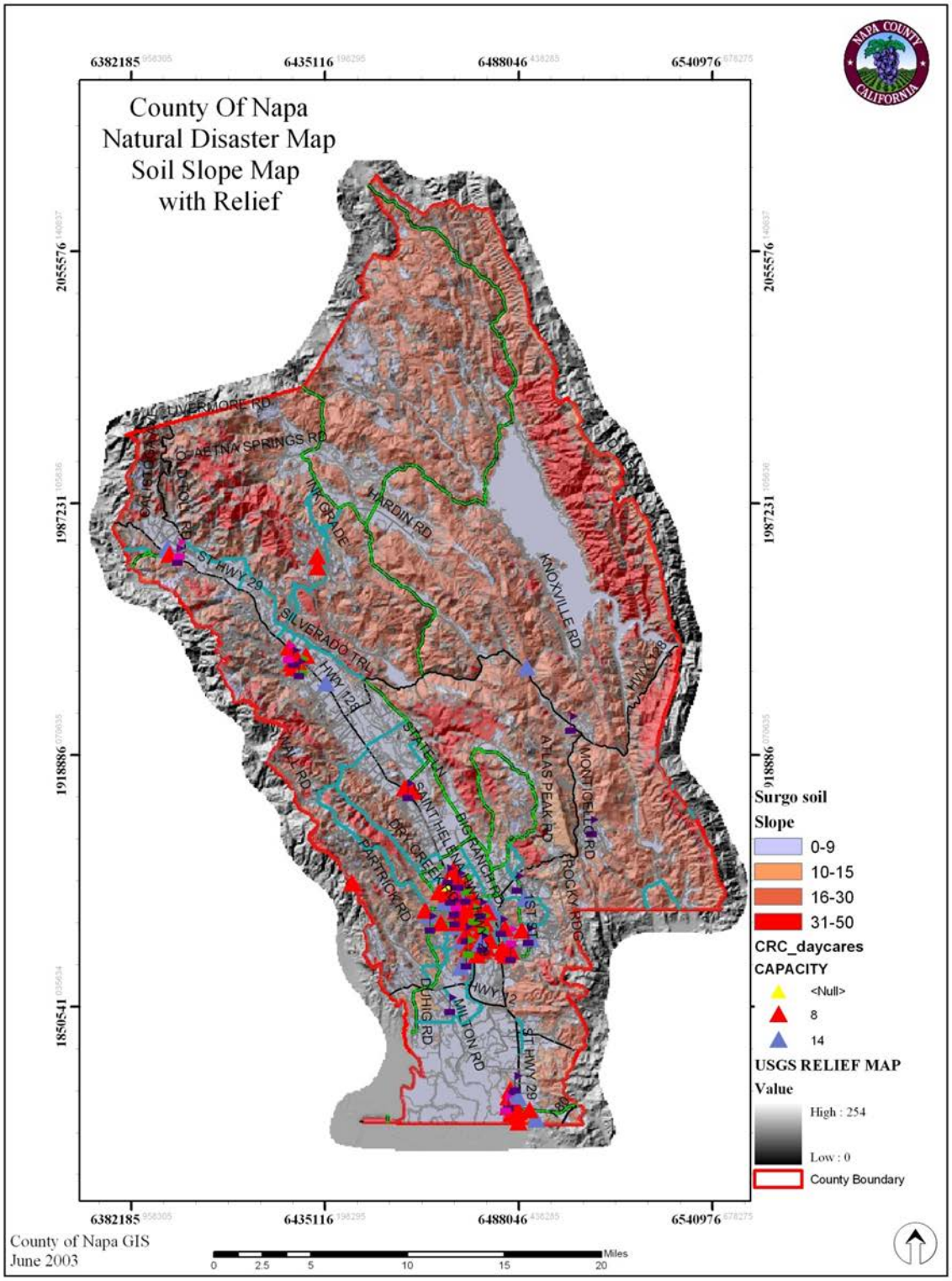

Figure 5-4: Napa County Soil Slope Relief

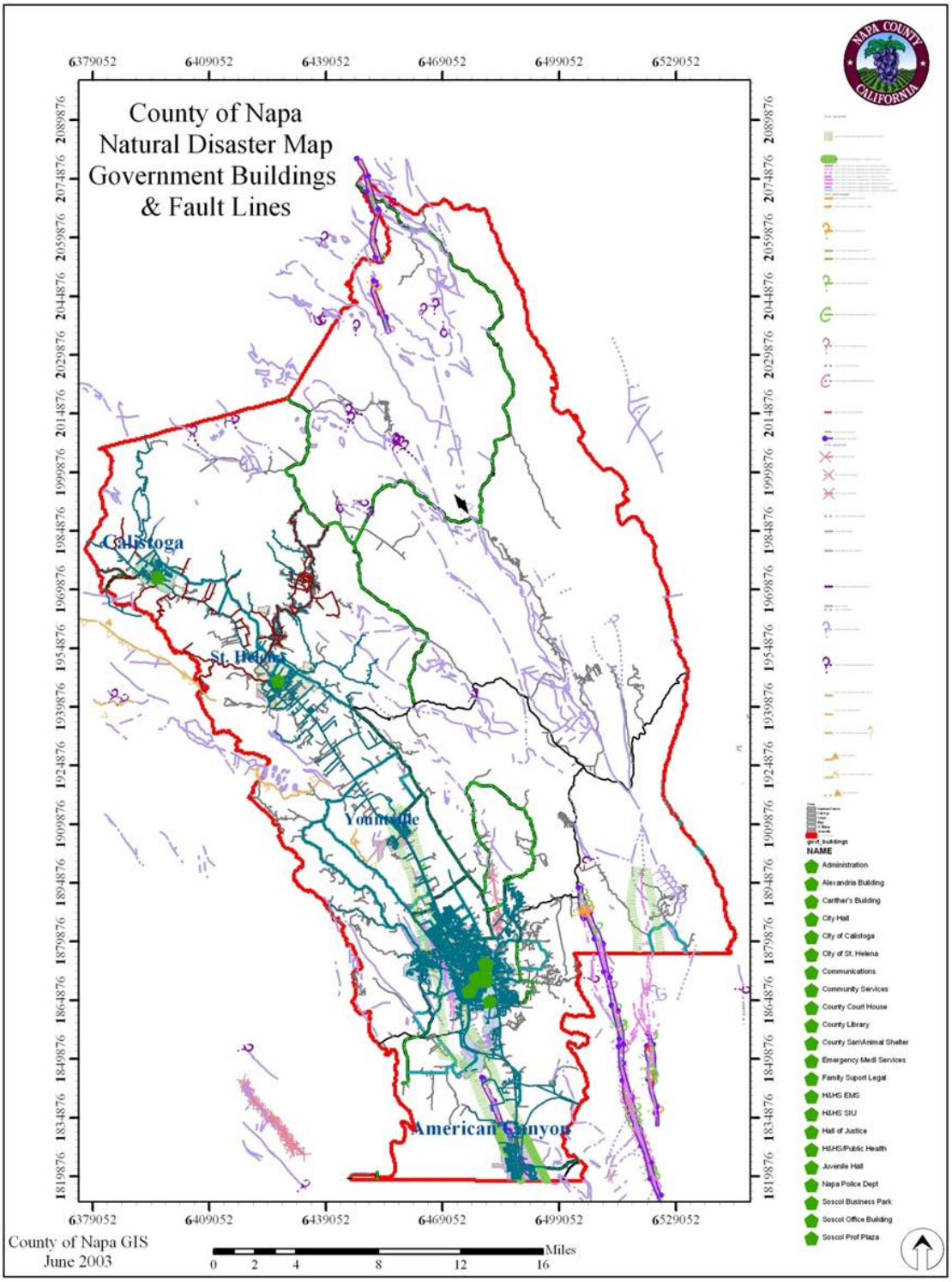

Figure 5-5: Napa County Fault Lines and Government Buildings

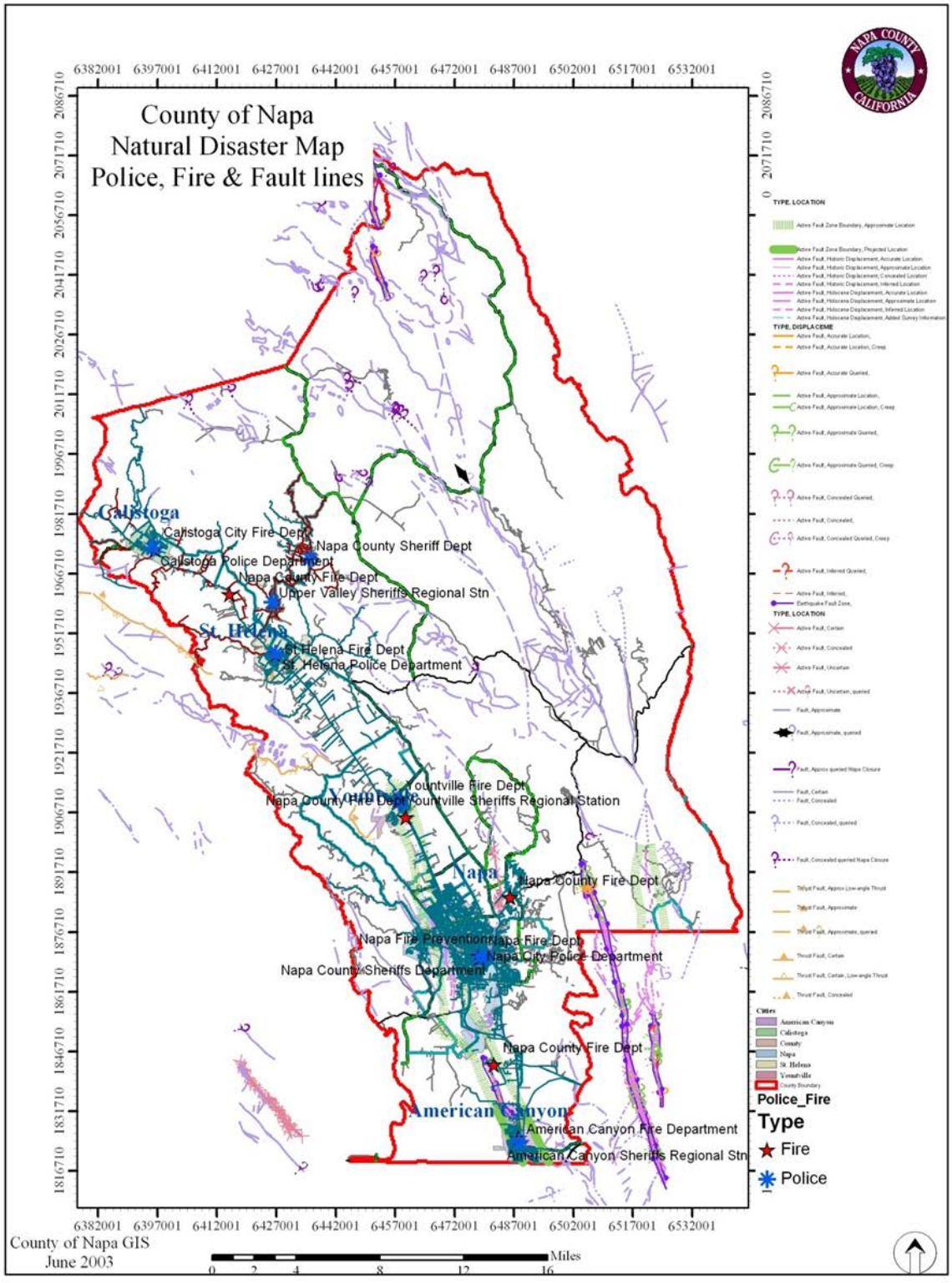

Figure 5-6: Napa County Fault Lines and Police and Fire Facilities

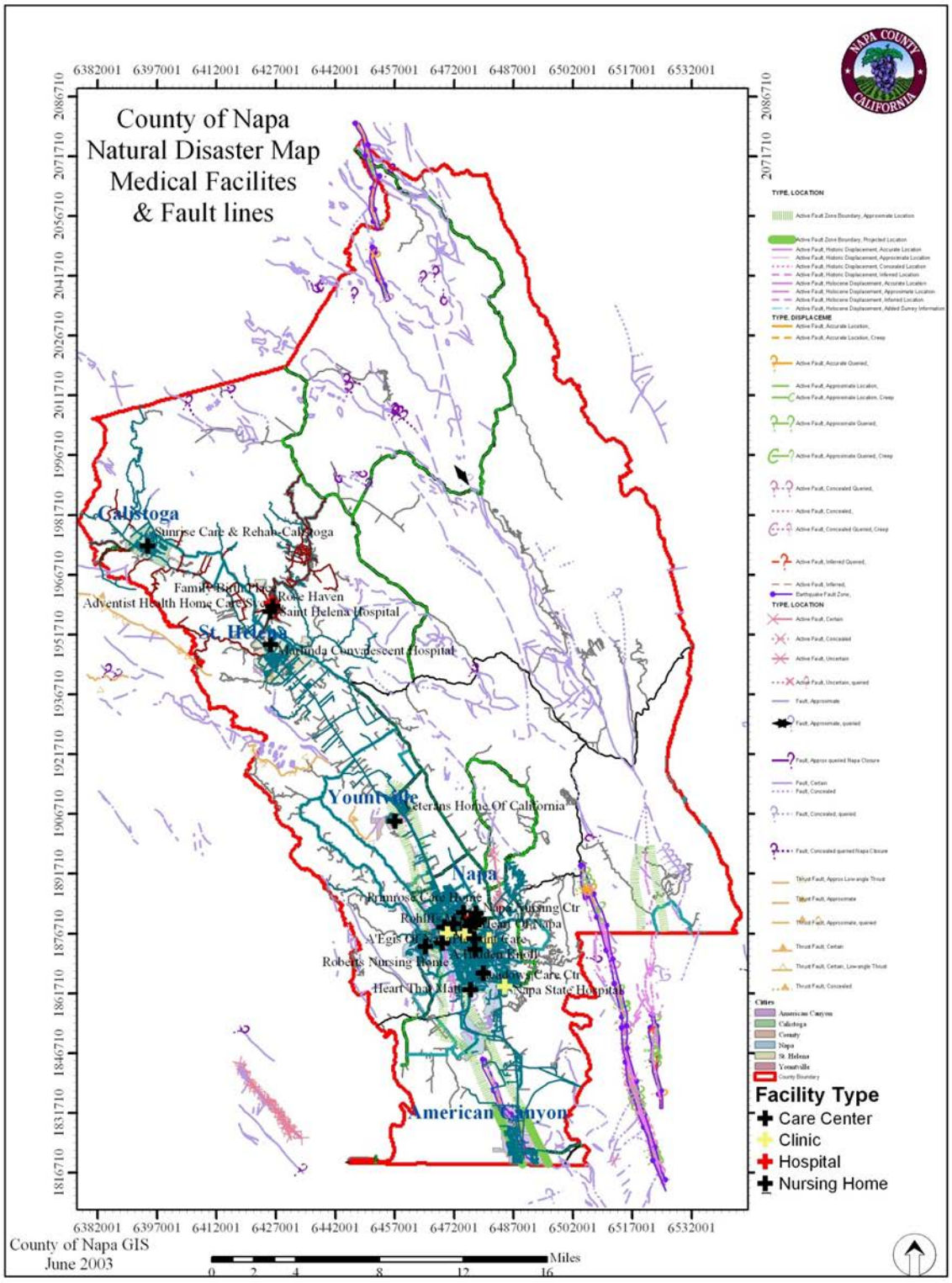

Figure 5-7: Napa County Fault Lines and Medical Facilities

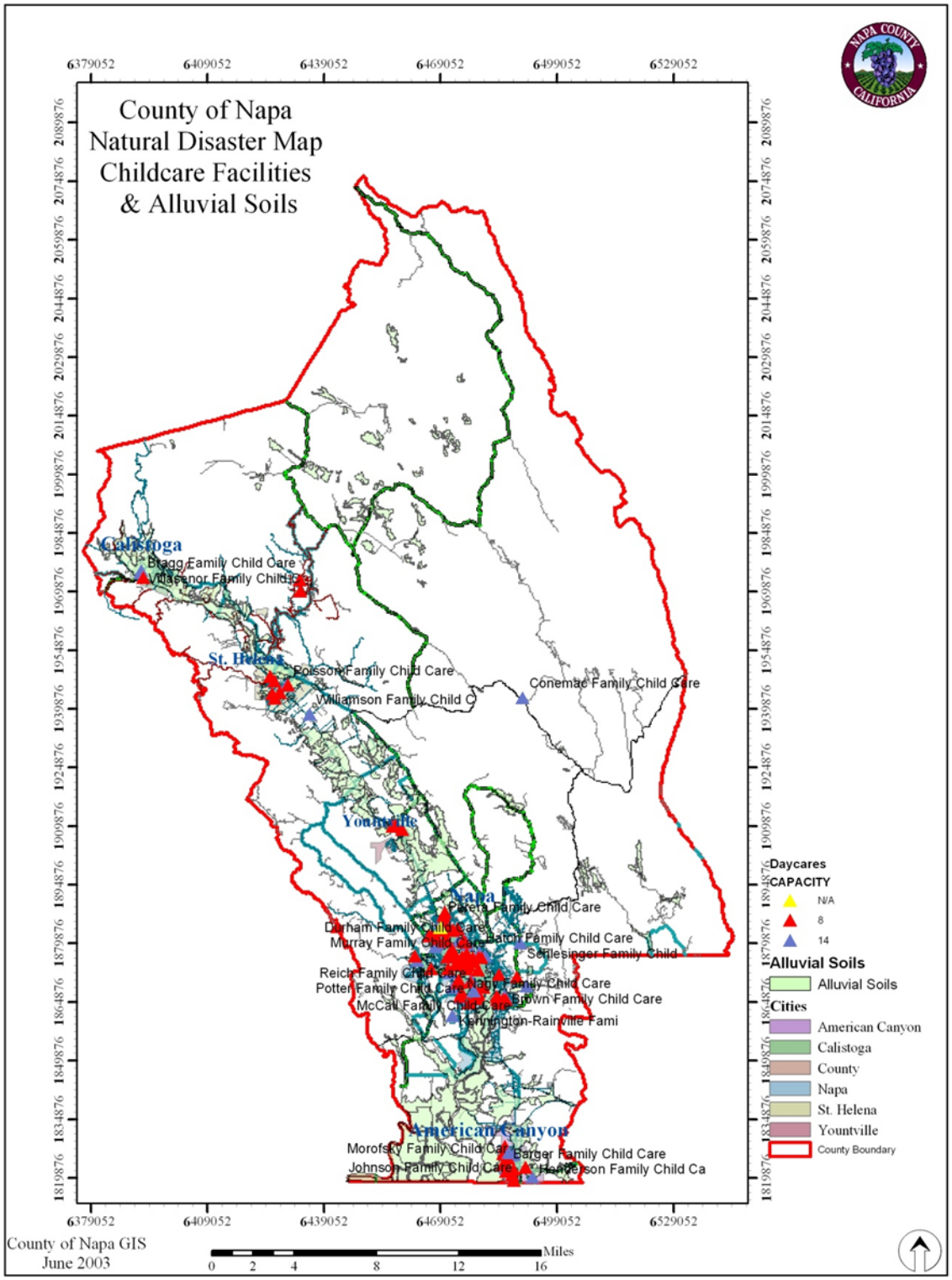

Figure 5-8: Napa Alluvial Soils and Childcare Facilities

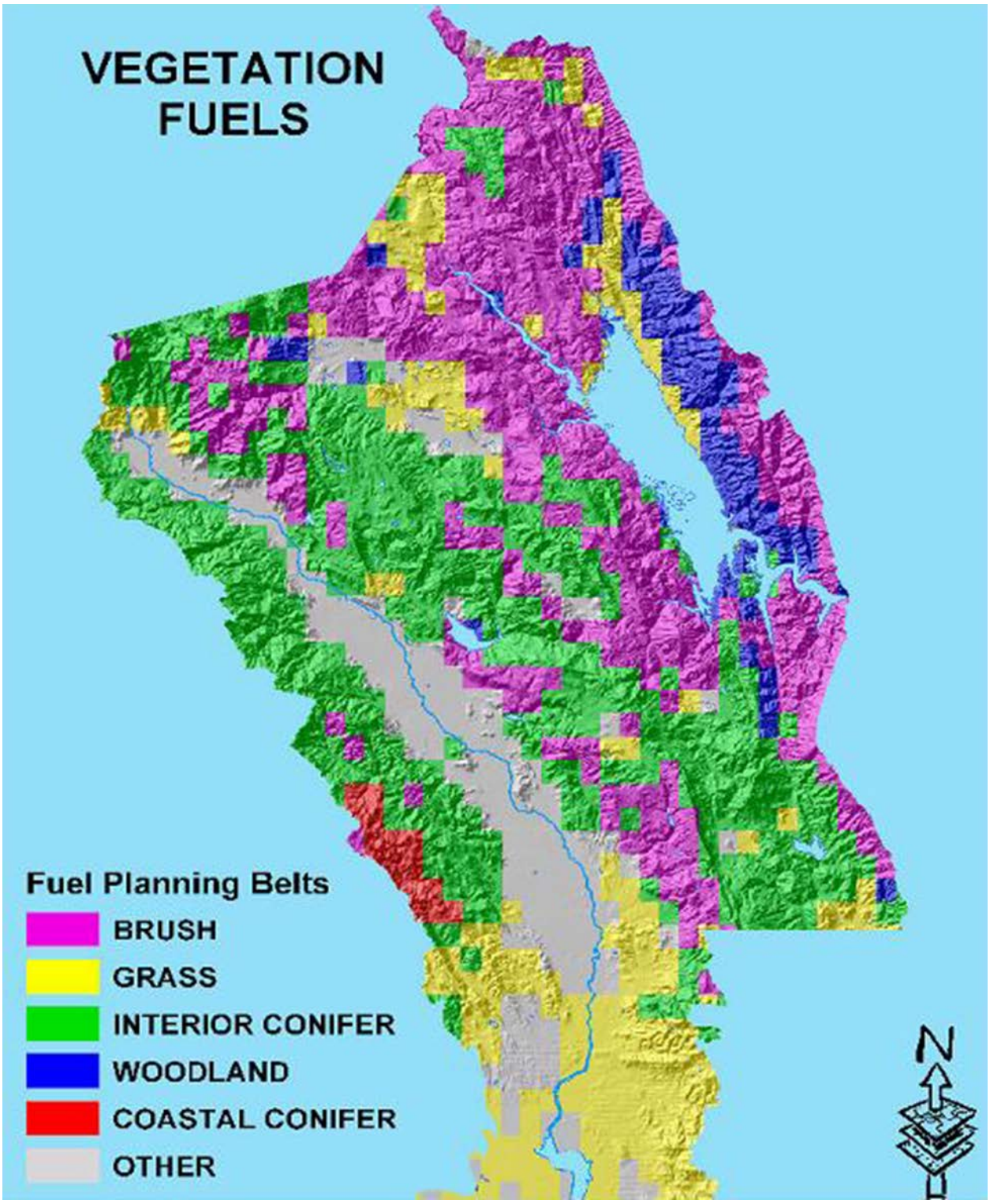

Figure 5-9: Napa County Vegetation Fuels

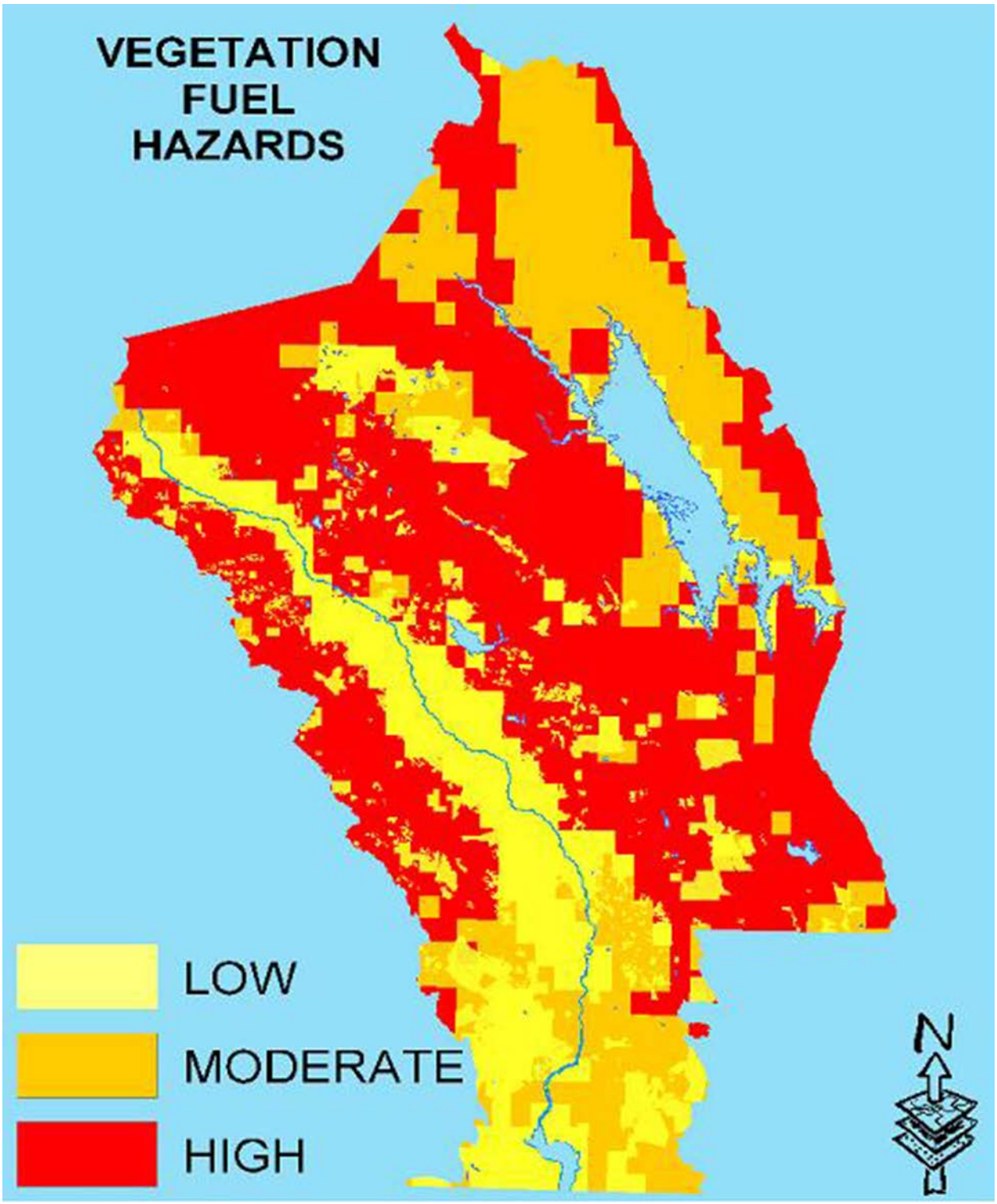

Figure 5-10: Napa County Wildfire Severity Zones

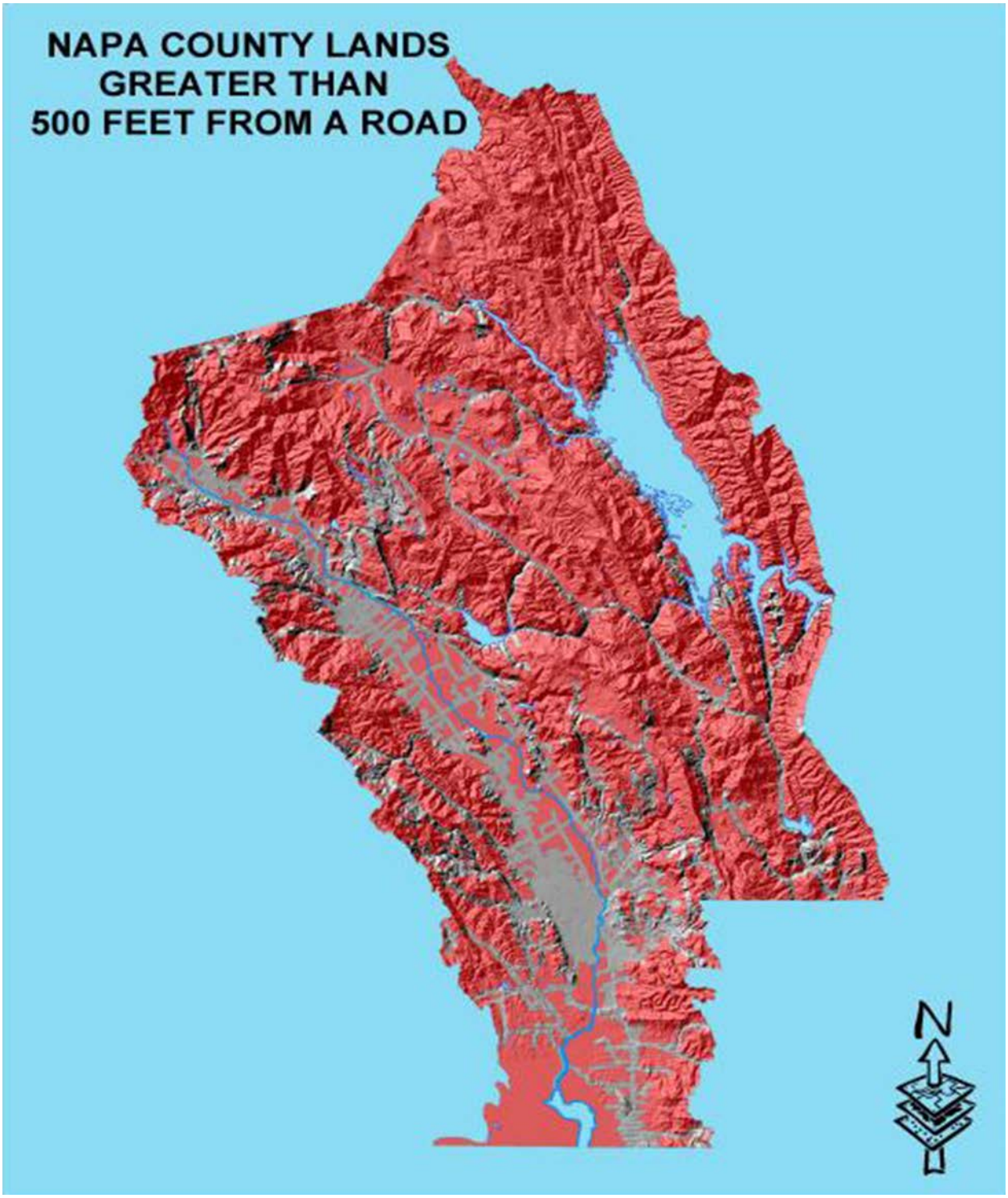

Figure 5-11: Napa County Lands in 500 ft Proximity to Roads

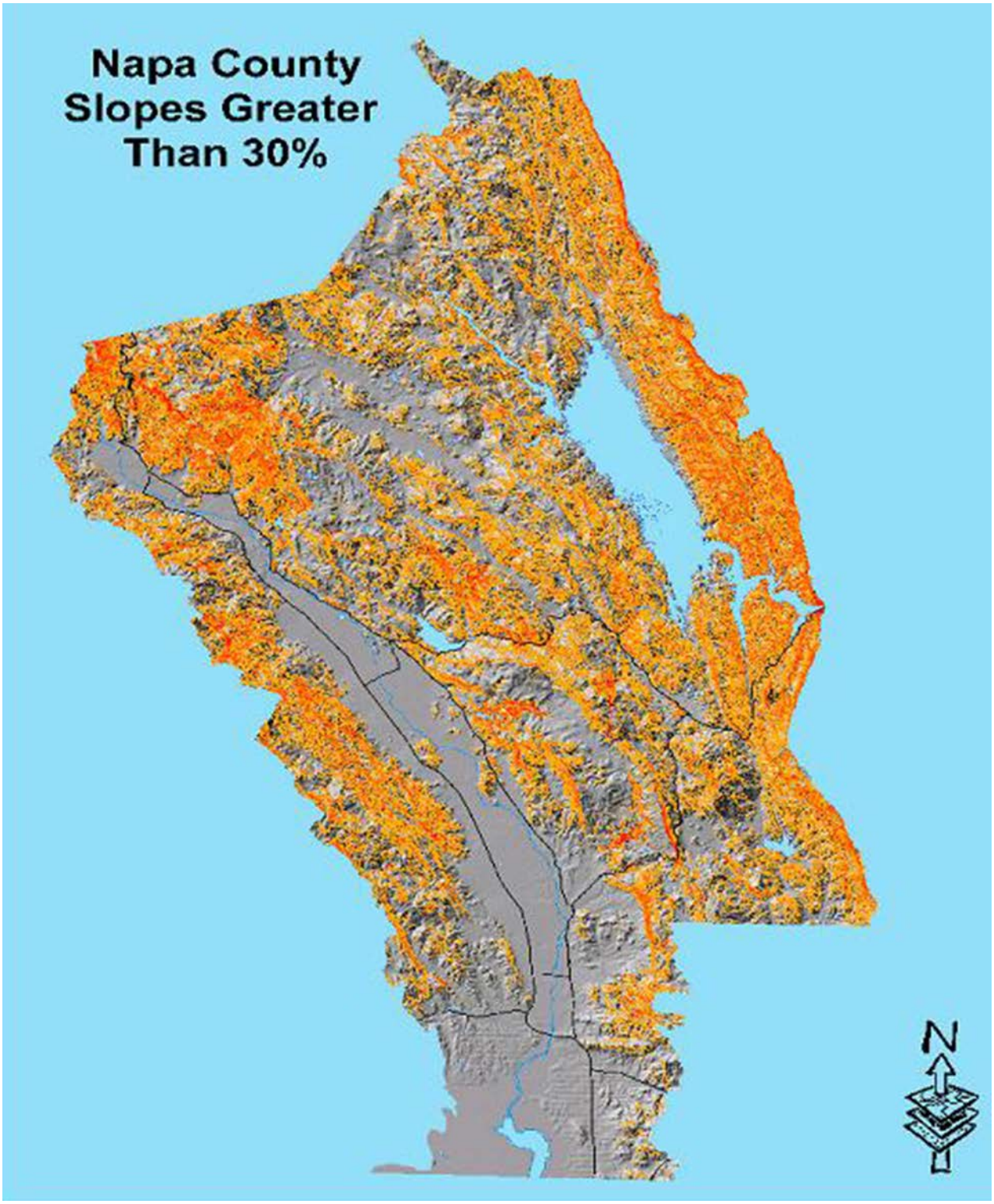

Figure 5-12: Napa County Slopes Greater Than 30%

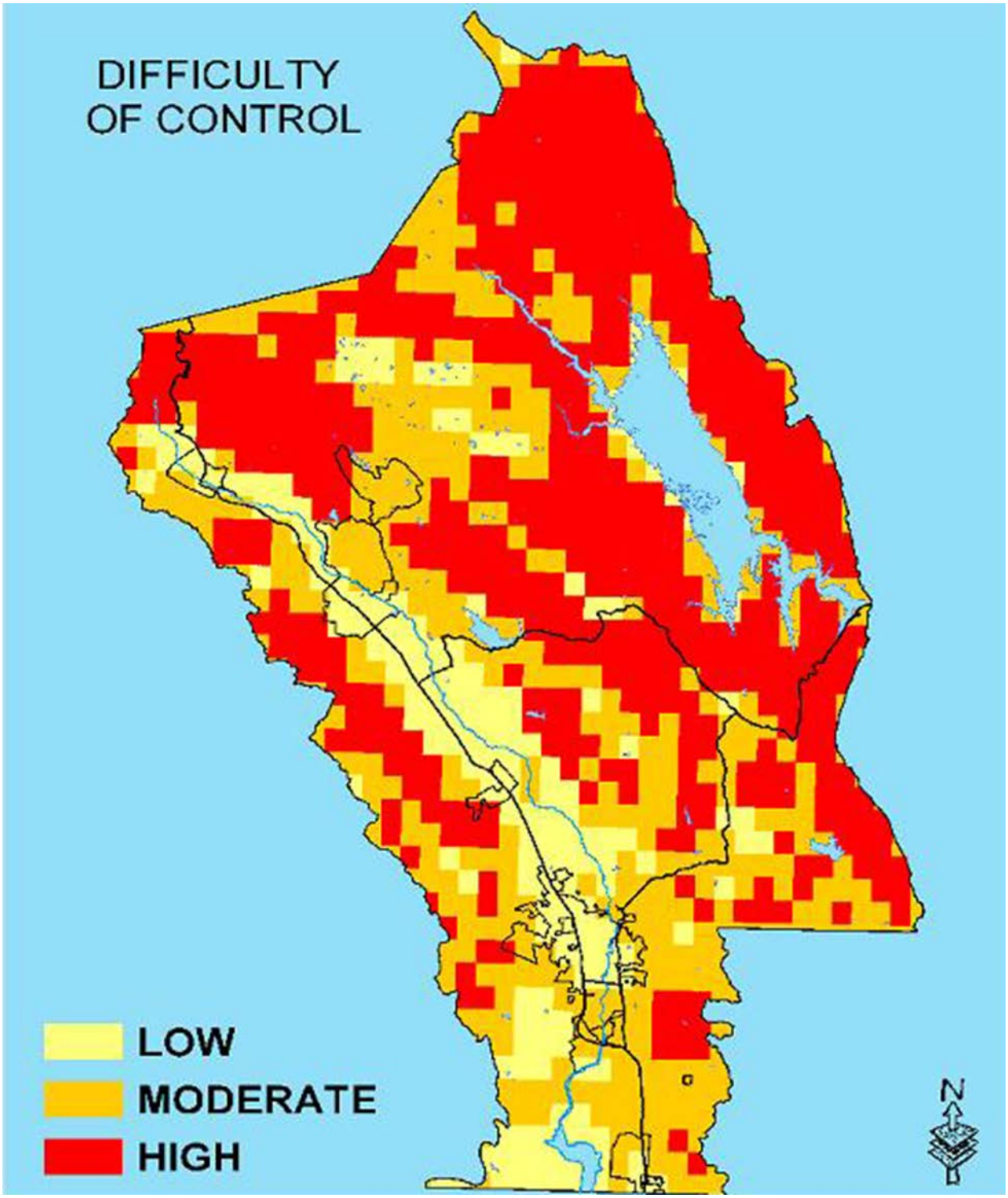

Figure 5-13: Napa County Difficulty of Control

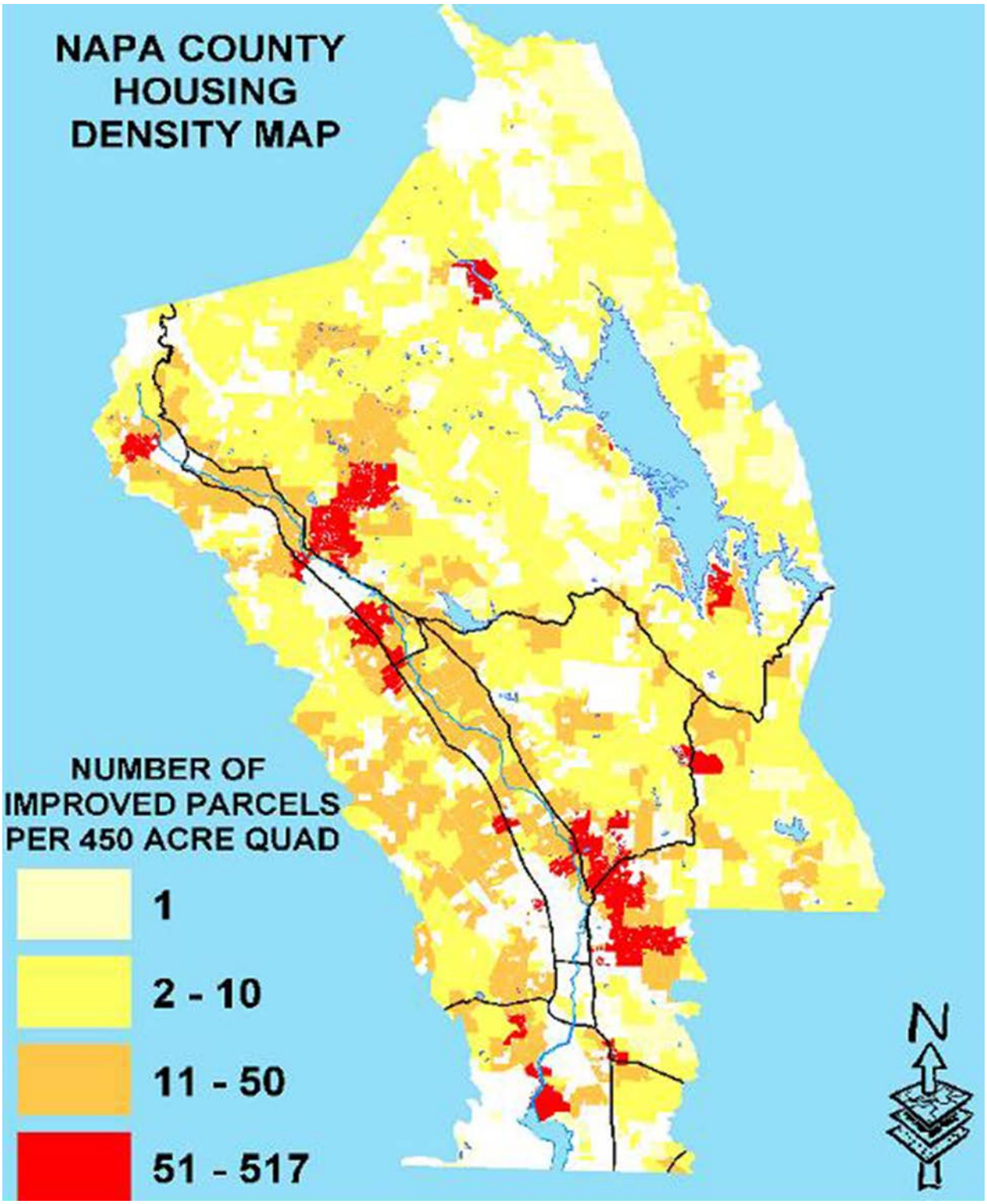

Figure 5-14: Napa County Housing Density

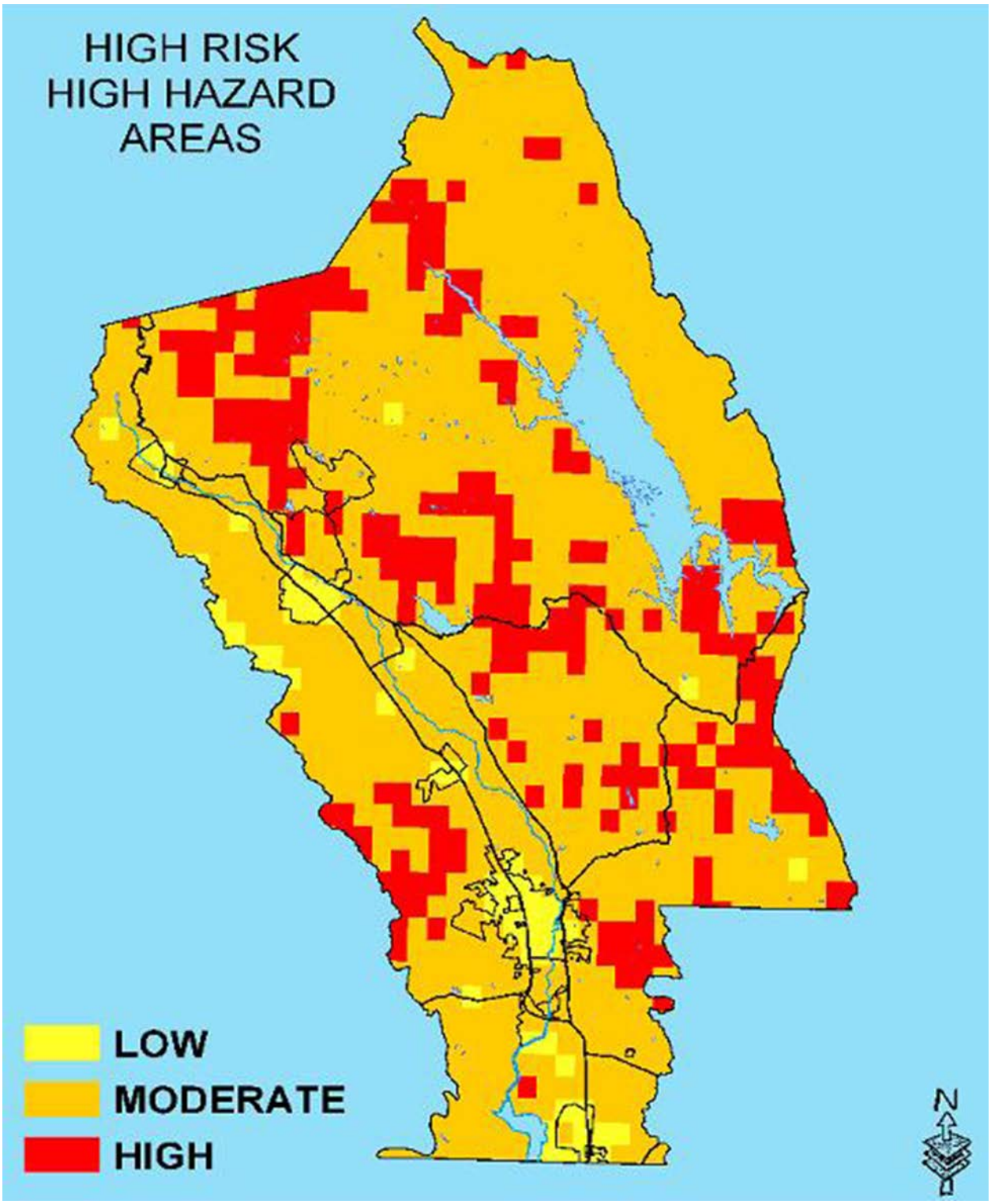

Figure 5-15: Napa County High Risk Wildfire Areas

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A.4 Napa County Disaster History and Assets at Risk

Flood Background Data	Total Parcels	in thousands $	in millions $
Single Family	1977	$525.00	$1,037.93
Multiple Family	361	$1,900.00	$685.90
Industrial	1029	$2,500.00	$2,572.50
Agricultural	1733	$680.00	$1,178.44
Assets at risk	5100	$1,401.25	$5,474.77

Approximately $5.5 Billion in assets at risk

Historical Floods Since 1960

Month	Year	Peak Flow CFS	Year Flood	Est Damage in Millions $ Adj for Inflation
Jan	1963	25000	10	5.5
Jan	1967	22000	10	5.2
Jan	1977	5000	2	1
Mar	1983	17100	2	3.5
Feb	1986	37100	50	320
Jan	1993	19300	5	4.2
Jan	1995	22000	10	80
Mar	1995	32600	20	170
Jan	1997	26700	10	120
Dec	2002	18000	2	2.5
Dec	2005	33000	25	95
			Estimated Total	806.9

Earthquake Background
Data

Napa County Earthquake Threat

Type of Parcel	Number parcels on Soft Soils	Average Value in thousands $	Value at risk in millions $
Single Family	2598	$525.00	$1,363.95
Multiple Family	452	$1,900.00	$858.80
Industrial	1425	$2,500.00	$3,562.50
Agricultural	2022	$680.00	$1,374.96
Assets at risk	6497	$1,401.25	$7,160.21

Approximately $7.2 Billion in private assets at risk

Napa County Earthquake Experience

Name/Year	Magnitude	Max Shaking Intensity in County	Est Damage
Santa Rosa 1968	5.6	V-VI	< $2 million
Loma Prieta 1989	6.9	V-VI	< $5 Million
Yountville 2000	5.3	VI-VII+	$ 64 Million

Future Earthquake Probability

Fault	Magnitude	% Probability of Quake Greater than 6.6 in 30 Years
Rodgers Creek	7.1	16.3
Northern Green Valley	6.1	0
Concord/Green Valley	6	2.7
West Napa	n/a	n/a

Fire Background Data

Assets at risk in the Wildland Urban Interface

- Estimated 5,264 residential units with a median value of $850,000 each for a potential loss of approximately $4.5 Billion at risk
- Estimated 10,500 outbuildings with a median value of $25,000 each for a potential loss of approximately $26.5 Million
- Estimated $1.5 Billion in public infrastructure, roads, utilities, facilities and open space
- Estimated 25,000 full and part time residents living in the environment

Fire History 1960-2002

Name	Acres			Year	Month	Day
C. FOSBERG #2	3796			1960	10	15
MORRISON	537			1960	10	15
NAPA SODA SPRINGS	2244			1960	6	20
ROADSIDE #20	576			1960	8	21
DE LA BRIANDAIS	387			1961	11	16
E. PROCTOR	876			1961	7	8
LEOMA LAKES	245			1961	9	3
M. WATSON	1831			1961	9	2
POPE VALLEY SERIES	1702			1961	9	2
R. COOMBA	194			1961	9	3
ROADSIDE #32	568			1961	9	4
ROADSIDE #19	490			1962	8	14
FOLEY FARM RI ESCAPE	382			1963	9	27
C. HANLY	55960			1964	9	19
NUNS CANYON	9807			1964	9	19
P.G.&E. #6	452			1964	9	21
ROADSIDE #14	230			1964	6	25
ROADSIDE #22	538			1964	7	11
ROADSIDE #42	8956			1964	9	21
JERICHO	2677			1966	8	6
PORTUGUESE CANYON	1321			1968	8	29
STAGS LAKE	562			1968	6	27
CEDAR RIDGE	255			1969	8	9

Fire History Continued:

Name	Acres			Year	Month	Day
ARROWHEAD	484			1972	7	14
POCKET GULCH	10431			1972	7	14
AZEVEDO #2	615			1973	9	8
SIGNAL HILL	4393			1973	9	8
HARRINGTON	81			1978	7	9
PLUNKETT	391			1979	7	16
ROCKWELL GAP	2012			1979	9	11
TURKEY	817			1980	9	13
ATLAS PEAK	33606			1981	6	22
SILVERADO	6218			1982	9	11
STEELE CANYON	523			1982	9	11
MARCH #2	712			1983	9	11
POPE	226			1983	8	28
POPE CANYON	1682			1983	7	10
HOWELL MTN. FIRE	2353			1983	0	0
MILLER	3622			1985	8	31
MILLER	34564			1988	9	17
RESORT	483			1988	9	18
BLUE FIRE	5964			1988	9	21
WOODEN FIRE	836			1992	0	0
PRIEST FIRE	5112			1995	0	0
GUENOC	649			1996	0	0
PG&E #8	2106			1996	8	2
MARKLEY	333			1997	8	3
SIXTEEN	37893			1999	10	16
BERRYESSA	4859			2000	6	13
POPE	753			2002	8	9
SILVERADO	69			2003	10	29
RUMSEY	38,763			2004	10	10
PLEASURE	261			2005	9	16
ATLAS	71			2006	10	25
WAKEFIELD	66			2006	6	28
128	57			2006	7	7
NAPA NOOK	400			2006	9	22
SODA CANYON (Pet	60			2007	7	11
KELLEY	32			2008	6	19
AETNA	76			2008	8	14
CAPELL	110			2008	8	15
DEER	150			2008	10	10
BERRYESSA - STEEL	70			2009	7	19
SODA CANYON	60			2011	11	

Building Inventory:

Preliminary Building Inventory Representative Types

Building Type	Count	City	Am.	Calistoga	St. H.	Yountville	Total
Pre 1945 Wood Single Family Home	3000	5000	N/A	800	800	200	9800
Post 1945 Wood Single Family Home	7000	12500	2400	1000	1000	600	2450
Wood Frame Multi-Under 3 stories	50	200	10	10	10	5	285
Pre 1945 Wood Commercial	25	150	N/A	5	5	5	190
URM non retrofitted	42	25	5	5	5		82
URM Retrofitted	5	150	5	15	25		200
Pre 1973 Tilt Up	5	10	0	2	5		22
Post 1973 Tilt Up	35	15	5	3	10		68
Non Ductile commercial	5	25	10	5	5		50
Multi Unit	5	30	5	5	5		50
Light Commercial	120	650	55	25	25	10	885

This data is preliminary and is being vetted by the Napa County Planning Department. It is sufficiently accurate to define the scope of the potential impact on the Operational Area.

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A.5 Napa County Critical Facilities

NAPA COUNTY GOVERNMENT BUILDINGS				
ID	Name	Address	City	Zip
1	Administration	1195 Third Street	Napa	94559
2	Hall of Justice	1125 Third Street	Napa	94559
3	Communications	933 Water Street	Napa	94559
4	County Library	580 Coombs Street	Napa	94559
5	Juvenile Hall	2350 Old Sonoma Road	Napa	94558
6	Emergency Medical Services	1721 First Street	Napa	94559
7	Soscol Professional Plaza	1710 Soscol Avenue	Napa	94558
8	Soscol Business Park	650 Imperial Way	Napa	94559
9	Soscol Office Building	1804 Soscol Avenue	Napa	94559
10	Carither's Building	1127 First Street	Napa	94559
11	Alexandria Building	1001 Second Street	Napa	94559
12	County Court House	825 Brown Street	Napa	94559
13	Family Support Legal	1546 First Street	Napa	94559
14	HHSA EMS	1721 First Street	Napa	94559
15	County Sanitation\Animal Shelter	942 Hartle Avenue	Napa	94559
16	Health & Human Services/Public Health	2344 Old Sonoma Road	Napa	94559

NAPA COUNTY GOVERNMENT BUILDINGS				
ID	Name	Address	City	Zip
17	HHSA SIU	1500 Third Street	Napa	94559
18	Napa Police Department	1539 First Street	Napa	94559
19	City Hall	955 School Street	Napa	94559
20	Community Services	1600 First Street	Napa	94559
21	City of St. Helena	1480 Main Street	St Helena	94574
22	City of Calistoga	1232 Washington Street	Calistoga	94515
23	Town of Yountville	6550 Yount Street	Yountville	94599
24	City of American Canyon	4381 Broadway St., Suite 201	American Canyon	94503

A.6 Napa County Medical Facilities

ID	Facility	Address	City	Zip Code	Phone Number	Type
1	Napa Davita Dialysis	3900Bel Aire Plaza #C	Napa	94558	224-6533	Care Center
2	Piner's Care Center	1800 Pueblo Avenue	Napa	94558	224-7925	Care Center
3	Pleasant Care	2465 Redwood Road	Napa	94558	255-3012	Care Center
4	Roberts Nursing Home	3415 Browns Valley Road	Napa	94558	257-3515	Care Center
5	Urgent Care Ctr Of Napa	3230 Beard Road	Napa	94558	254-7778	Care Center
6	Napa Valley Dialysis	1100 Trancas Street #267	Napa	94558	224-6533	Care Center
7	Veterans Home Of California	100 California Drive	Yountville	94599	944-4600	Care Center
8	Family Birth Place	650 Sanitarium Road	Deer Park	94576	963-6505	Care Center
9	Primrose Care Home	3698 Jefferson Street	Napa	94558	255-8594	Care Center
10	Adapt Day Treatment Program	1600 Myrtle Avenue	Napa	94558	253-9136	Clinic
11	Community Health Clinic Ole	935 Trancas Street # 4c	Napa	94558	254-1770	Clinic
12	Excel Quality Care	575 Lincoln Avenue #240	Napa	94558	426-6522	Clinic
13	Napa State Hospital	2100 Napa Vallejo Hwy	Napa	94558	253-5260	Clinic
14	Rohlffs Manor	2400 Fair Drive	Napa	94558	255-9555	Clinic
15	Senior Life Care Inc	3460 Villa Lane	Napa	94558	224-2285	Clinic
16	Transitions-St Helena Hospital	1000 Pro-fessional Dr.	Napa	94558	259-2840	Clinic

ID	Facility	Address	City	Zip Code	Phone Number	Type
17	Queen of the Valley Hospital	1000 Trancas Street	Napa	94558	252-4411	Hospital
18	St. Helena Hospital	650 Sanitarium Road	Deer Park	94576	963-3611	Hospital
19	Sunrise Care & Rehab-Calistoga	1715 Washington St.	Calistoga	94515	942-6253	Nursing Home
20	Adventist Health Home Care Svc	3 Woodland Lane	Deer Park	94576	963-3691	Nursing Home
21	A Hidden Knoll	3158 Browns Valley Road	Napa	94558	258-1873	Nursing Home
22	A'Egis Of Napa	2100 Redwood Road	Napa	94558	251-1409	Nursing Home
23	Heart of Napa	2300 Brown Street	Napa	94558	226-1821	Nursing Home
24	Heart That Matters	68 Coombs Street #9	Napa	94559	252-7569	Nursing Home
25	Home Care Nurses Registry	1712 Jefferson Street	Napa	94558	255-8719	Nursing Home
26	Home Care Svc-Queen-Valley	1100 Trancas Street # 300	Napa	94558	257-4124	Nursing Home
27	Meadows Care Center	1900 Atrium Parkway	Napa	94558	257-4990	Nursing Home
28	Napa Nursing Center	3275 Villa Lane	Napa	94558	257-0931	Nursing Home
29	Sierra Vista Nursing & Rehab	705 Trancas Street	Napa	94558	255-6060	Nursing Home
30	Sunrise Assisted Living-Napa	3700 Valle Verde Drive	Napa	94558	255-1100	Nursing Home
31	Your Home Nursing Svc	3188 Jefferson Street	Napa	94558	224-7780	Nursing Home
32	Rose Haven	520 Sanitarium Road	St Helena	94574	963-3748	Nursing Home

A.7 Napa County Public Safety Facilities

ID	Facility	Address	City	Zip Code	Phone	Type
1	Napa County Fire Department	1555 Airport Blvd	Napa	94589	253-6196	Fire
2	Napa County Fire Department	1820 Monticello Road	Napa	94559	253-4940	Fire
3	Napa Fire Prevention	1600 First Street	Napa	94559	257-9590	Fire
4	Napa Fire Department	1539 First Street	Napa	94559	257-9593	Fire
5	Napa County Fire Department	7401 Solano Avenue	Yountville	94599	944-8887	Fire
6	Yountville Fire Department	6587 Jefferson Street	Yountville	94599	963-3601	Fire
7	American Canyon Fire Department	911 Donaldson Way	American Canyon	94589	642-2747	Fire
8	St Helena Fire Department	1500 Main Street	St Helena	94574	967-2880	Fire
9	Napa County Fire Department	1199 Big Tree Road	St Helena	94574	963-3601	Fire
10	Calistoga City Fire Department	1113 Washington St.	Calistoga	94515	942-2821	Fire
11	Mountain Volunteer Fire Department	5198 Sharp Road	Calistoga	94515	942-2222	Fire
12	American Canyon Sheriff's Regional Station	300 Crawford Way	American Canyon	94589	648-0171	Police
13	Napa County Sheriff's Department	1535 Airport Rd	Napa	94559	965-1158	Police
14	Upper Valley Sheriff's Regional Station	3111 St Helena Hwy North	St. Helena	94574	965-1158	Police
15	Calistoga Police Department	1234 Washington St.t	Calistoga	94515	942-2810	Police
16	Upper Valley Sheriff's Regional Station	650 Sanitarium Road	Deer Park	94576	963-5944	Police
17	Napa City Police Department	1539 First St.	Napa	94559	257-9223	Police

ID	Facility	Address	City	Zip Code	Phone	Type
18	Napa County Sheriff's Department	1195 Third Street	Napa	94559	253-4415	Police
19	St. Helena Police Department	1480 Main Street	St Helena	94574	963-3636	Police
20	Yountville Sheriff's Regional Station	6516 Washington St.	Yountville	94599	944-9228	Police

A.8 Napa County Schools

ID	Name	Address	City	Zip Code	Phone
1	Alta Heights Elementary School	15 Montecito Boulevard	Napa	94558	253-3671
2	Bel Aire Park Elementary School	3580 Beckworth Drive	Napa	94558	253-3775
3	Browns Valley Elementary School	1001 Buhman Avenue	Napa	94558	253-3761
4	Calistoga Junior-Senior High School	1608 Lake Street	Calistoga	94515	942-6278
5	Capell Valley Elementary School	1192 Capell Valley Road	Napa	94558	259-8434
6	Carneros Elementary School	1680 Los Carneros Avenue	Napa	94559	253-3466
7	Casa Montessori School	780 Lincoln Avenue	Napa	94558	224-1944
8	Culinary Institute of America	2555 Main Street	St Helena	94574	967-0600
9	El Centro Elementary School	1480 El Centro Avenue	Napa	94558	253-3771
10	Foothills Elementary School	711 Sunnyside Road	St Helena	94574	963-3546
11	Howell Mountain Elementary	525 White Cottage Road	Angwin	94508	965-2423
12	Justin-Siena High School	4026 Maher Street	Napa	94558	255-3615
13	Madrone Continuation School	465 Main Street	St Helena	94574	963-2739
14	McPherson Elementary School	2670 Yajome Street	Napa	94558	253-3488

ID	Name	Address	City	Zip Code	Phone
15	Mount George Elementary School	1019 2nd Avenue	Napa	94559	253-3766
16	Napa Adventist Junior Academy	2201 Pine Street	Napa	94559	255-5233
17	Napa High School	2475 Jefferson Street	Napa	94558	253-3711
18	Napa Valley Christian Academy	2645 Laurel Street	Napa	94558	252-2191
19	Napa Valley College Upper Valley Campus	1088 College Avenue	St Helena	94574	967-2930
20	New Technology High School	920 Yount Street	Napa	94558	259-8557
21	Northwood Elementary School	2214 Berks Street	Napa	94558	253-3471
22	Pacific Union College	100 Howell Mountain Road	Angwin	94508	965-7272
23	Palisades High School	1507 Grant Street	Calistoga	94515	942-5255
24	Phillips Elementary School	1210 Shetler Avenue	Napa	94558	253-3481
25	Pope Valley Union School	6200 Pope Valley Road	Pope Valley	94567	965-2402
26	PUC Elementary School	135 Neilson Court	Angwin	94508	965-2459
27	Pueblo Vista Elementary School	1600 Barbara Road	Napa	94558	253-3491
28	Redwood Middle School	3600 Oxford Street	Napa	94558	253-3415
29	River School	2447 Old Sonoma Road	Napa	94558	253-6813

ID	Name	Address	City	Zip Code	Phone
30	Robert Louis Stevenson Middle School	1316 Hillview Place	St Helena	94574	963-2725
31	Salvador Elementary School	1850 Salvador Avenue	Napa	94558	253-3476
32	Shearer Elementary School	1590 Elm Street	Napa	94559	253-3508
33	Silverado Middle School	1133 Coombsville Road	Napa	94559	253-3688
34	Snow Elementary School	1130 Foster Road	Napa	94558	253-3666
35	St Apollinaris Catholic School	3700 Lassen Street	Napa	94558	224-6525
36	St Helena Catholic School	1255 Oak Place	St Helena	94574	963-4677
37	St Helena Elementary School	1325 Adams Street	St Helena	94574	963-2712
38	St Helena High School	1401 Grayson Street	St Helena	94574	963-2740
39	St Helena Montessori School	1328 Spring Street/880 College Ave	St Helena	94574	963-1527
40	St Johns Lutheran School	3521 Linda Vista Avenue	Napa	94558	226-7970
41	St Johns the Baptist School	983 Napa Street	Napa	94558	224-8388
42	Sunrise Montessori Elementary School	1226 Salvador Avenue	Napa	94558	257-2392
43	Sunrise Montessori Of Napa	4149 Linda Vista Avenue	Napa	94558	253-1105
44	Temescal High School	2447 Old Sonoma Road	Napa	94558	253-3791
45	Trinity Grammar & Prep	2055 Redwood Road	Napa	94558	258-9030

ID	Name	Address	City	Zip Code	Phone
46	Vichy Elementary School	3261 Vichy Avenue	Napa	94558	253-3544
47	Vintage High School	1375 Trower Avenue	Napa	94558	253-3601
48	Westwood Elementary School	2700 Kilburn Avenue	Napa	94558	253-3678
49	Yountville Elementary School	6554 Yount Street	Yountville	94599	253-3485
50	Napa Valley Charter School	575 Third Street	Napa	94559	252-5522
51	West Park Elementary	2315 W Park Avenue	Napa	94558	253-3516
52	Kolbe Academy	1600 F Street	Napa	94559	256-4306
53	Calistoga Elementary School	1327 Berry Street	Calistoga	94515	942-4398
54	Wooden Valley Elementary School	1340 Wooden Valley Road	Napa	94558	253-3703
55	Donaldson Way Elementary School	430 Donaldson Way	Am Canyon	94503	253-3524
56	American Canyon Middle School	300 Benton Way	Am Canyon	94503	259-8592
57	Napa Junction Elementary School	300 Napa Junction Road	Am Canyon	94503	253-3461
58	St Helena Primary School	1701 Grayson Avenue	St Helena	94574	967-2772
59	Napa Valley College	2277 Napa-Vallejo Highway	Napa	94558	253-3000

Appendix B. **City of American Canyon**

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B.1 Risk Assessment

Table 5-1 displays RF index criteria and weighting determinations from the American Canyon HMP Planning Committee Focus Group. Final RF scores determine High, Moderate, or Low risk designations based upon the conclusion index. It should be noted that although some hazards are classified as posing "Low Risk", their occurrence of varying or unprecedented magnitudes is still possible and will continue to be re-evaluated during future updates of this Plan. Due to the inherent errors possible in any disaster risk assessment, the results of the risk assessment should only be used for planning purposes and in developing projects to mitigate potential losses.

Table 5-1: American Canyon Risk Factor Results Table

Rank	Natural Hazards	Probability	Wt.	Impact	Wt.	Spatial Extent	Wt.	Warning Time	Wt.	Duration	Wt.	RF Factor
1	Wildfire	2	0.6	1	0.3	2	0.4	4	0.4	1	0.1	1.8
2	Flooding	3	0.9	3	0.9	4	0.8	4	0.4	3	0.3	3.3
3	Earth-Quake	2	0.6	1	0.3	2	0.4	4	0.4	2	0.2	1.9

Risk Factor Conclusion	
HIGH RISK (3.0 – 4.0)	Flooding
MODERATE RISK (2.0 – 2.9)	
LOW RISK (0.1 – 1.9)	Wildfire, and Earthquake

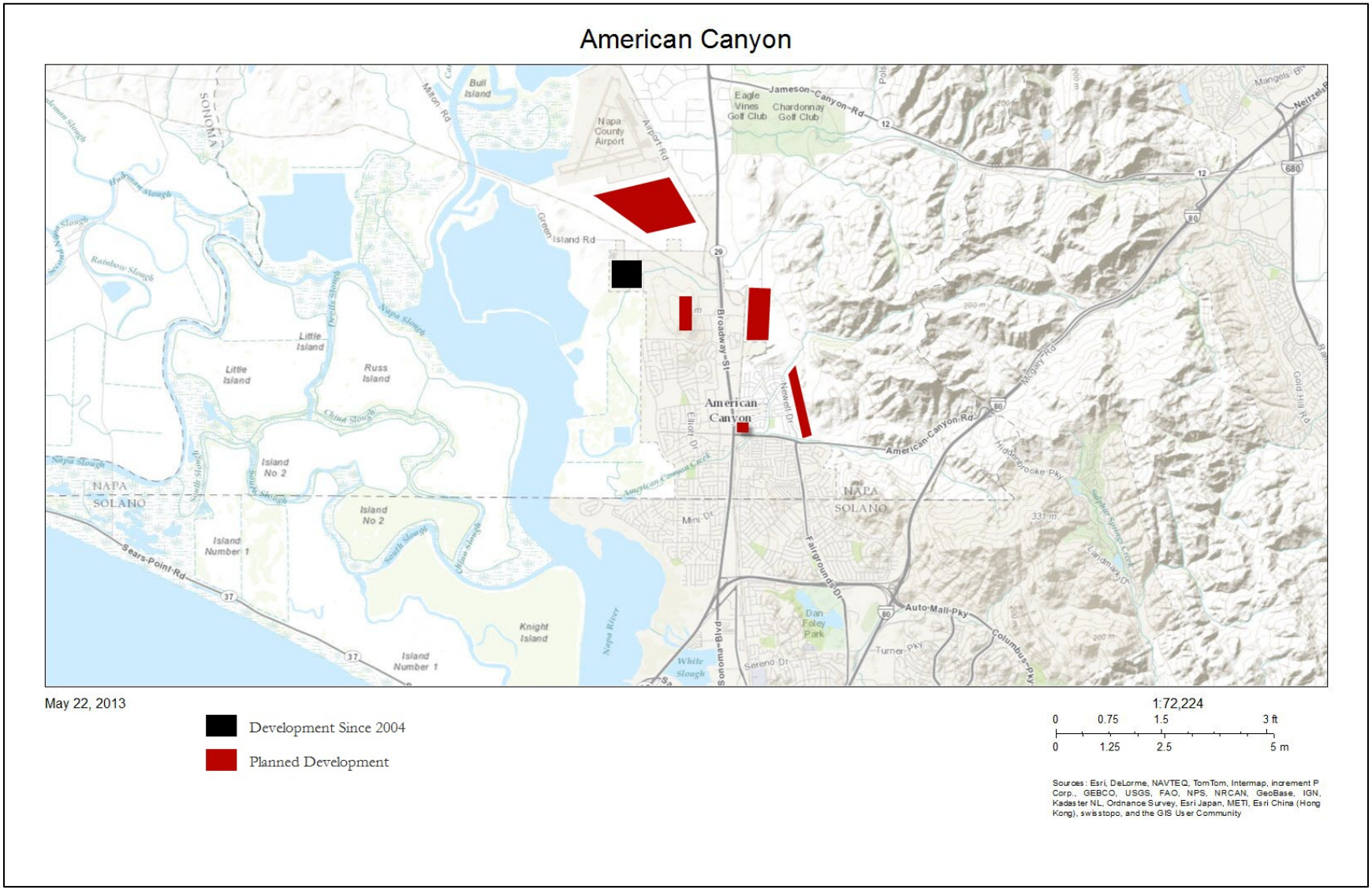
The RF results assist planners to classify risk for each hazard regardless of hazard type. For purposes of this plan the following classifications are used:

Low Risk—Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.

Moderate Risk —Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.

High Risk—Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past.

B.2 Future Development



City of American Canyon has experienced the most development activity compared to the other participating jurisdictions since the 2004 Napa County HMP. Development that has occurred since the previously approved (2004) HMP has been primarily light industrial in small areas near the north east section of the city.

Commercial, industrial and residential developed is planned throughout the City. Some future development is planned to occur on the eastern side of the city adjacent to the railroad right of way and near Highway 29. A future Town Center is planned for an area near the intersection of S. Napa Junction Road and the rail lines. The future "Town Center" site contains approximately 29 acres within the City Limits, and approximately 290 acres within the adjacent Sphere of Influence (S.O.I.).

Future development is planned near or adjacent to known fault lines. Portions of American Canyon have been identified in an active fault. Alquist-Priolo Special Study zone runs from the airport, along the east side of Oat Hill southeast to near the City boundary. The Alquist-Priolo Special Study zone requires distinct standards which are enforced by the City.

The City of American Canyon's General Plan provides more information on Geologic and Seismic Hazards in relation to this zone.

B.3 Capabilities Assessment

In preparing the mitigation actions, the American Canyon HMP Planning Committee members were asked to consider their overall capability to mitigate identified hazards. The mitigation strategy includes an assessment of American Canyon's planning and regulatory, administrative/technical, fiscal, and political capabilities to complete the identified mitigation actions.

B.3.1 Planning and Regulatory Capabilities

American Canyon has several plans and programs in place that guide the City's mitigation of development in hazard-prone areas. The following table lists planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities. Table 5-2 provides a sample list of possible planning and regulatory capabilities.

Table 5-2: American Canyon Planning and Regulatory Capabilities

Hazard	Plan/Program/ Regulation	Responsible Agency	Comments
Multi-Hazard	California Building Codes	Building Department	
Multi-Hazard	Zoning Regulations	Community Development Department	

Hazard	Plan/Program/ Regulation	Responsible Agency	Comments
Multi-Hazard	Subdivision Regulations	Community Development Department	
Multi-Hazard	Comprehensive Land Use Plan (or General, Master or Growth Mgmt. Plan)	Community Development Department	
Multi-Hazard	Capital Improvement Plan	Public Works Department	
Wildfire	Local Community Codes	Fire Department	
Wildfire / Flood	USDA	NRCS	Flood and Fire Recovery on Private Lands
Flood	Prop 50/84 Integrated Regional Water Management (IRWM)	DWR	DWR has a number of IRWM grant program funding opportunities. Current IRWM grant programs include: planning, implementation, and stormwater flood management. http://www.water.ca.gov/iwrm/grants/index.cfm
Flood	USDA	NRCS	Improve floodplain function and reduce effects of flooding on private lands
Flood	Central Valley Flood Protection Plan	DWR	State legislative requirements provide Napa County local planning responsibilities for floodplain management (e.g., general plans, zoning ordinances, development agreements, tentative maps, and other actions).
Flood	NFIP	Napa County Flood Control / Buildings Dept.	NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in participating communities. As a participating member of the NFIP, Napa County Officials are dedicated to protecting homes of more than 160 policies currently in force. ▪ 163 policies in force ▪ $37,987,500 insurance in force ▪ 34 paid losses ▪ $680,554 total paid losses 6 substantial damage claims since 1978
Flood	DWR Prop 84	DWR	▪ Grant funding just came out from the Flood Operations Center.

Hazard	Plan/Program/ Regulation	Responsible Agency	Comments
Flood	***USDA***	Natural Resources Conservation Service (NRCS)	Emergency Watershed Protection Program Environmental Quality Incentive Program

B.3.2 Administrative and Technical Capabilities

American Canyon has several departments and agencies that have both the administrative authority and technical capabilities related to hazard mitigation and loss prevention, as identified below:

Staff/Personnel Resources	***Yes***	***No***	***Department / Agency***	***Comments***
Planners (with land use / land development knowledge)	x		Community Development Department	
Planners or engineers (with natural and/or human caused hazards knowledge) Public Works has capability.	x		Public Works	
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	x		Building Department	
Emergency Manager	x		City Manager/Fire Chief	
Floodplain Manager (Planning Director / Public Works Director)	x		Public Works	
Land surveyors		x		
Scientists or staff familiar with the hazards of the community		x		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program	x		Public Works/Fire Department/Engineering Dept	

Staff/Personnel Resources	*Yes*	*No*	*Department / Agency*	*Comments*
Grant writers or fiscal staff to handle large/complex grants	x		Finance Dept	
Construction Equipment	X		Public Works	
Public Works: ▪ Technical Assistance ▪ Personnel Assistance	X		Public Works	
Utilities / Dam Safety Experts ▪ Dam Safety Personnel ▪ PG&E Arborist		x		

B.3.3 Fiscal Capabilities

This section identifies the financial tools or resources that the City of American Canyon could potentially use to help fund mitigation activities. These include City specific capabilities, as well as county, state and federal resources. It is also important to note that funding can also be sourced from participating agencies/organizations that collaborate with the County in the implementation of mitigation actions.

Table 5-3: American Canyon Fiscal Capabilities

Financial Resources	*Yes*	*No*	*Department / Agency*	*Comments*
Capital improvement programming	x		Public Works	Plan in place
Community Development Block Grants (CDBG)	x		Housing	Eligible
Special purpose taxes	x		Fire, Public Works, Planning	Property Tax Assessment (Annual + New Development)
Gas / electric utility fees		x		

Financial Resources	*Yes*	*No*	*Department / Agency*	*Comments*
Water / sewer fees	x	x	Public Works Water Division	
Stormwater Utility fees	x		PBES	
Development impact fees	x		Community Development Department/ Fire Department	
General obligation, revenue, and/or special tax bonds	x			
Partnering arrangements or intergovernmental agreements	x		Fire Department	JPA with City of Napa FD

B.3.4 Political Capability

Political capability in this instance is being measured by the degree to which local political leadership (including appointed boards) is willing to enact policies and programs that reduce hazard vulnerabilities in your community, even if met with some opposition. Examples may include guiding development away from identified hazard areas, restricting public investments or capital improvements within hazard areas, or enforcing local development standards that go beyond minimum State or Federal requirements (e.g., building codes, floodplain management, etc.). The American Canyon Focus Group within the HMP Planning Committee rated the jurisdiction's political capability to enact policies and programs that reduce hazard vulnerabilities.

The diagram below provides a simple 0 to 5 scale for which the American Canyon Focus Group used to assess the City of American Canyon. The focus group agreed that political boards are "somewhat willing" to change policy or programs. Generally, a higher score corresponds to a higher degree of community political capability.

Very Willing ***Moderately Willing*** ***Unwilling to Adopt Policies / Programs***

Score: 3.0

B.3.5 Self-Assessment of Capability

The American Canyon HMP Planning Committee Focus Group conducted a short Capabilities Assessment Self-Survey in order to understand the degree of capability for categories reviewed previously in this section. Using Table 5-4 as an outline, the American Canyon Focus Group agreed "as a group" upon the degree of capability; limited, moderate, or high for each capability area. The survey conclusion results are based upon information provided previously in this Section and working knowledge of City operations.

Table 5-4: American Canyon Self-Assessment of Capability

	Degree of Capability		
Capability Area	***Limited***	***Moderate***	***High***
Planning and Regulatory Capability		X	
Administrative and Technical Capability		X	
Fiscal Capability	X		
Community Political Capability		X	

B.4 American Canyon Hazard Maps

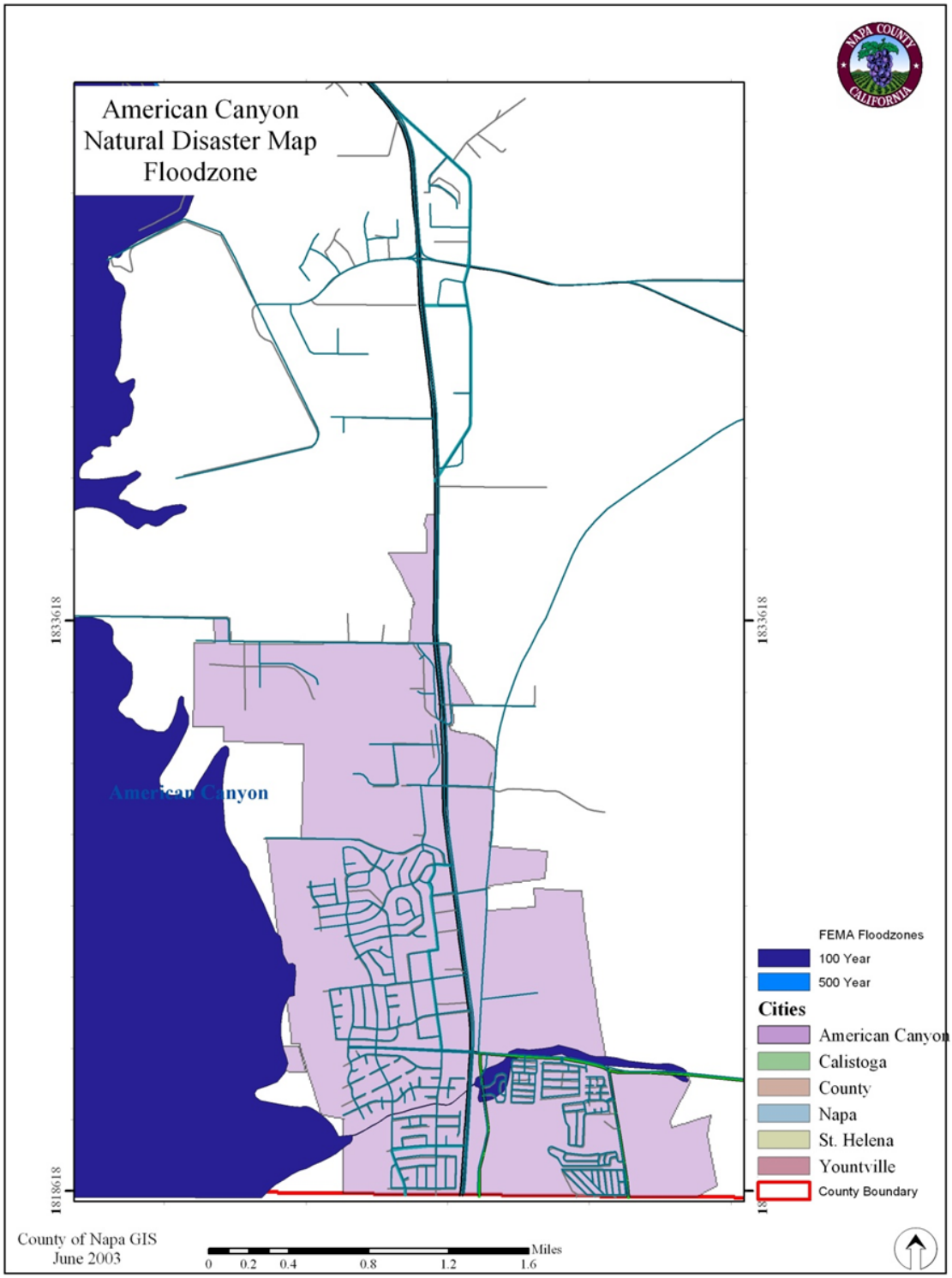


Figure 5-16: American Canyon Floodzones

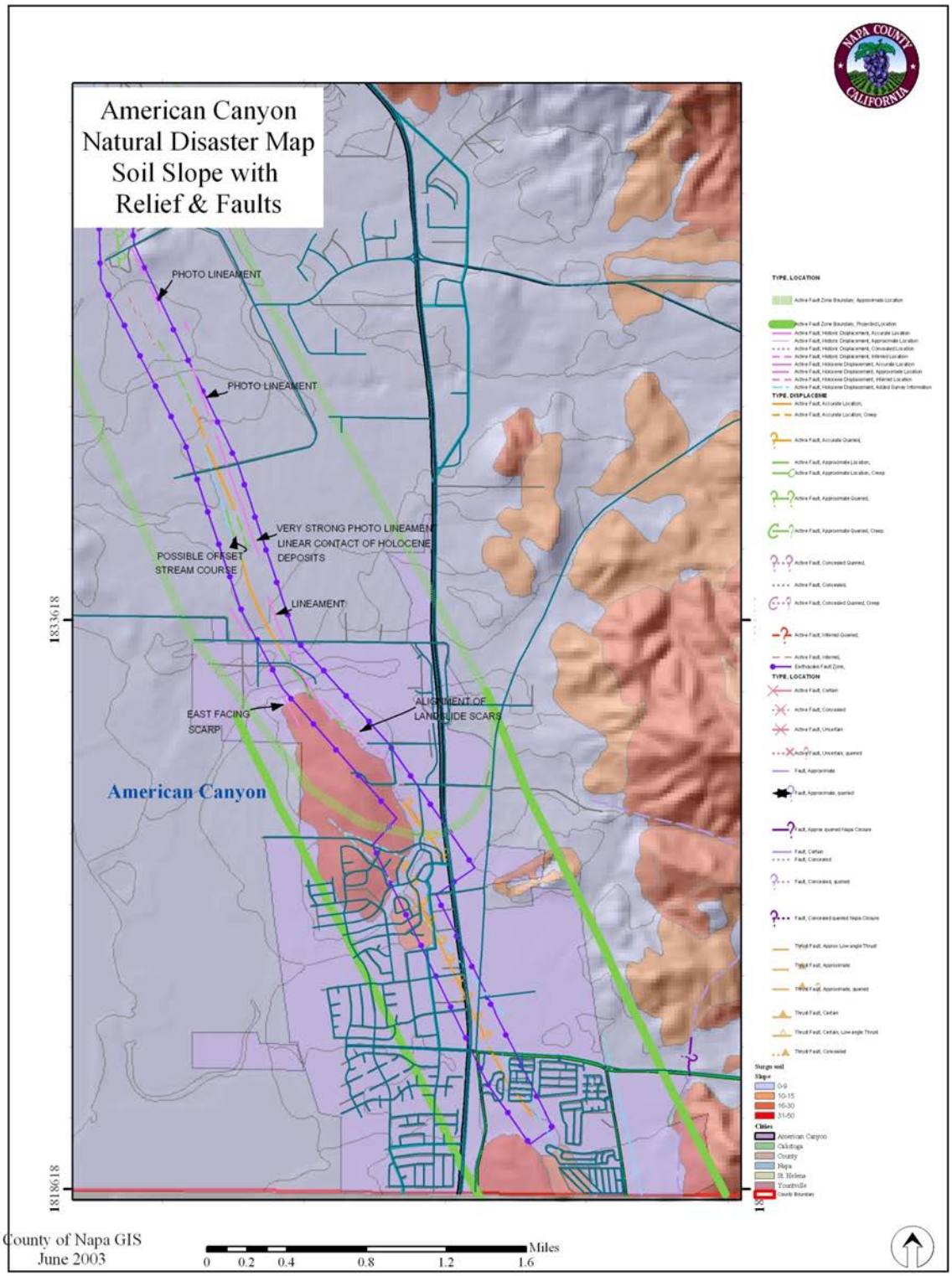


Figure 5-17: American Canyon Fault Lines and Soil Relief

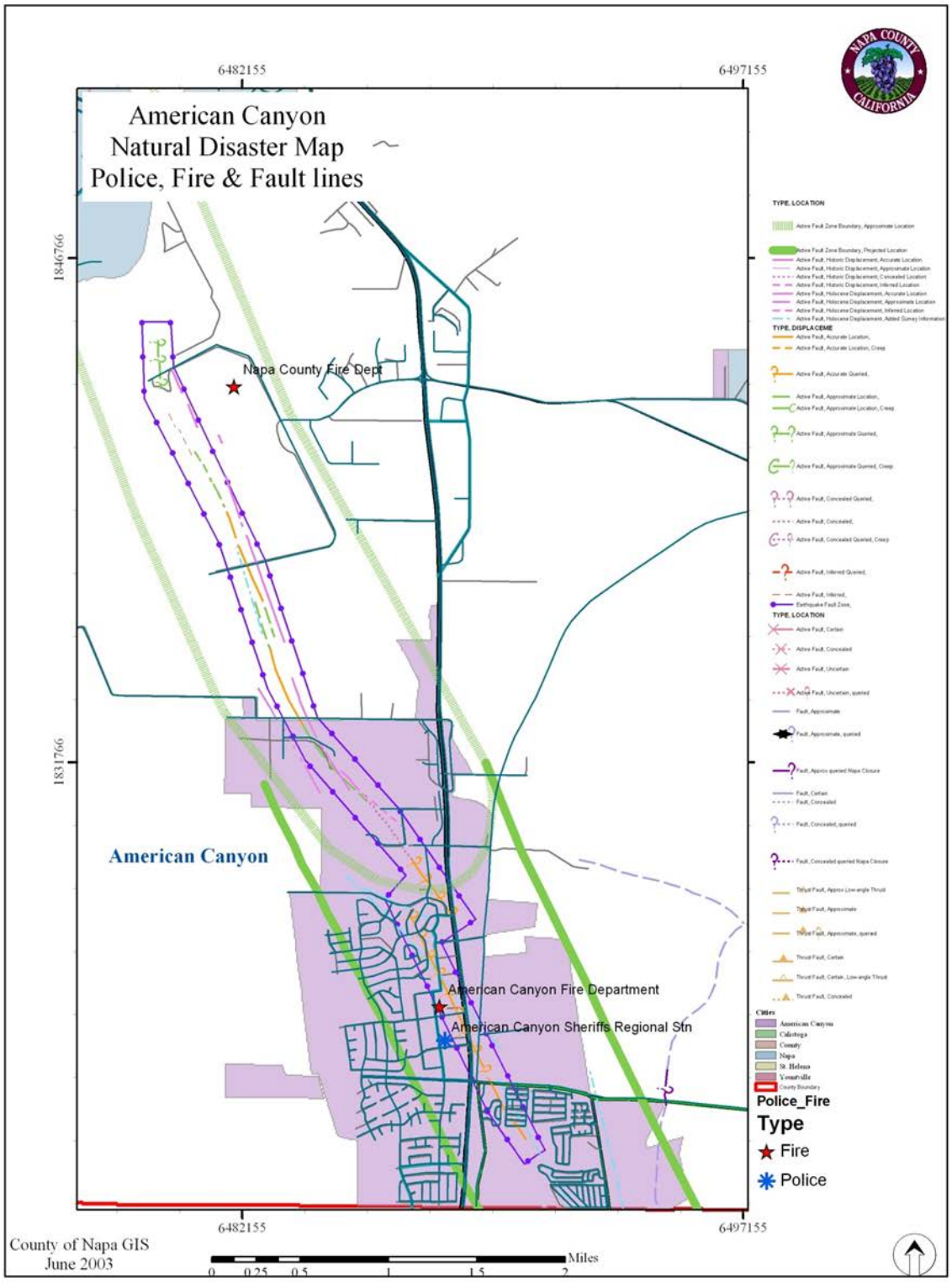


Figure 5-18: American Canyon Fault Lines and Police and Fire Facilities

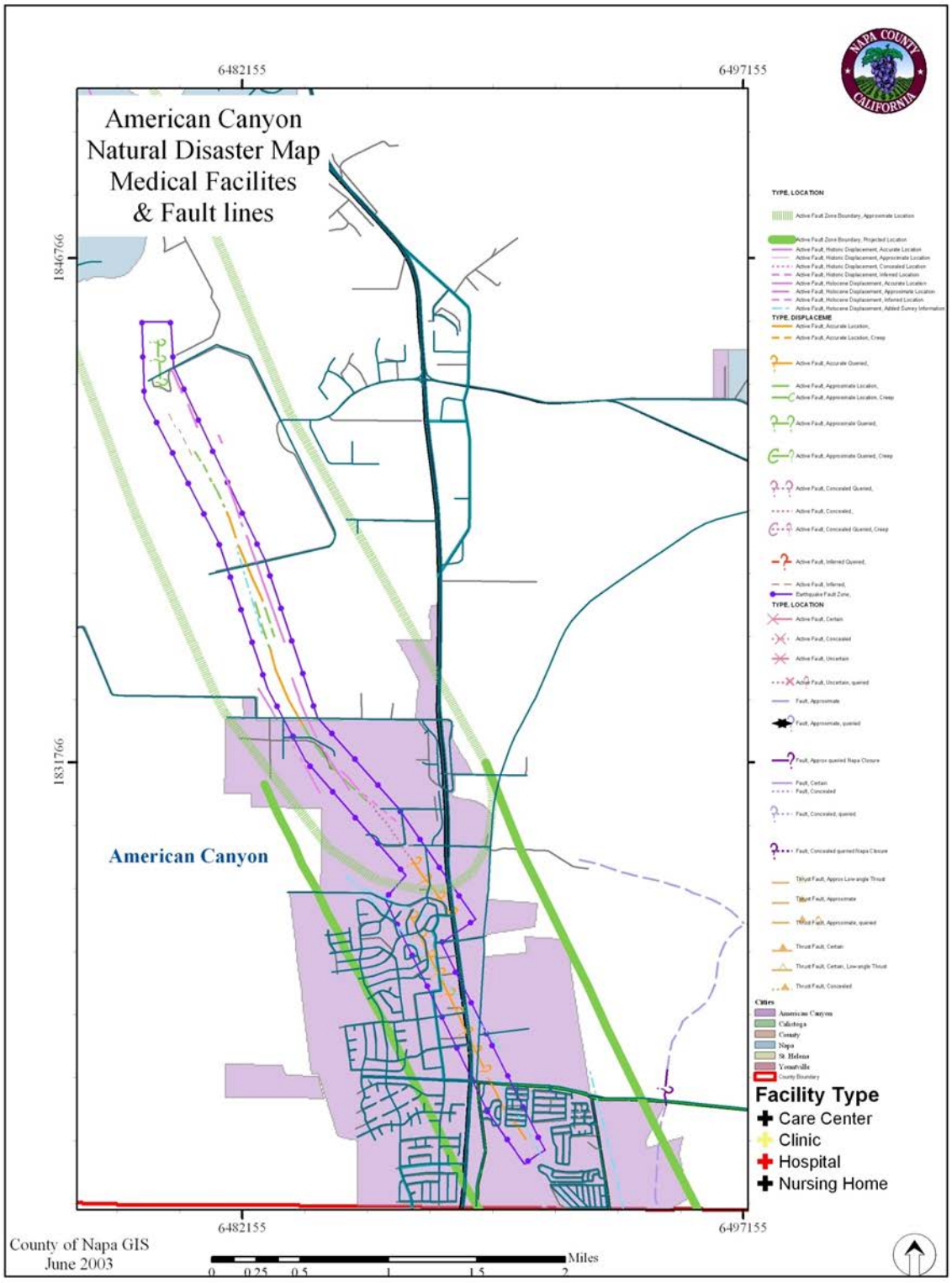


Figure 5-19: American Canyon Fault Lines and Medical Facilities

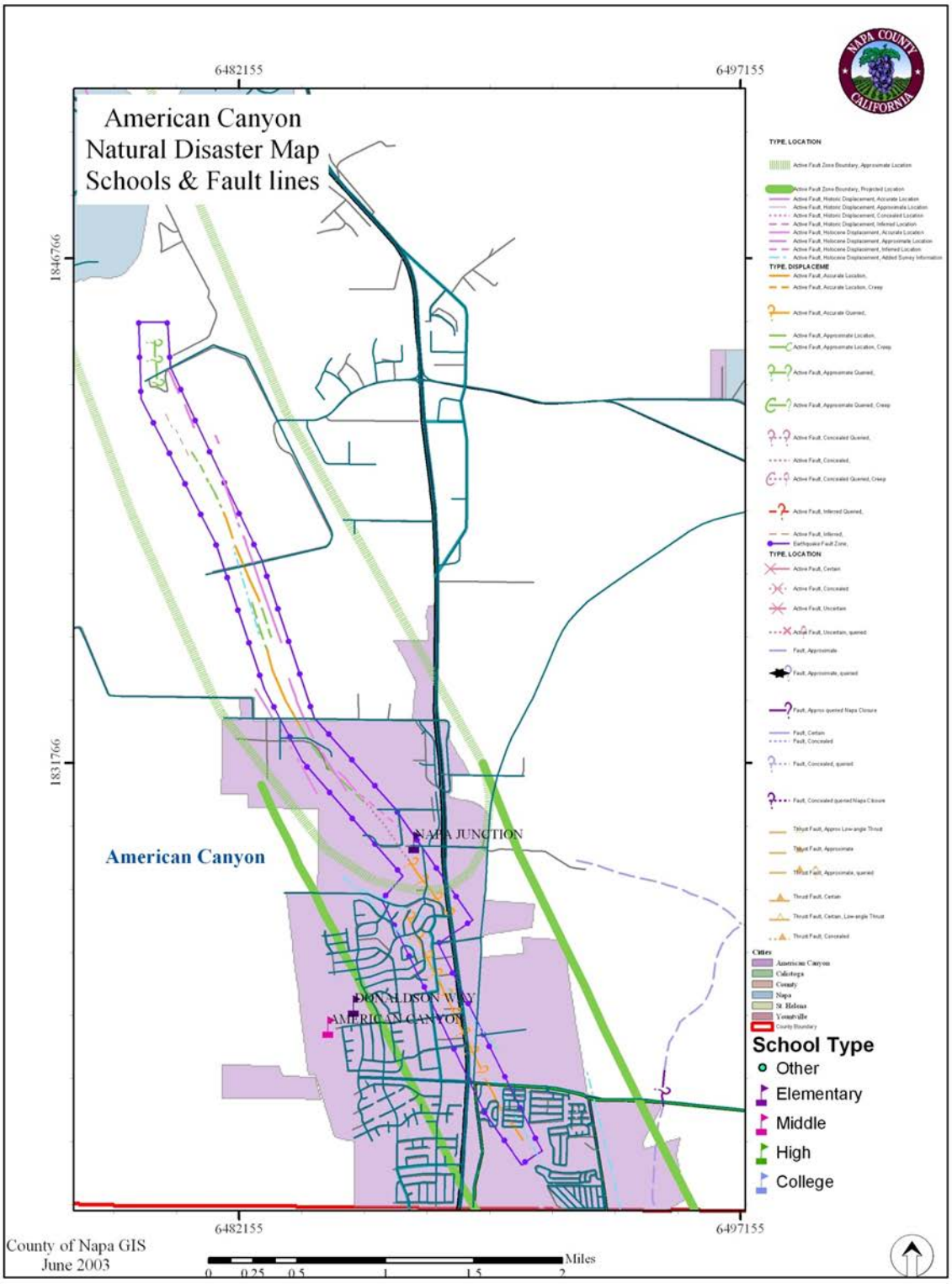


Figure 5-20: Fault Lines and School Facilities

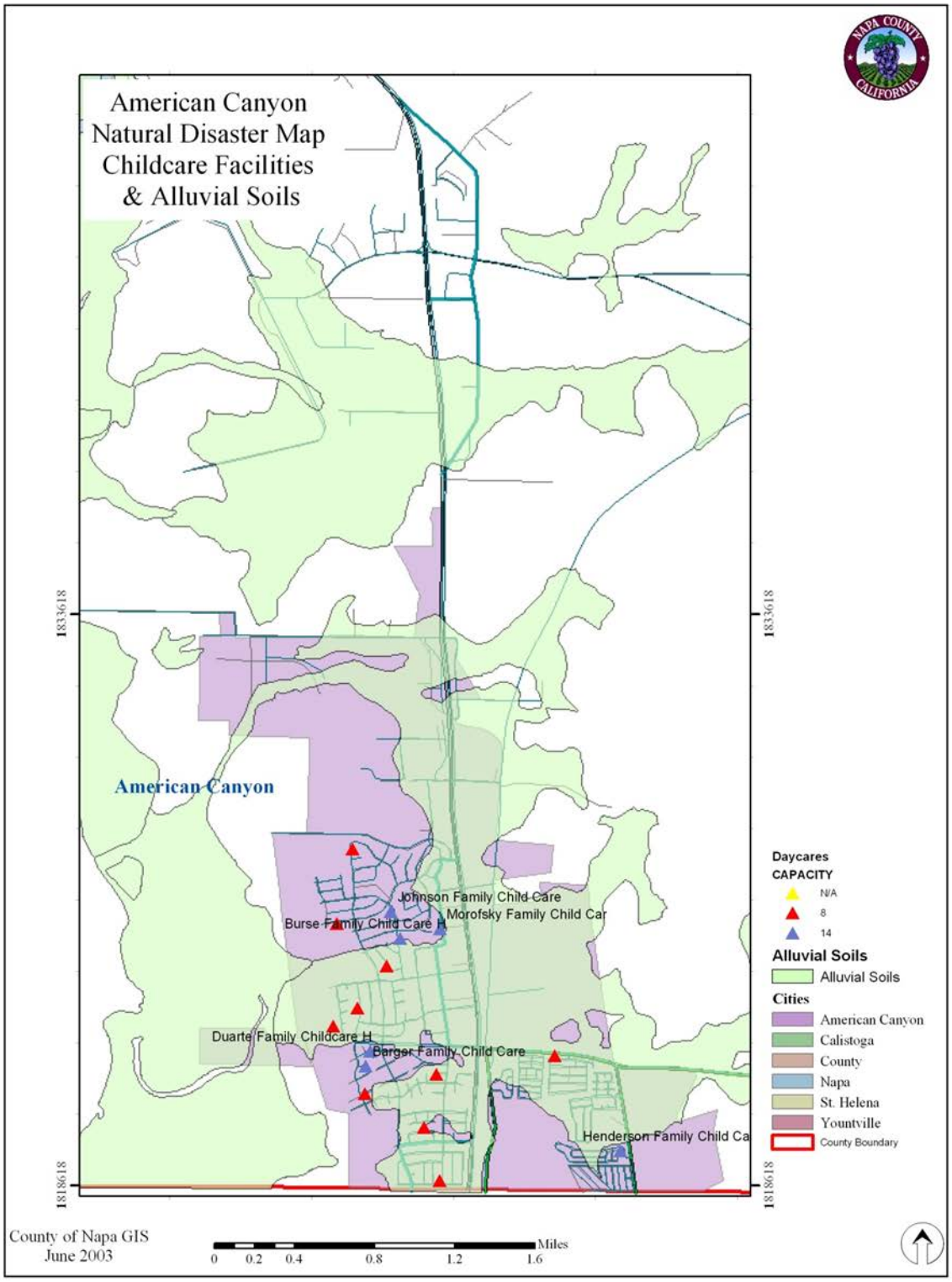


Figure 5-21: American Canyon Alluvial Soils and Childcare Facilities

Appendix C. **City of Calistoga**

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C.1 Risk Assessment

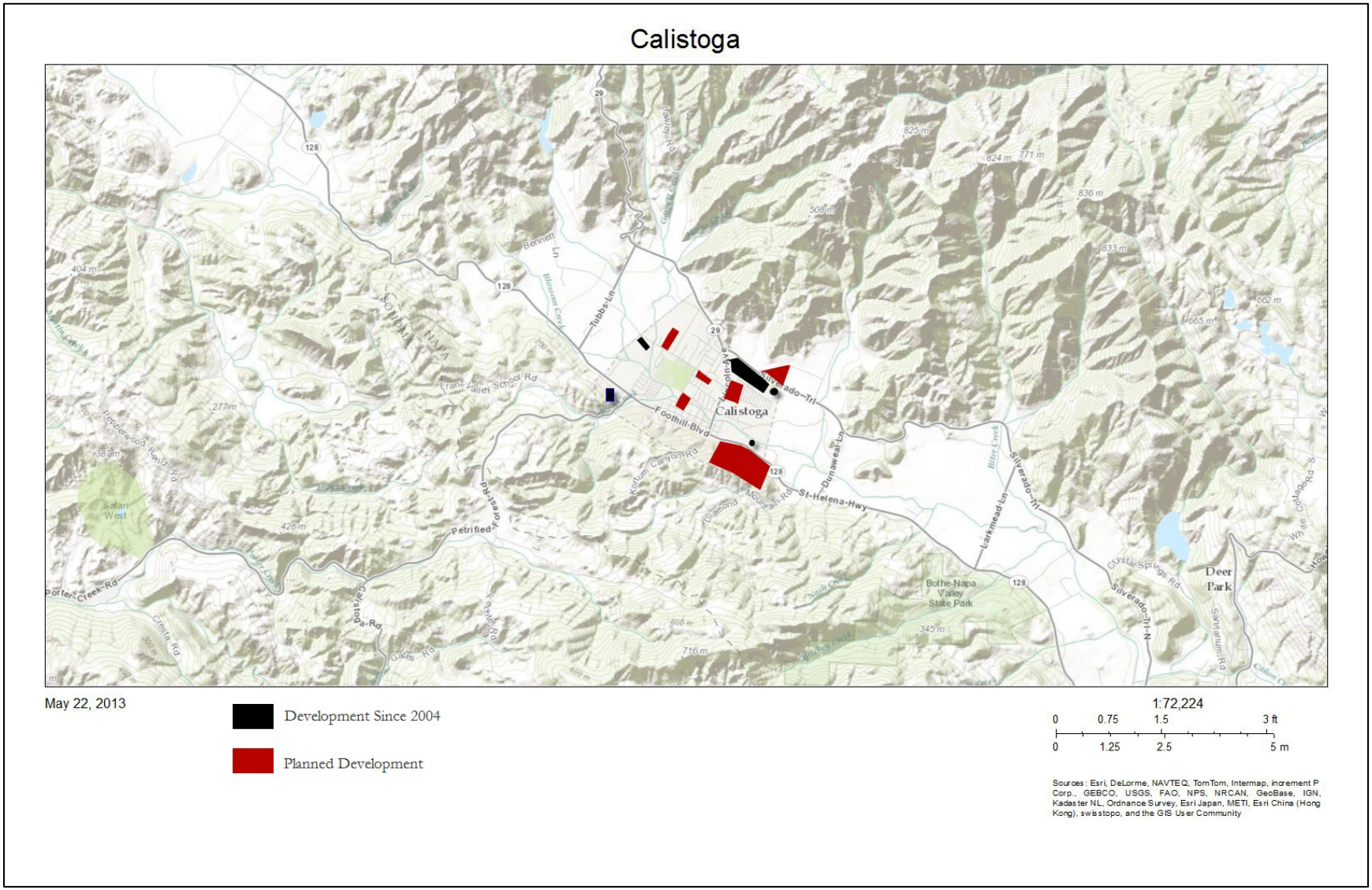
Table 5-5 displays RF index criteria and weighting determinations from the City of Calistoga HMP Planning Committee Focus Group. Final RF scores determine High, Moderate, or Low risk designations based upon the conclusion index. It should be noted that although some hazards are classified as posing "Low Risk", their occurrence of varying or unprecedented magnitudes is still possible and will continue to be re-evaluated during future updates of this plan. Due to the inherent errors possible in any disaster risk assessment, the results of the risk assessment should only be used for planning purposes and in developing projects to mitigate potential losses.

Table 5-5: Calistoga Risk Factor Results Table

Rank	Natural Hazards	Probability	Wt.	Impact	Wt.	Spatial Extent	Wt.	Warning Time	Wt.	Duration	Wt.	RF Factor
1	Wildfire	2	0.6	1	0.3	1	0.2	4	0.4	3	0.3	**1.8**
2	Flooding	2	0.6	2	0.6	2	0.4	4	0.4	4	0.4	**2.4**
3	Earth-Quake	2	0.6	2	0.6	2	0.4	3	0.3	3	0.3	**2.2**

Risk Factor Conclusion	
HIGH RISK (3.0 – 4.0)	
MODERATE RISK (2.0 – 2.9)	Flooding
LOW RISK (0.1 – 1.9)	Wildfire, and Earthquake

C.2 Future Development



City of Calistoga has experienced minimal development since the 2004 Napa County HMP. Annexation has not occurred since 2004, and there are future development via annexation. Development that has occurred since the previously approved (2004) HMP has been primarily residential and has occurred in small areas throughout the city.

Planned development consists of new residential units southeast of Highway 29 south of Kortum Canyon Road.

C.3 Capabilities Assessment

In preparing the mitigation actions, the City of Calistoga HMP Planning Committee Focus Group members were asked to consider their overall capability to mitigate identified hazards. The mitigation strategy includes an assessment of Calistoga's planning and regulatory, administrative/technical, fiscal, and political capabilities to complete the identified mitigation actions.

C.3.1 Planning and Regulatory Capabilities

Calistoga has several plans and programs in place that guide the City's mitigation of development in hazard-prone areas. The following table lists planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities. Table 5-6 provides a sample list of possible planning and regulatory capabilities.

Table 5-6: Calistoga Planning and Regulatory Capabilities

Hazard	Plan/Program/ Regulation	Responsible Agency	Comments
Multi-Hazard	California Building Codes	Building & Fire Departments	Calistoga has adopted new building codes and regulations that protect new development and buildings from flooding, wildfire and EQ.
Multi-Hazard	Zoning Regulations	Planning Department	
Multi-Hazard	Subdivision Regulations	Planning & Public Works Departments	
Multi-Hazard	Comprehensive Land Use Plan (or General, Master or Growth Mgmt. Plan)	All City Departments	
Multi-Hazard	Capital Improvement Plan	Public Works Department	
Wildfire	Local Community Codes	Fire Department	

Flood	NFIP	Planning Department and Public Works Department	NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in participating communities. As a participating member of the NFIP, Napa County Officials are dedicated to protecting homes of more than 160 policies currently in force. ▪ 163 policies in force ▪ $37,987,500 insurance in force ▪ 34 paid losses ▪ $680,554 total paid losses 6 substantial damage claims since 1978

C.3.2 Administrative and Technical Capability

Calistoga has several departments and agencies that have both the administrative authority and technical capabilities related to hazard mitigation and loss prevention, as identified below:

Table 5-7: Calistoga Administrative and Technical Capability

Staff/Personnel Resources	***Yes***	***No***	***Department / Agency***	***Comments***
Planners (with land use / land development knowledge)	x		Planning Dept	
Planners or engineers (with natural and/or human caused hazards knowledge) Public Works has capability.	x		Planning Dept and Public Works	
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	x		Planning & Building Dept/Public Works	
Emergency Manager	x		Fire Department	
Floodplain Manager (Planning Director / Public Works Director)	x		Planning Department	
Land surveyors	x		Public Works	

Scientists or staff familiar with the hazards of the community		x		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program	x		Planning Department	
Grant writers or fiscal staff to handle large/complex grants	x		Public Works	
Construction Equipment	X		Public Works/Streets	
Public Works: ▪ Technical Assistance ▪ Personnel Assistance	X		Public Works	
Utilities / Dam Safety Experts ▪ Dam Safety Personnel ▪ PG&E Arborist	x		Public Works	
State Emergency Management Personnel ▪ State OES Access ▪ Mobile Emergency Personnel ▪ Medical Air Evacuation	x		Fire Department	
Regional Medical Assistance Personnel	x		St. Helena Hospital, Memorial Hospital (Santa Rosa)	
National Weather Service Weather Watchers	x		Fire Department	

C.3.3 Financial Capability

This section identifies the financial tools or resources that the City could potentially use to help fund mitigation activities. These include City-specific capabilities, as well as county, state and federal resources. It is also important to note that funding can also be sourced from participating agencies/organizations that collaborate with the County in the implementation of mitigation actions.

Financial Resources	***Yes***	***No***	***Department / Agency***	***Comments***
Capital improvement programming	x		Public Works Department & Admin	
Community Development Block Grants (CDBG)	x		Planning Dept	
Special purpose taxes	x		Admin Department	
Gas / electric utility fees		x		
Water / sewer fees	x		Public Works Department & Admin	
Stormwater Utility fees	x		Public Works	
Development impact fees	x		Planning Department	
General obligation, revenue, and/or special tax bonds	x		Admin Dept	
Partnering arrangements or intergovernmental agreements	x		Admin Dept	
Weatherization Services	x		Planning Dept	

C.3.4 Political Capability

Political capability in this instance is being measured by the degree to which local political leadership (including appointed boards) is willing to enact policies and programs that reduce hazard vulnerabilities in your community, even if met with some opposition. Examples may include guiding development away from identified hazard areas, restricting public investments or capital improvements within hazard areas, or enforcing local development standards that go beyond minimum State or Federal requirements (e.g., building codes, floodplain management, etc.). The Calistoga HMP Planning Committee Focus Group rated the political capability to enact policies and programs that reduce hazard vulnerabilities.

The diagram below provides a simple 0 to 5 scale for which the Calistoga Focus Group used to assess the City. The focus group agreed that political boards are "willing" to change policy or programs. Generally, a higher score corresponds to a higher degree of community political capability.

Very Willing ***Moderately Willing*** ***Unwilling to Adopt Policies / Programs***

Score: 4.0

C.3.5 Self-Assessment of Capability

The Calistoga HMP Planning Committee conducted a short Capabilities Assessment Self-Survey in order to understand the degree of capability for categories reviewed previously in this section. Using Table 5-8 as an outline, the Calistoga Planning Committee agreed "as a group" upon the degree of capability; limited, moderate, or high for each capability area. The survey conclusion results are based upon information provided previously in this Section and working knowledge of City operations.

Table 5-8: Calistoga Self-Assessment of Capability

	Degree of Capability		
Capability Area	***Limited***	***Moderate***	***High***
Planning and Regulatory Capability		x	
Administrative and Technical Capability		x	
Fiscal Capability	x		
Community Political Capability		x	

C.4 City of Calistoga Hazard Maps

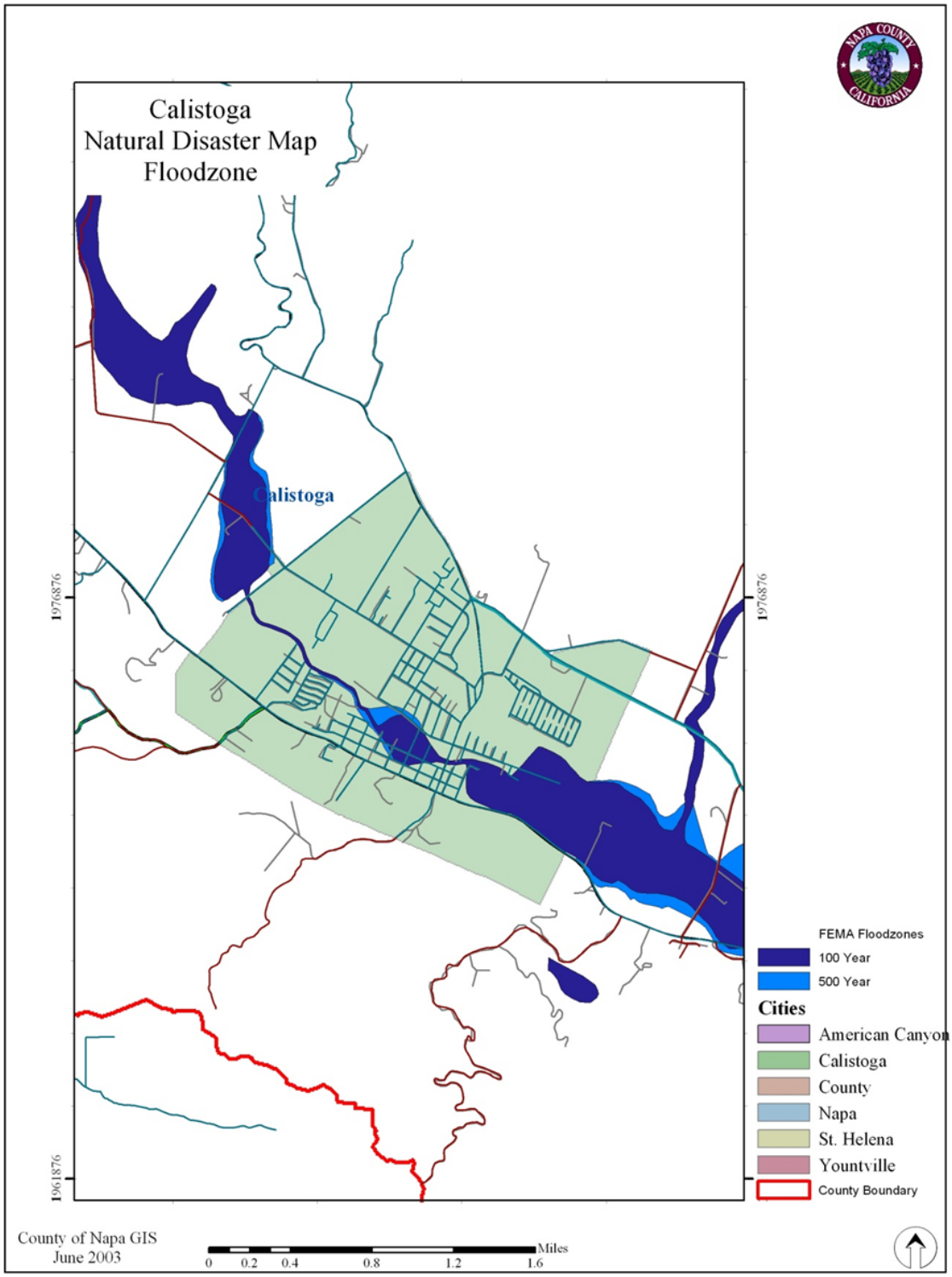


Figure 5-22: Calistoga Floodzones

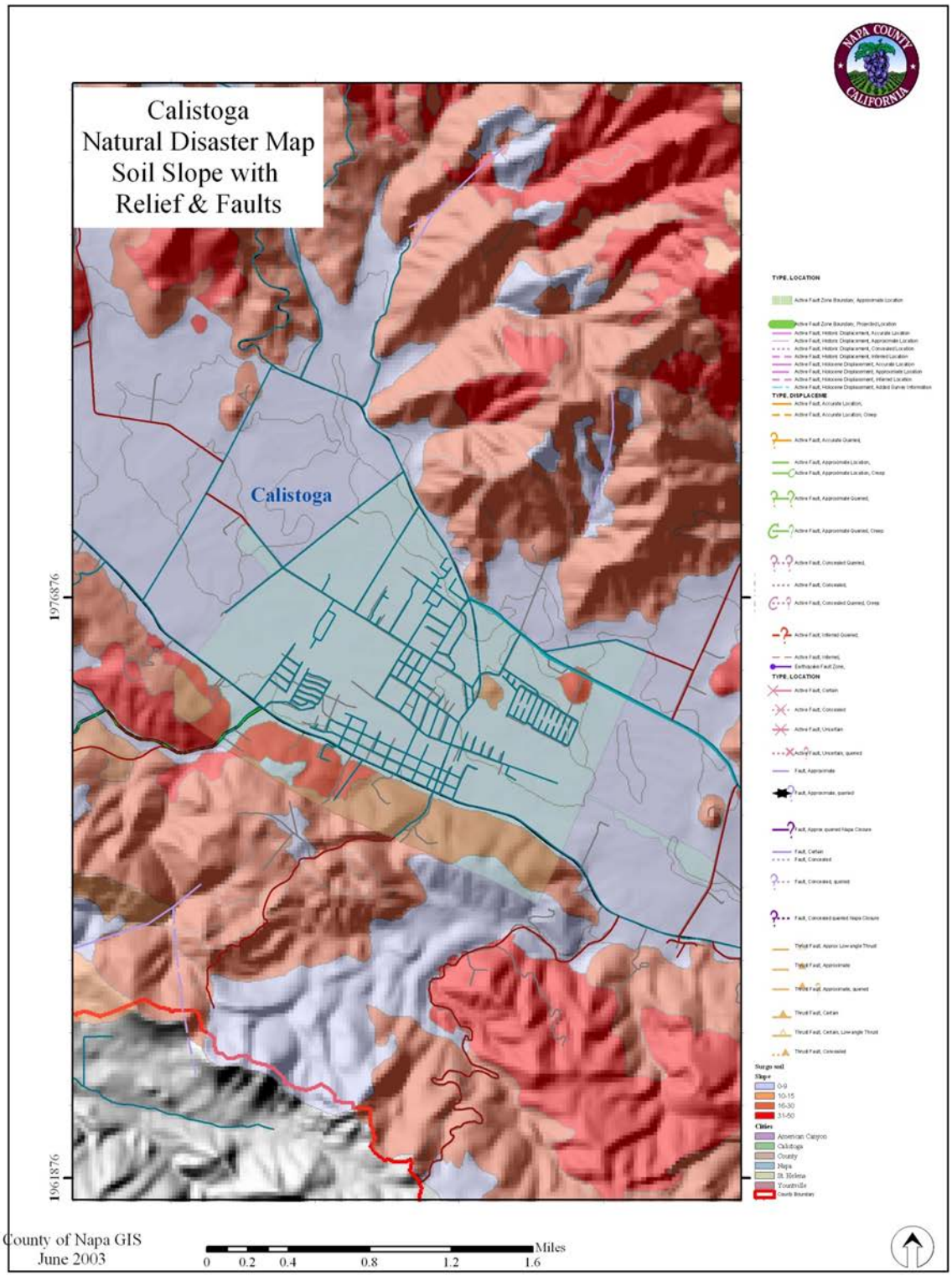


Figure 5-23: Calistoga Fault Lines and Soil Relief

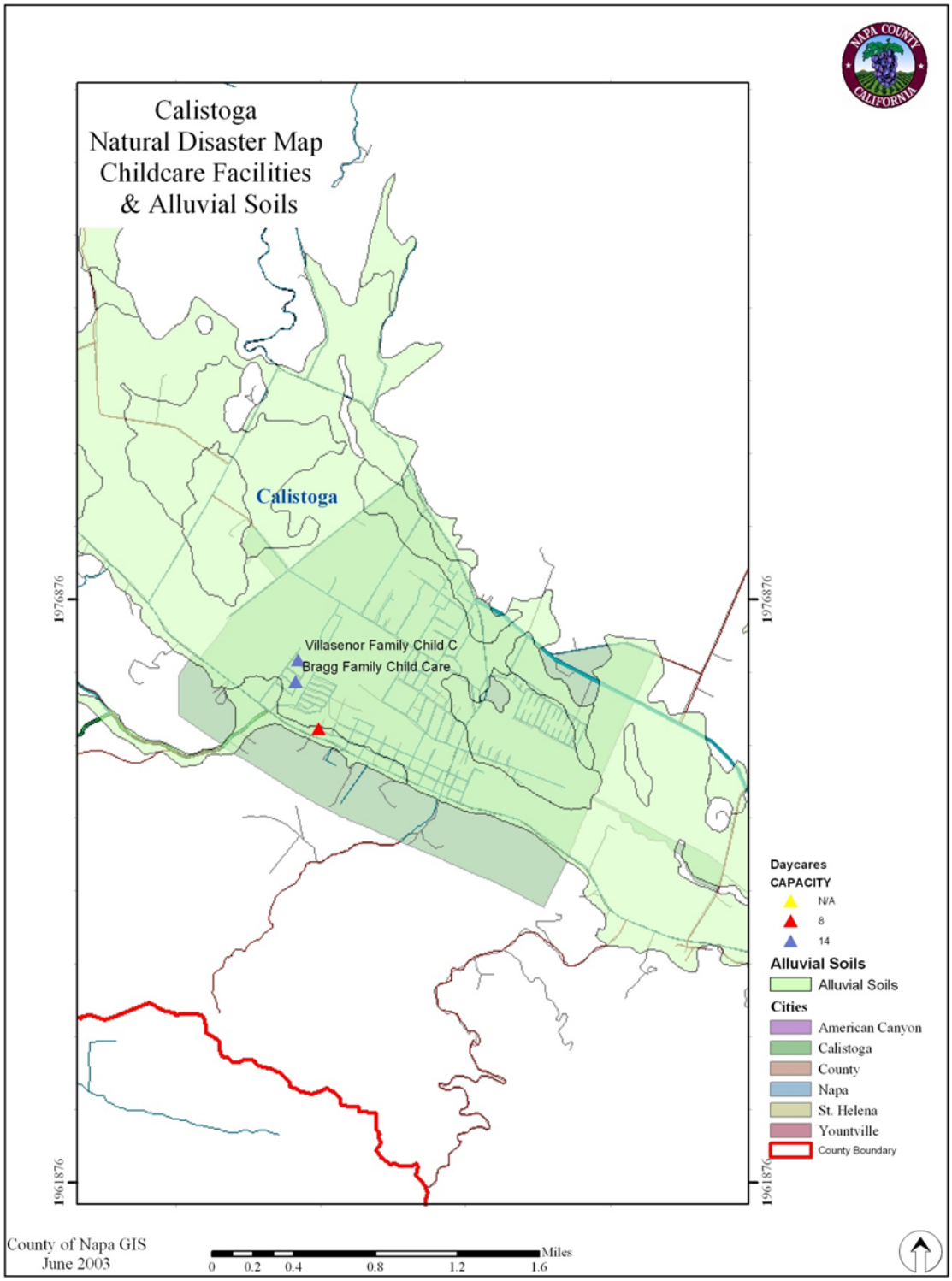


Figure 5-24: Calistoga Fault Lines and Childcare Facilities

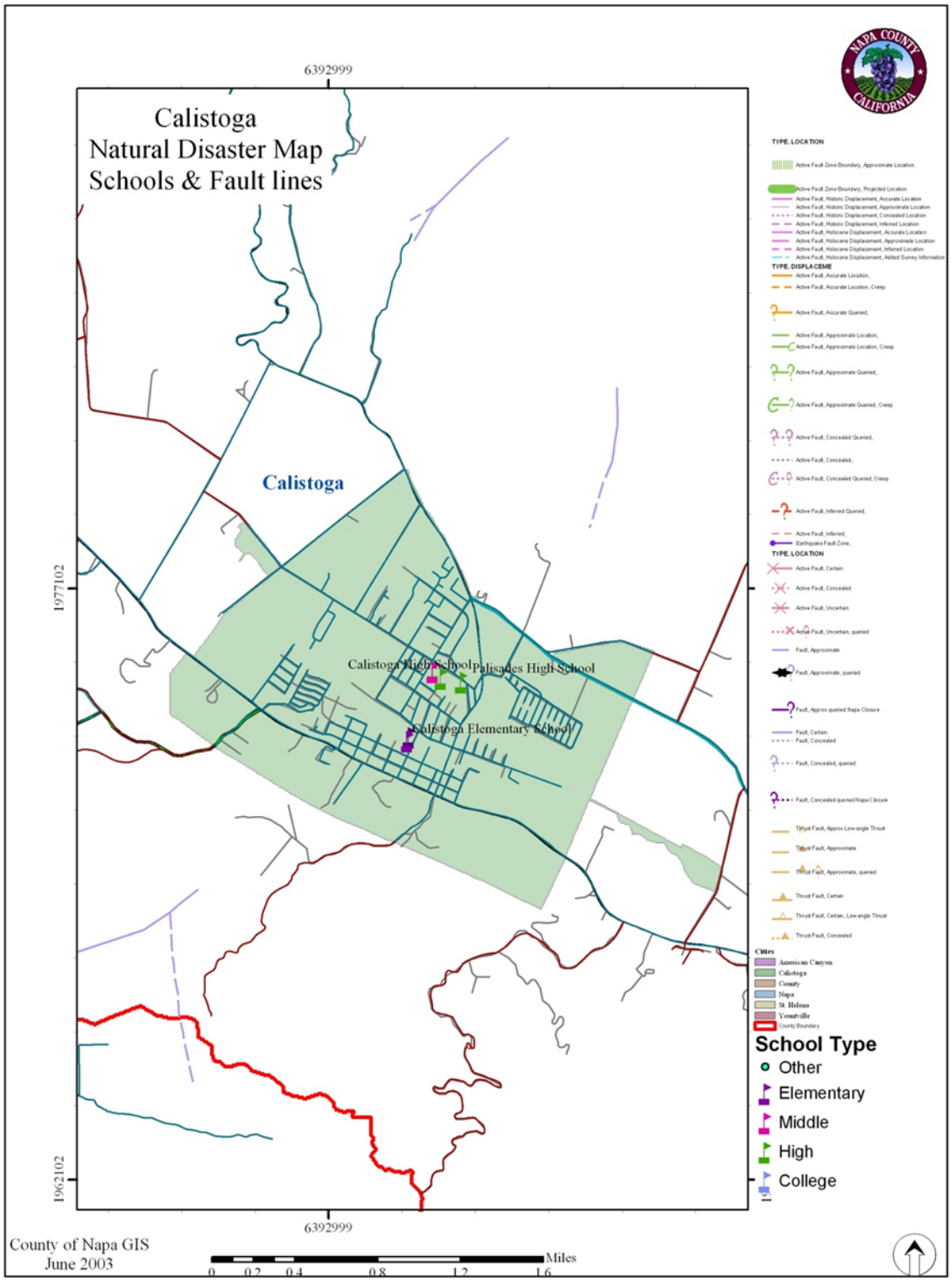


Figure 5-25: Calistoga Fault Lines and School Facilities

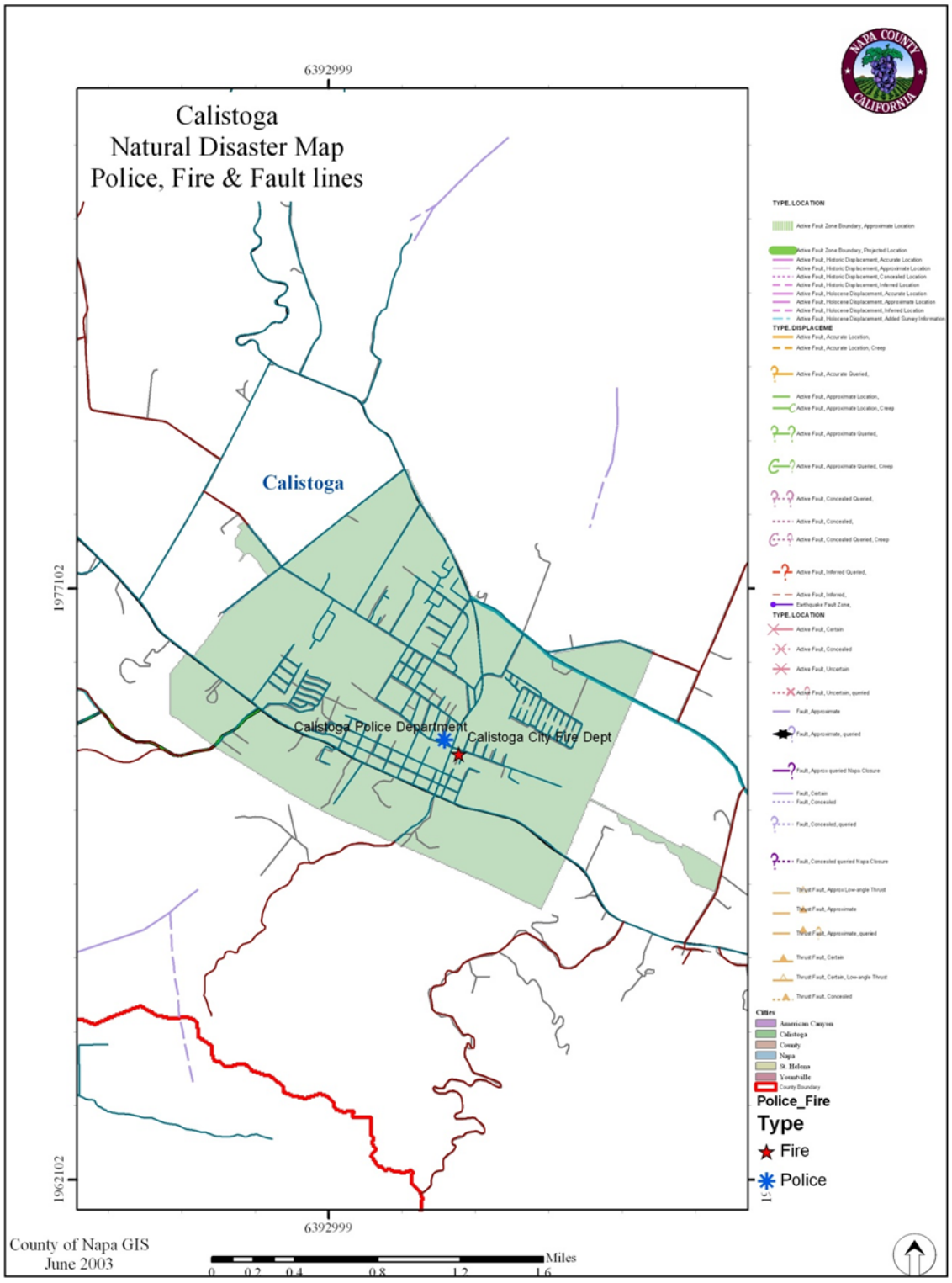


Figure 5-26: Calistoga Fault Lines and Police and Fire Facilities

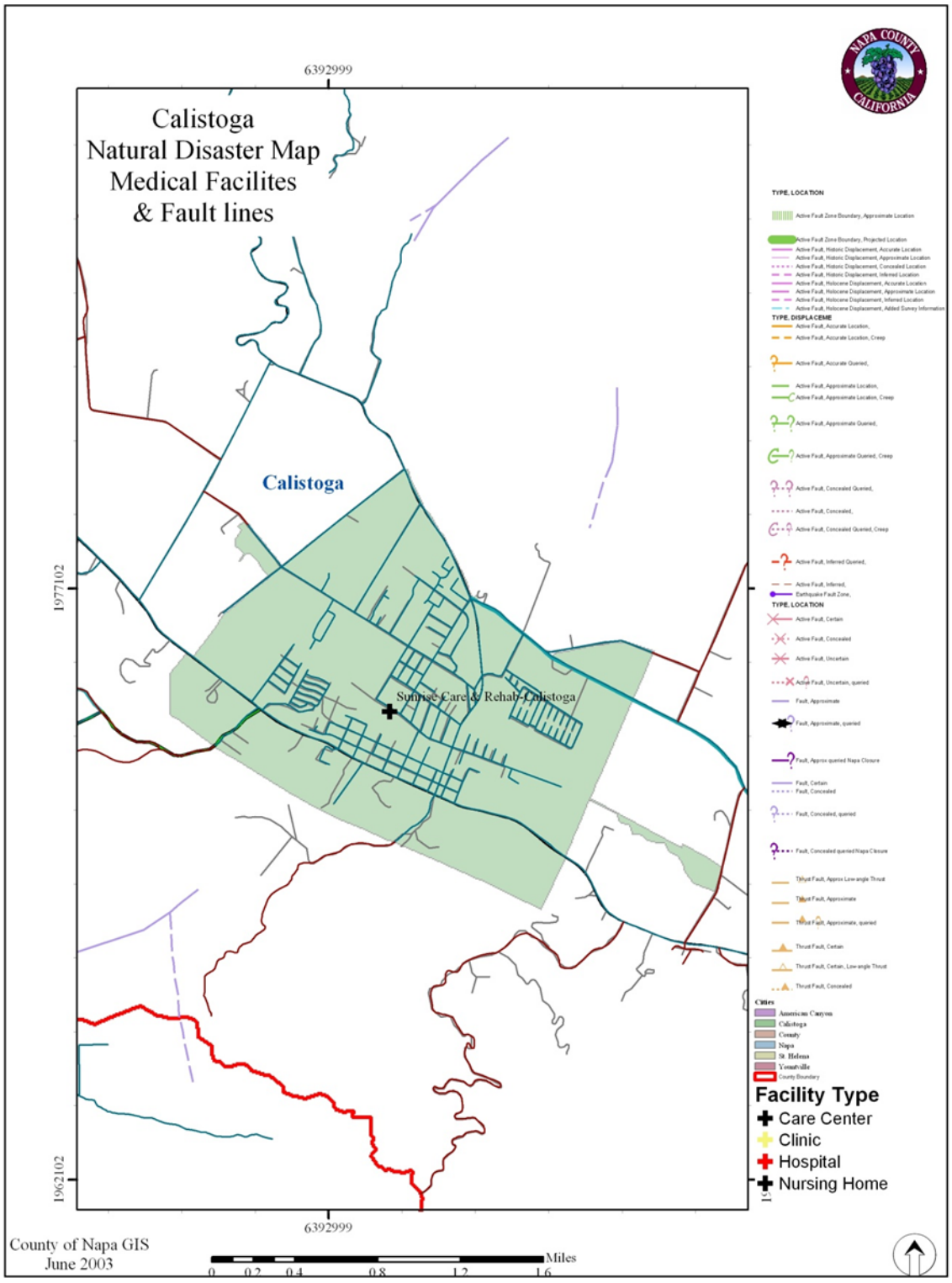


Figure 5-27: Calistoga Fault Lines and Medical Facilities

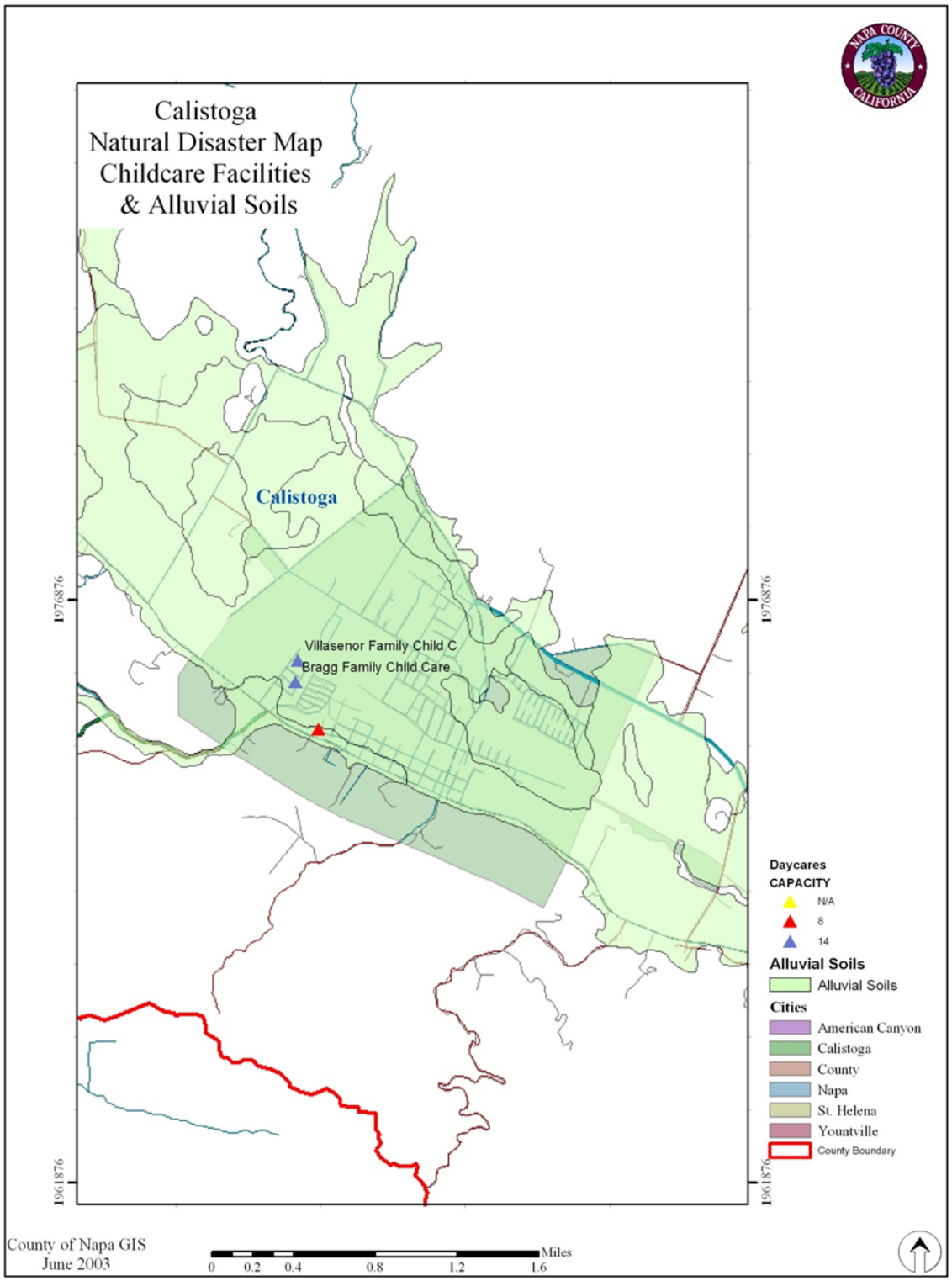


Figure 5-28: Calistoga Alluvial Soils and Childcare Facilities

Appendix D. **City of Napa**

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D.1 Hazard Maps

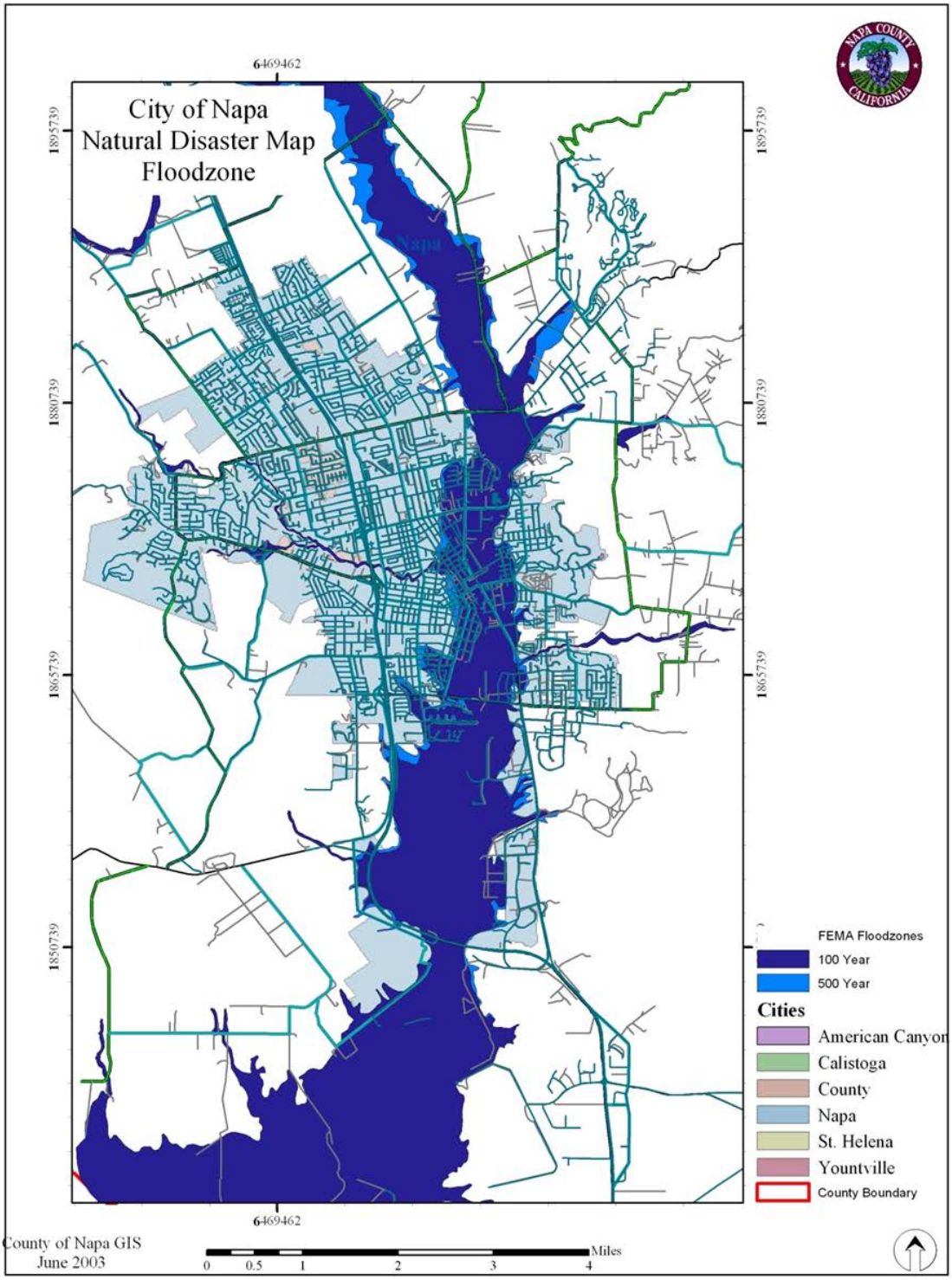

Figure 5-29: City of Napa Floodzones

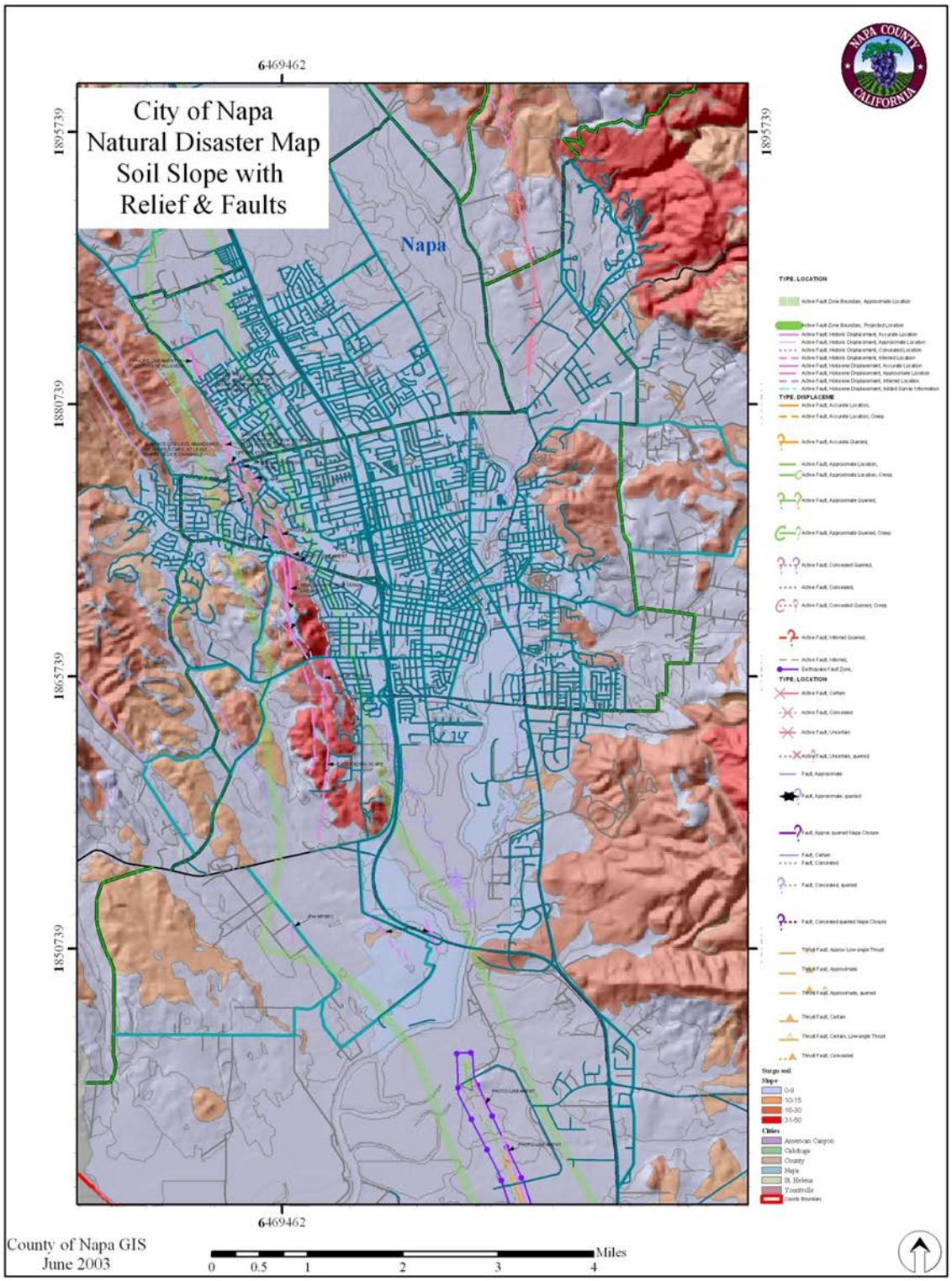

Figure 5-30: City of Napa Fault Lines and Soil Relief

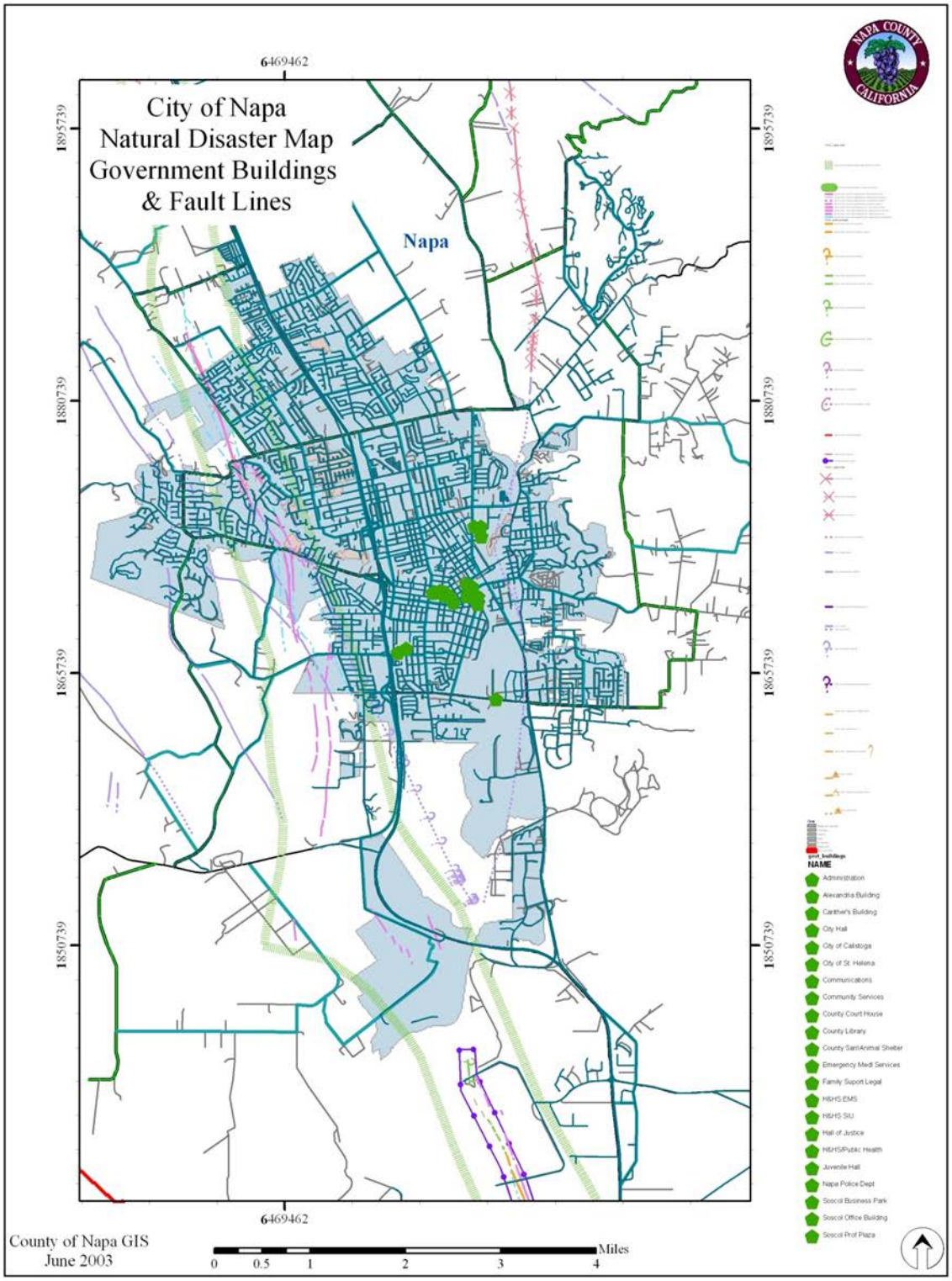

Figure 5-31: City of Napa Fault Lines and Government Buildings

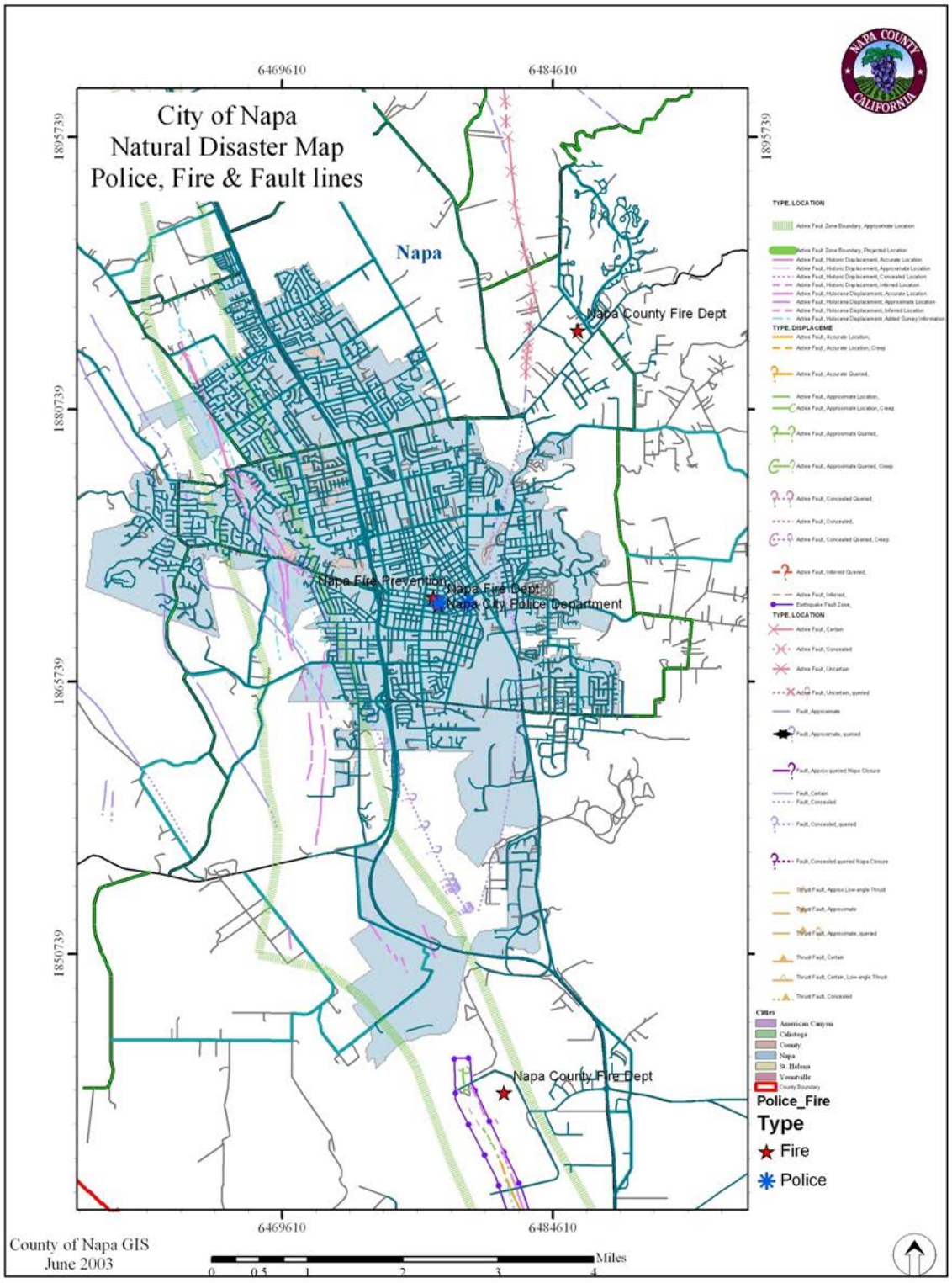

Figure 5-32: City of Napa Fault Lines and Police and Fire Stations

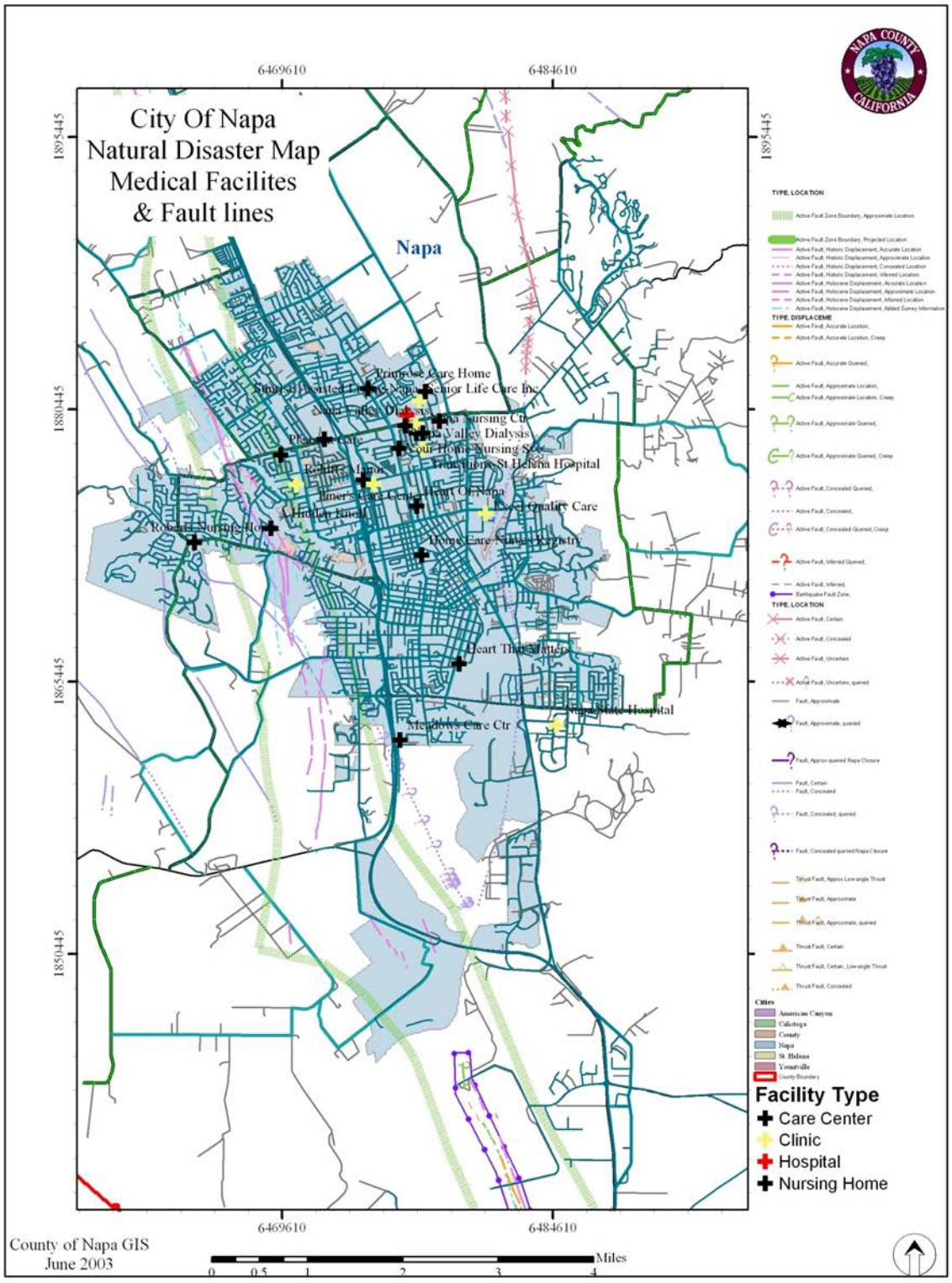

Figure 5-33: City of Napa Fault Lines and Medical Facilities

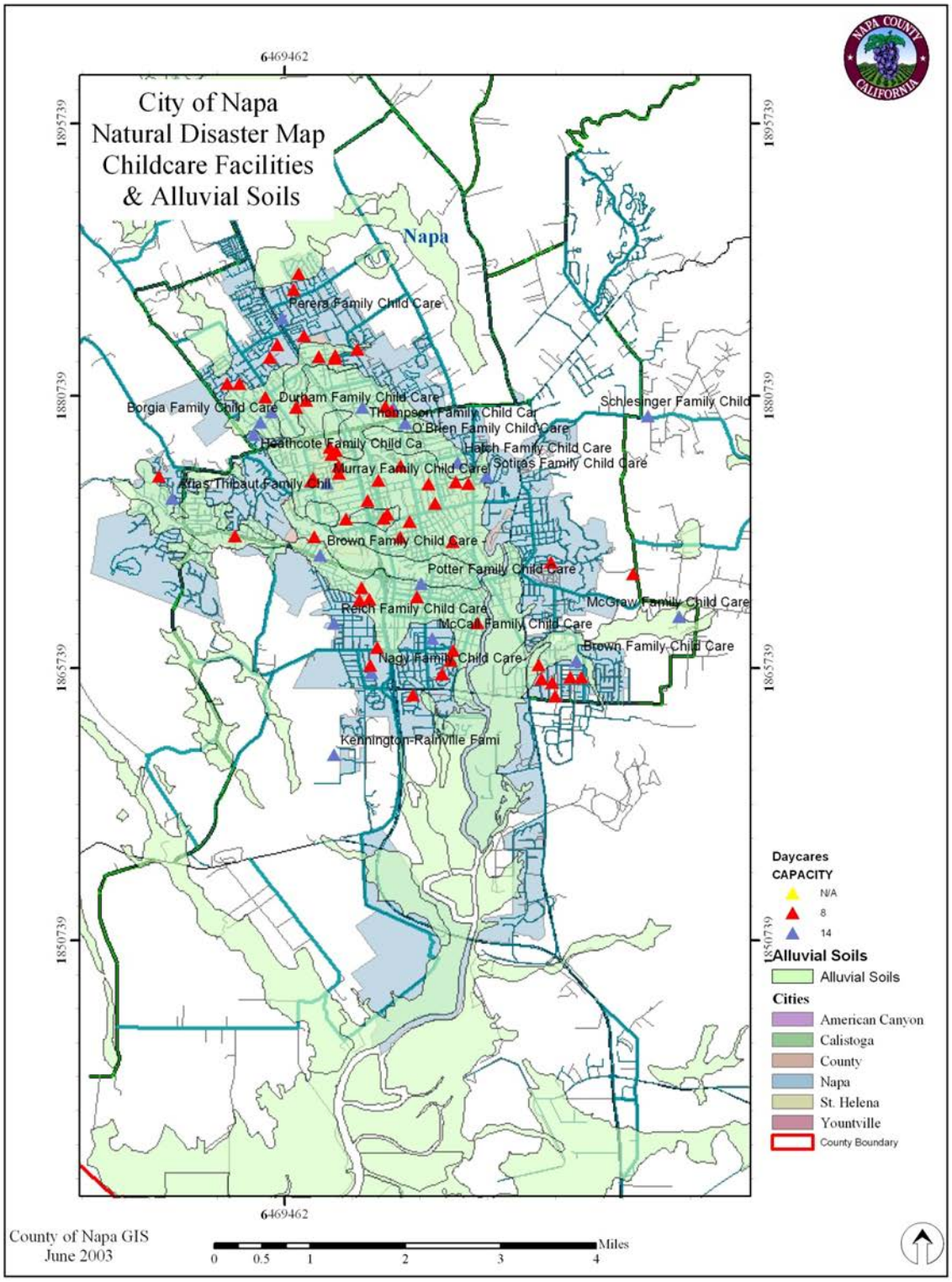

Figure 5-34: City of Napa Alluvial Soils and Childcare Facilities

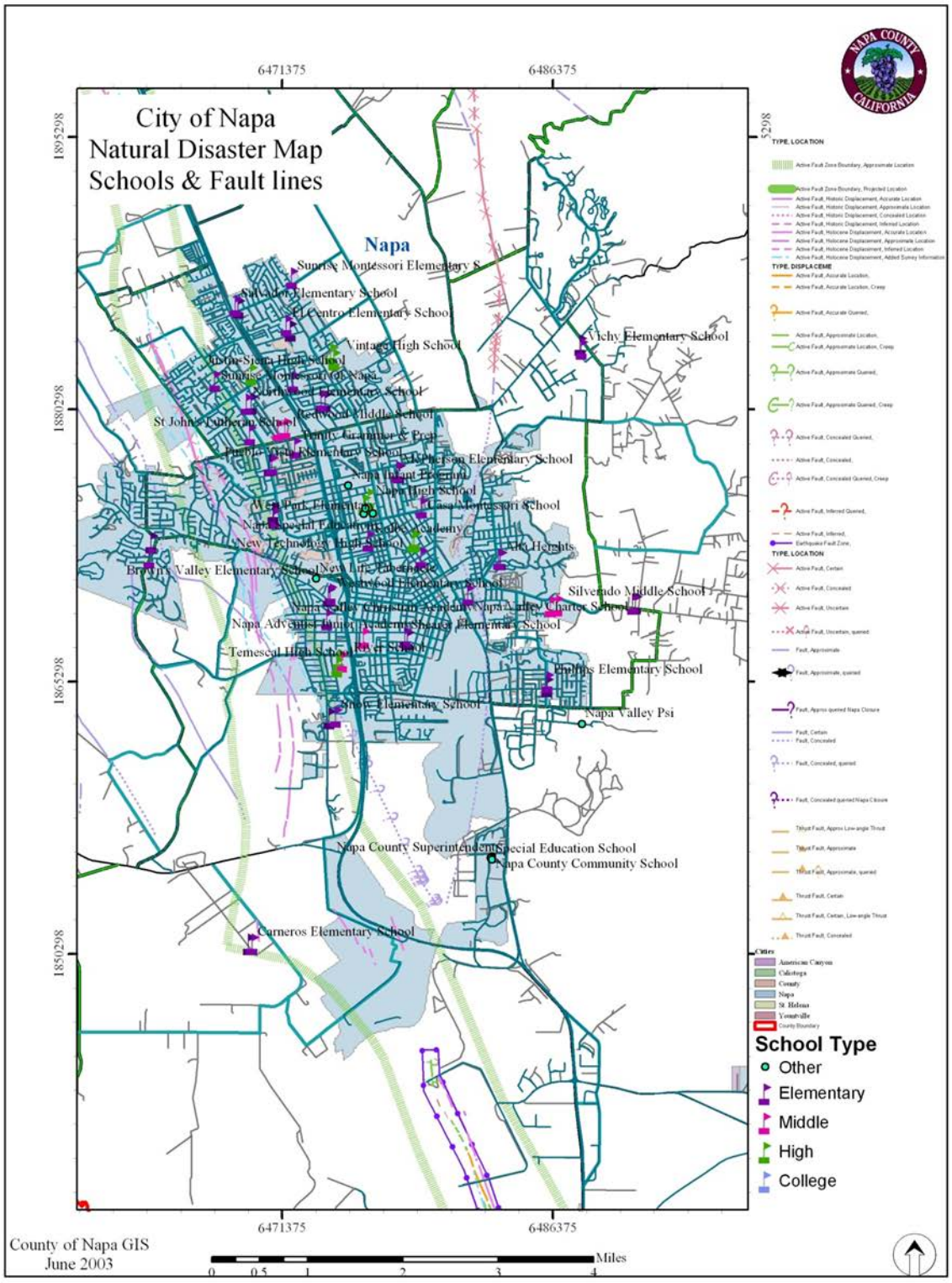

Figure 5-35: City of Napa Fault Lines and School Facilities

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Appendix E. **City of St. Helena**

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E.1 Risk Assessment

Table 5-9 displays RF index criteria and weighting determinations from the St. Helena HMP Planning Committee Focus Group. Final RF scores determine High, Moderate, or Low risk designations based upon the conclusion index. It should be noted that although some hazards are classified as posing "Low Risk", their occurrence of varying or unprecedented magnitudes is still possible and will continue to be re-evaluated during future updates of this plan. Due to the inherent errors possible in any disaster risk assessment, the results of the risk assessment should only be used for planning purposes and in developing projects to mitigate potential losses.

Table 5-9: St. Helena Risk Factor Results Table

Rank	Natural Hazards	Probability	Wt.	Impact	Wt.	Spatial Extent	Wt.	Warning Time	Wt.	Duration	Wt.	RF Factor
1	Wildfire	1	0.3	1	0.3	1	0.2	4	0.4	2	0.2	**1.4**
2	Flooding	1	0.3	1	0.3	1	0.2	4	0.4	3	0.3	**1.5**
3	Earth-Quake	3	0.9	2	0.6	2	0.4	1	0.1	3	0.3	**2.3**

Risk Factor Conclusion	
HIGH RISK (3.0 – 4.0)	
MODERATE RISK (2.0 – 2.9)	Earthquake
LOW RISK (0.1 – 1.9)	Wildfire, and Flooding

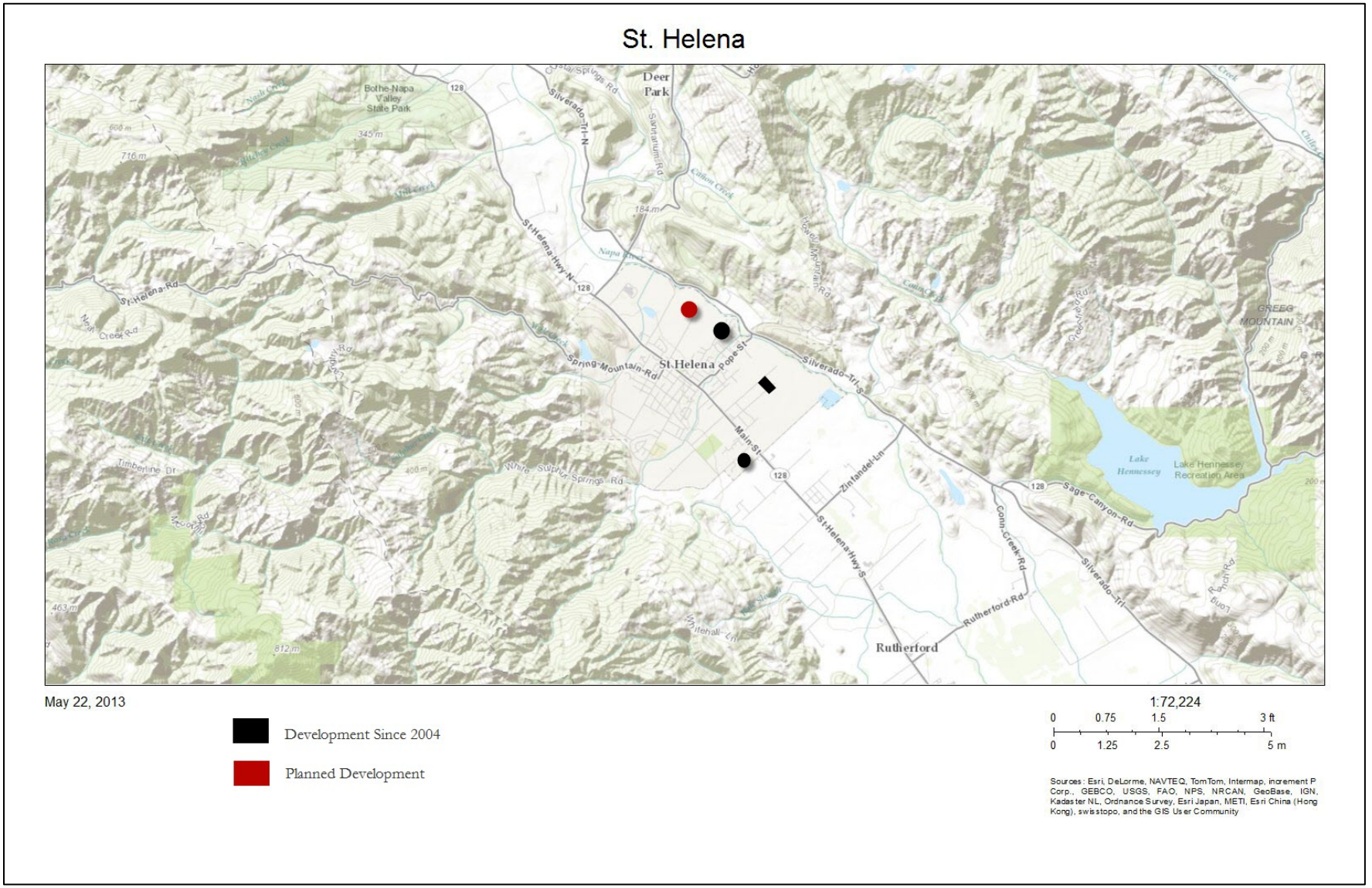
The RF results assist planners to classify risk for each hazard regardless of hazard type. For purposes of this plan the following classifications are used:

Low Risk—Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.

Moderate Risk —Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.

High Risk—Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past.

E.2 Future Development



City of St. Helena has experienced minimal development since the 2004 Napa County HMP. Annexation has not occurred since 2004, and there are no plans of future development via annexation. Development that has occurred since the previously approved (2004) HMP has been primarily residential and has occurred in small areas throughout the city.

E.3 Capabilities Assessment

In preparing the mitigation actions, the St. Helena HMP Planning Committee Focus Group members were asked to consider their overall capability to mitigate identified hazards. The mitigation strategy includes an assessment of St. Helena's planning and regulatory, administrative/technical, fiscal, and political capabilities to complete the identified mitigation actions.

E.3.1 Planning and Regulatory Mitigation Capabilities

St. Helena has several plans and programs in place that guide the City's mitigation of development in hazard-prone areas. The following table lists planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities. Table 5-10 provides a sample list of possible planning and regulatory capabilities.

Table 5-10: St. Helena Planning and Regulatory Capability

Hazard	Plan/Program/ Regulation	Responsible Agency	Comments
Multi-Hazard	California Building Codes	Planning & Building Department	City of St. Helena has adopted new building codes and regulations that protect new development and buildings from flooding, wildfire and EQ.
Multi-Hazard	Zoning Regulations	Planning & Building Department	
Multi-Hazard	Subdivision Regulations	Planning & Building Department	
Multi-Hazard	Comprehensive Land Use Plan (or General, Master or Growth Mgmt. Plan)	Planning & Building Department	
Multi-Hazard	Capital Improvement Plan	Public Works Department	

E.3.2 Administrative and Technical Capabilities

St. Helena has several departments and agencies that have both the administrative authority and technical capabilities related to hazard mitigation and loss prevention, as identified below:

Staff/Personnel Resources	***Yes***	***No***	***Department / Agency***	***Comments***
Planners (with land use / land development knowledge)	X		Planning and Building	
Planners or engineers (with natural and/or human caused hazards knowledge) Public Works has capability.	X		Public Works/City Engineer	
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	X		Building	
Emergency Manager		X	Police Department	Police Chief / Non-Dedicated EM Manager
Floodplain Manager (Planning Director / Public Works Director)	X		Public Works	
Land surveyors		X	Contractors	
Scientists or staff familiar with the hazards of the community		X		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program	X		Public Works	
Grant writers or fiscal staff to handle large/complex grants		X		
Construction Equipment		X		Limited EQ w/ Public Works

Staff/Personnel Resources	*Yes*	*No*	*Department / Agency*	*Comments*
Public Works: ▪ Technical Assistance ▪ Personnel Assistance	X	X	Public Works	Limited
Utilities / Dam Safety Experts ▪ Dam Safety Personnel ▪ PG&E Arborist	X	X		Arborist under contract. No Dam Safety Personnel
State Emergency Management Personnel ▪ State OES Access ▪ CCIC Access ▪ Mobile Emergency Personnel ▪ Medical Air Evacuation (Based in Auburn & Redding)	X	X		City Contracts with County of Napa

E.3.3 Fiscal Capability

This section identifies the financial tools or resources that the City could potentially use to help fund mitigation activities. These include City-specific capabilities, as well as county, state and federal resources. It is also important to note that funding can also be sourced from participating agencies/organizations that collaborate with the County in the implementation of mitigation actions.

Financial Resources	*Yes*	*No*	*Department / Agency*
Capital improvement programming	X		Public Works
Community Development Block Grants (CDBG)		X	
Special purpose taxes	X		
Gas / electric utility fees		x	
Water / sewer fees	X		
Stormwater Utility fees	X		

Financial Resources	Yes	No	Department / Agency
Development impact fees	X		
General obligation, revenue, and/or special tax bonds	X		
Business License and Transient Occupancy Tax	x		
Partnering arrangements or intergovernmental agreements	X		

E.3.4 Political Capability

Political capability in this instance is being measured by the degree to which local political leadership (including appointed boards) is willing to enact policies and programs that reduce hazard vulnerabilities in your community, even if met with some opposition. Examples may include guiding development away from identified hazard areas, restricting public investments or capital improvements within hazard areas, or enforcing local development standards that go beyond minimum State or Federal requirements (e.g., building codes, floodplain management, etc.). The St. Helena HMP Planning Committee Focus Group rated the political capability to enact policies and programs that reduce hazard vulnerabilities.

The diagram below provides a simple 0 to 5 scale for which the City of St. Helena hazard mitigation planners used to assess the City's political capability. The St. Helena focus group agreed that political boards are "Moderately Willing" to change policy or programs . Generally, a higher score corresponds to a higher degree of community political capability.

Very Willing ***Moderately Willing*** ***Unwilling to Adopt Policies / Programs***

Score: 2.5

E.3.5 Self-Assessment of Capability

The St. Helena HMP Planning Committee conducted a short Capabilities Assessment Self-Survey in order to understand the degree of capability for categories reviewed previously in this section. Using Table X as an outline, the St. Helena Planning Committee agreed "as a group" upon the degree of capability; limited, moderate, or high for each capability area. The survey conclusion results are based upon information provided previously in this Section and working knowledge of City operations.

Table 5-11: St. Helena Political Capability

	Degree of Capability		
Capability Area	***Limited***	***Moderate***	***High***
Planning and Regulatory Capability		X	
Administrative and Technical Capability		X	
Fiscal Capability		X	
Community Political Capability		X	

E.4 St. Helena Hazard Maps

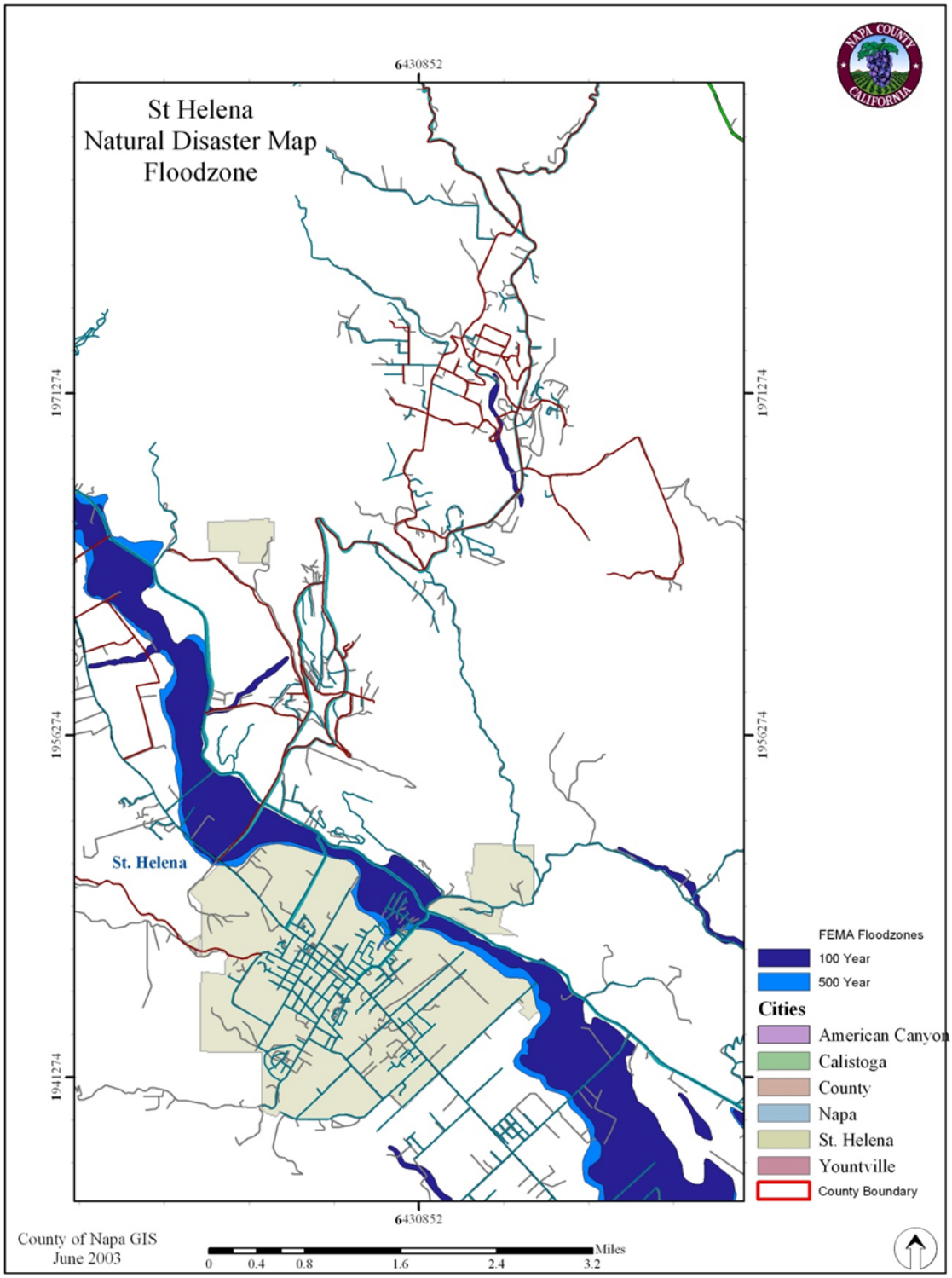


Figure 5-36: St. Helena Floodzones

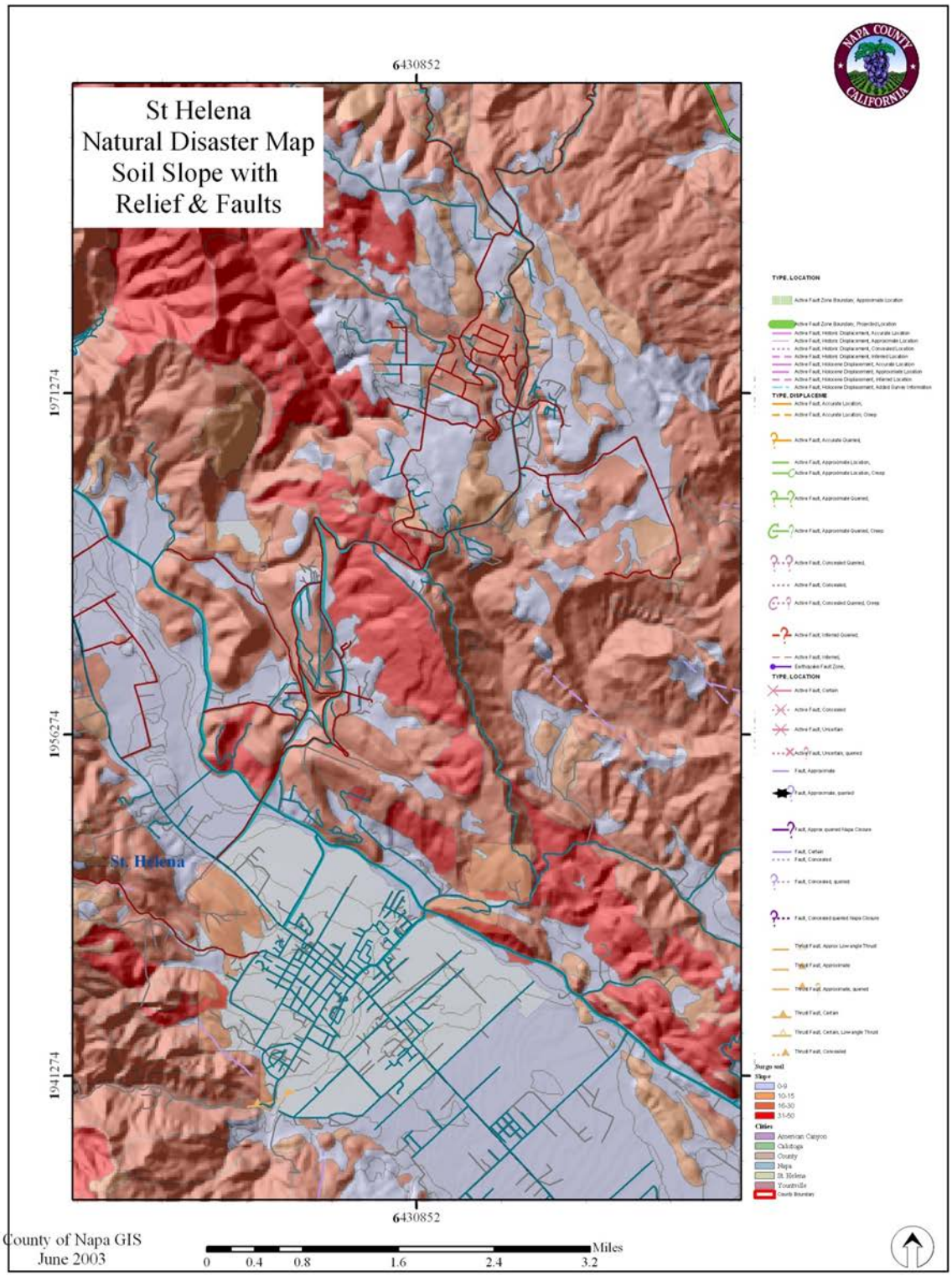


Figure 5-37: St. Helena Fault Lines and Soil Relief

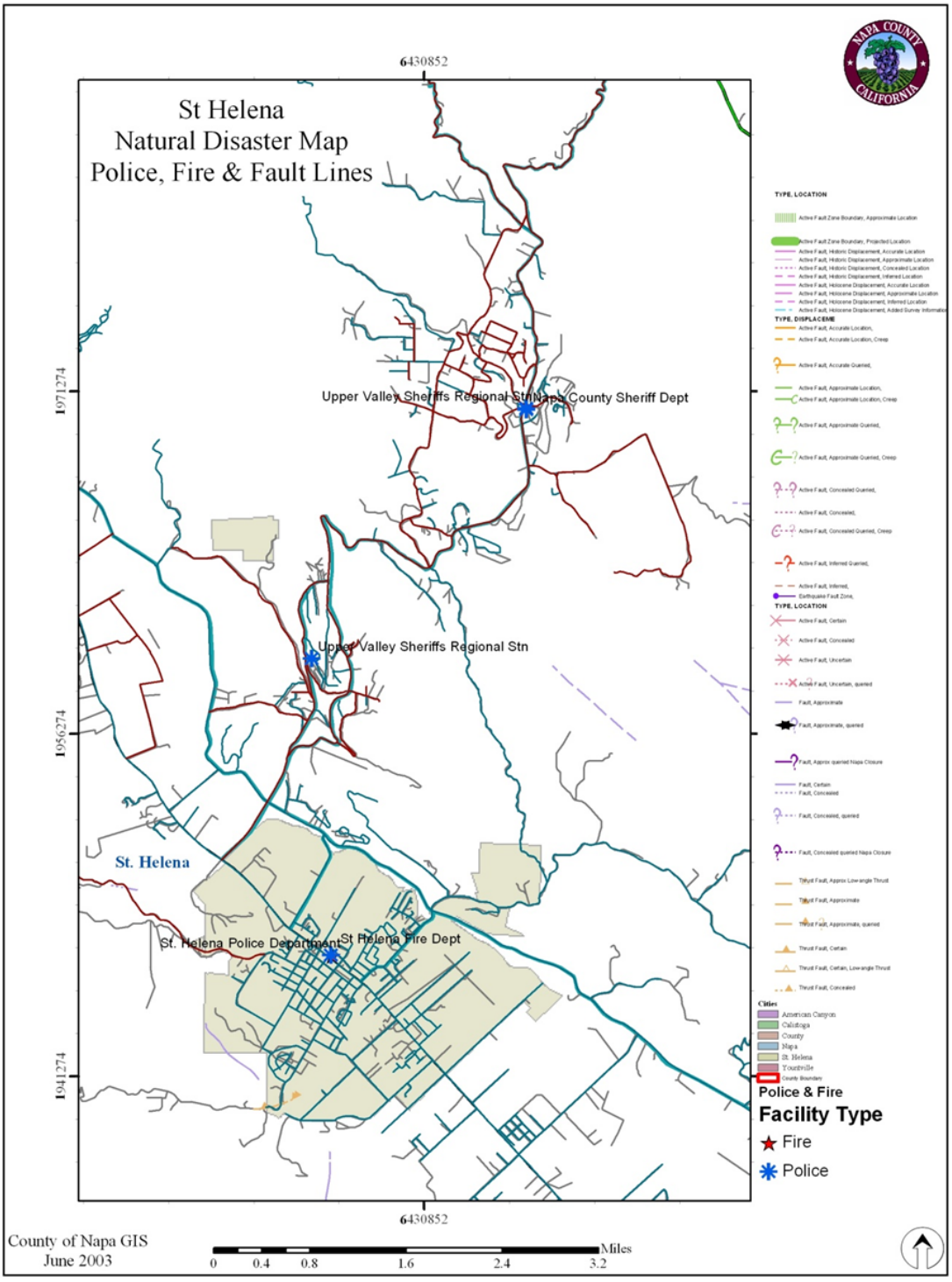


Figure 5-38: St. Helena Fault Lines and Police and Fire Facilities

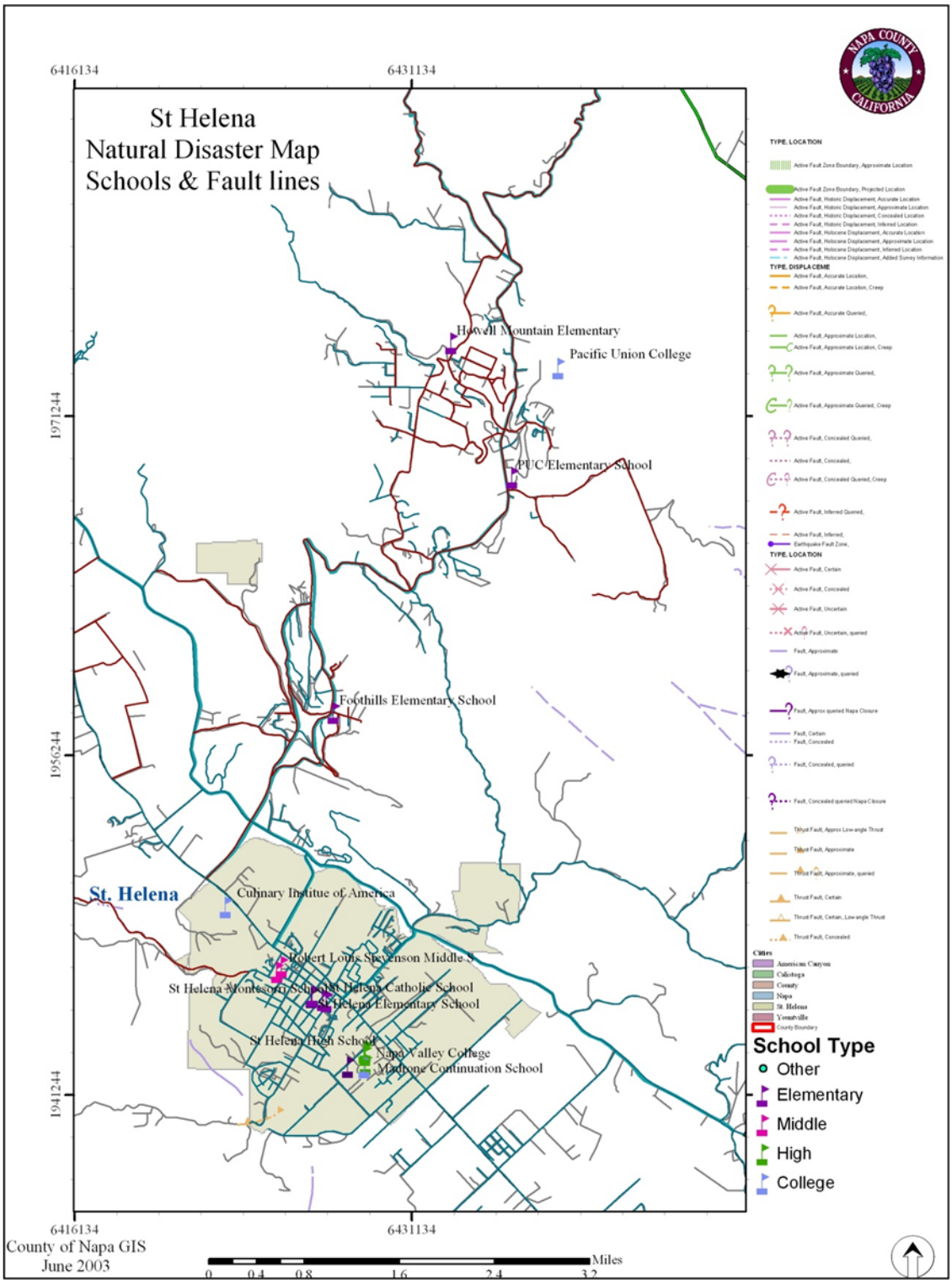


Figure 5-39: St. Helena Fault Lines and School Facilities

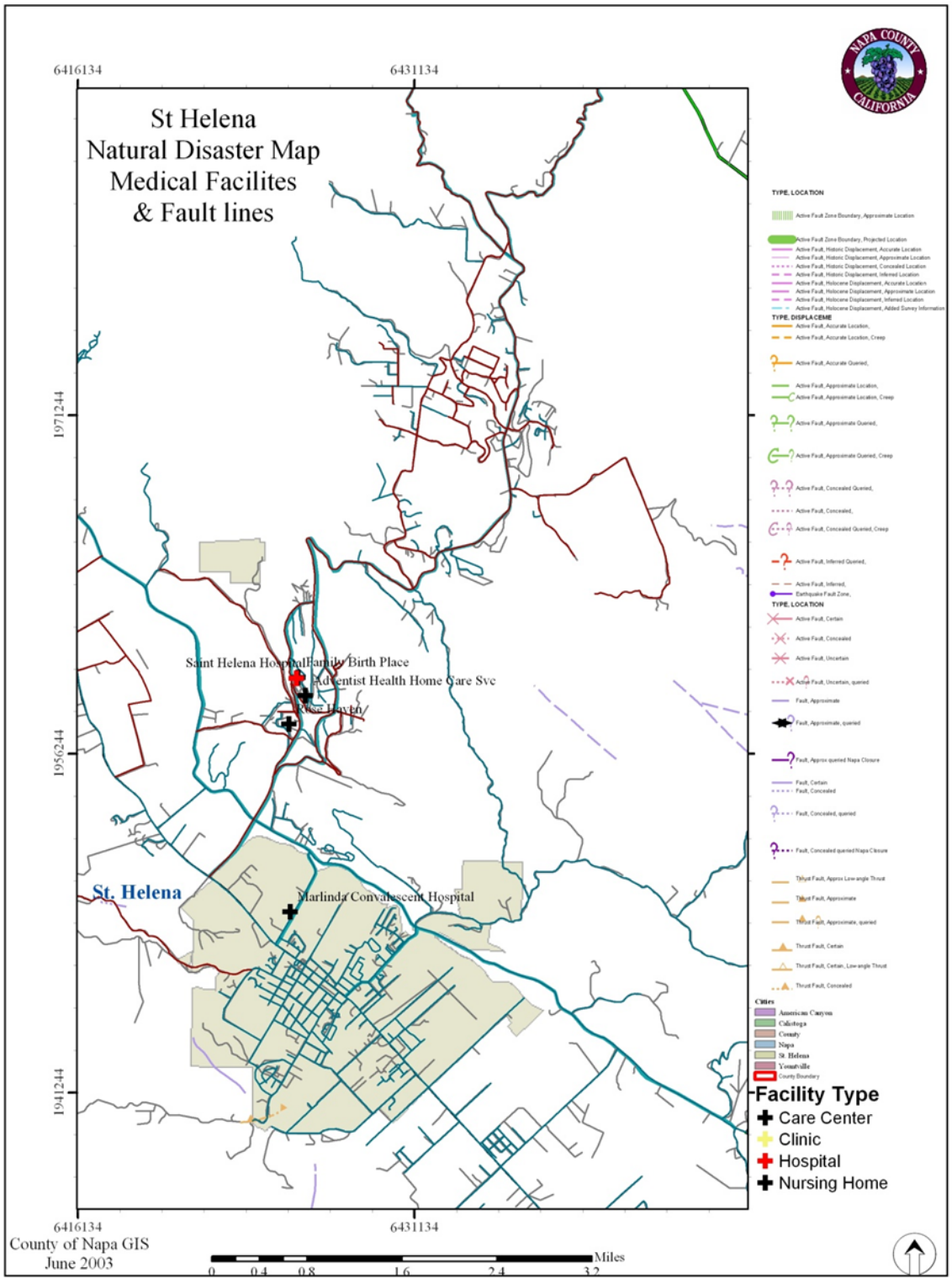


Figure 5-40: St. Helena Fault Lines and Medical Facilities

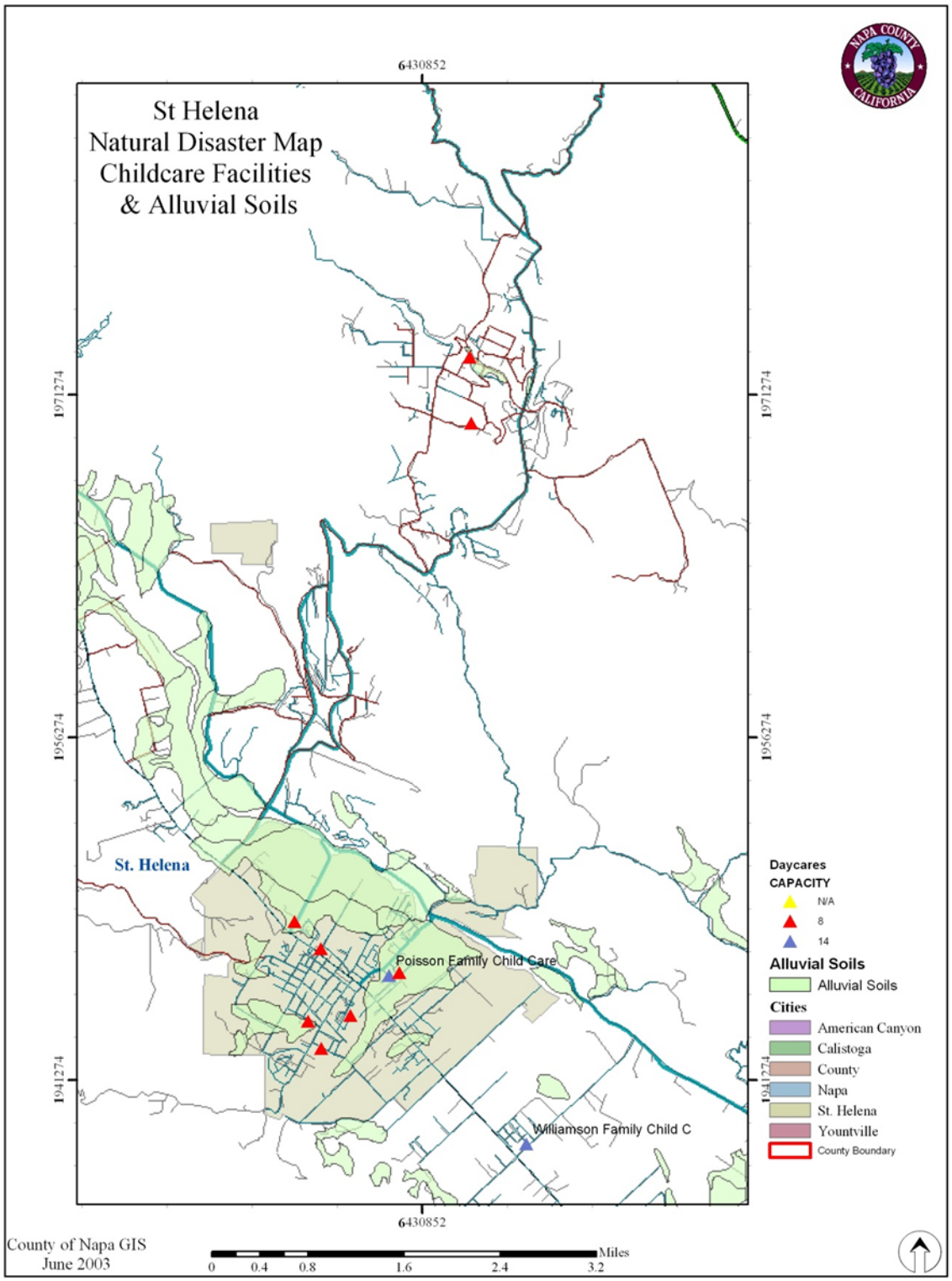


Figure 5-41: St. Helena Alluvial Soils and Childcare Facilities

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Appendix F: **Town of Yountville**

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F.1 - Risk Assessment

Table 5-12 displays RF index criteria and weighting determinations from the Yountville HMP Planning Committee Focus Group. Final RF scores determine High, Moderate, or Low risk designations based upon the conclusion index. It should be noted that although some hazards are classified as posing "Low Risk", their occurrence of varying or unprecedented magnitudes is still possible and will continue to be re-evaluated during future updates of this plan. Due to the inherent errors possible in any disaster risk assessment, the results of the risk assessment should only be used for planning purposes and in developing projects to mitigate potential losses.

Table 5-12: Yountville Risk Factor Results Table

Rank	Natural Hazards	Probability	Wt.	Impact	Wt.	Spatial Extent	Wt.	Warning Time	Wt.	Duration	Wt.	RF Factor
1	Wildfire	1	0.3	1	0.3	2	0.4	4	0.4	3	0.3	1.7
2	Flooding	3	0.9	3	0.9	3	0.6	4	0.4	4	0.4	3.2
3	Earth-Quake	3	0.9	1	0.3	2	0.4	2	0.8	3	0.3	2.7

Risk Factor Conclusion	
HIGH RISK (3.0 – 4.0)	Flooding
MODERATE RISK (2.0 – 2.9)	Earthquake
LOW RISK (0.1 – 1.9)	Wildfire

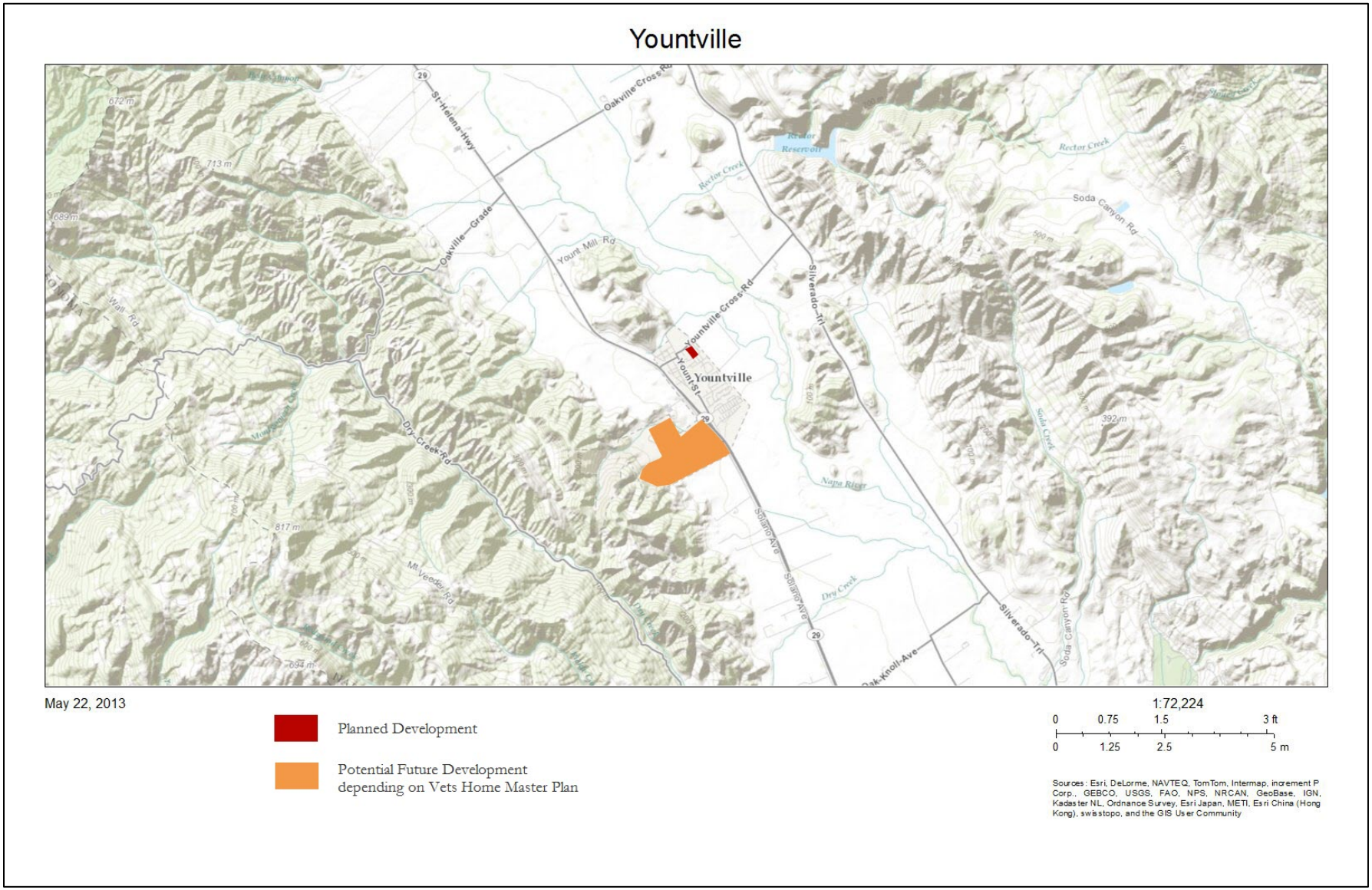
The RF results assist planners to classify risk for each hazard regardless of hazard type. For purposes of this plan the following classifications are used:

Low Risk—Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.

Moderate Risk —Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.

High Risk—Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past.

F.2 - Future Development



The Town of Yountville has experienced minimal development since the 2004 Napa County HMP. Annexation has not occurred since 2004, and there are future development via annexation. Development that has occurred since the previously approved (2004) HMP has been primarily residential and has occurred in small areas throughout the Town.

F.3 - Capabilities Assessment

In preparing the mitigation actions, the Town of Yountville HMP Planning Committee Focus Group members were asked to consider their overall capability to mitigate identified hazards. The mitigation strategy includes an assessment of Yountville's planning and regulatory, administrative/technical, fiscal, and political capabilities to complete the identified mitigation actions.

F.3.1 Planning and Regulatory Capability

Yountville has several plans and programs in place that guide the Town's mitigation of development in hazard-prone areas. The following table lists planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities. Table 5-13 provides a sample list of possible planning and regulatory capabilities.

Table 5-13: Yountville Planning and Regulatory Capability

Hazard	Plan/Program/ Regulation	Responsible Agency	Comments
Multi-Hazard	California Building Codes	Planning & Building Department	Town of Yountville has adopted new building codes and regulations that protect new development and buildings from flooding, wildfire and EQ.
Multi-Hazard	Zoning Regulations	Planning & Building Department	
Multi-Hazard	Subdivision Regulations	Planning & Building Department	
Multi-Hazard	Comprehensive Land Use Plan (or General, Master or Growth Mgmt. Plan)	Planning & Building Department	
Multi-Hazard	Capital Improvement Plan	Public Works Department	

Hazard	Plan/Program/ Regulation	Responsible	Comments
Multi-Hazard	Statewide Historic Preservation Plan: Local Government Assistance	Planning & Building Department	OHP's Local Government Unit (LGU) offers guidance and assistance to city and county governments in the following areas: ▪ Drafting or updating historic preservation plans and ordinances ▪ Developing historic context statements ▪ Planning for and conducting architectural, historical, and archeological surveys ▪ Developing criteria for local designation programs, historic districts, historic preservation overlay zones (HPOZs), and conservation districts ▪ Developing and implementing design guidelines using the Secretary of the Interior's Standards - Developing economic incentives for historic preservation - Training local historic preservation commissions and review boards Meeting CEQA responsibilities with regard to historical resources
Wildfire	Local Community Codes	Planning & Building Department	
Wildfire	Community Wildfire Protection Plan (CWPP)	Cal Fire Station 12	
Wildfire / Flood	USDA	NRCS	Flood and Fire Recovery on Private Lands
Flood	Prop 50/84 Integrated Regional Water Management (IRWM)	DWR/Public Works	DWR has a number of IRWM grant program funding opportunities. Current IRWM grant programs include: planning, implementation, and stormwater flood management. http://www.water.ca.gov/iwrm/grants/index.cfm
Flood	USDA	NRCS/Public Works	Improve floodplain function and reduce effects of flooding on private lands
Flood	Central Valley Flood Protection Plan	DWR/Public Works	State legislative requirements provide Napa County local planning responsibilities for floodplain management (e.g., general plans, zoning ordinances, development agreements, tentative maps, and other actions).
Flood	NFIP	Public Works Department	NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in participating communities. As a participating member of the NFIP, Napa County Officials are dedicated to protecting

Hazard	Plan/Program/ Regulation	Responsible	Comments
			homes of more than 160 policies currently in force. ▪ 163 policies in force ▪ $37,987,500 insurance in force ▪ 34 paid losses ▪ $680,554 total paid losses 6 substantial damage claims since 1978
Flood	DWR Prop 84	Public Works	▪ Grant funding just came out from the Flood Operations Center.
Flood	USDA	Natural Resources Conservation Service (NRCS)	Emergency Watershed Protection Program Environmental Quality Incentive Program
Flood	Hopper Creek Flood Mitigation Planning Project	Public Works	Project to reduce erosion and flooding under design/analysis now constructing identified projects

F.3.2 Administrative and Technical Capabilities

The Town of Yountville has several departments and agencies that have both the administrative authority and technical capabilities related to hazard mitigation and loss prevention, as identified below:

Staff/Personnel Resources	***Yes***	***No***	***Department / Agency***	***Comments***
Planners (with land use / land development knowledge)	x		Planning and Building	
Planners or engineers (with natural and/or human caused hazards knowledge) Public Works has capability.	x		Public Works/Town Engineer	
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	x		Building	
Emergency Manager	x		Town Manager	Not dedicated
Floodplain Manager (Planning Director / Public Works Director)	x		Public Works	

Staff/Personnel Resources	*Yes*	*No*	*Department / Agency*	*Comments*
Land surveyors		x	Contractors	
Scientists or staff familiar with the hazards of the community		X		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program		X		GIS under development (2013/2014)
Grant writers or fiscal staff to handle large/complex grants		x		
Construction Equipment		x		Limited EQ w/ Public Works
Public Works: ▪ Technical Assistance ▪ Personnel Assistance	x		Public Works	Limited
Utilities / Dam Safety Experts ▪ Dam Safety Personnel ▪ PG&E Arborist	x	x		Arborist under contract. No Dam Safety Personnel
State Emergency Management Personnel ▪ State OES Access ▪ CCIC Access ▪ Mobile Emergency Personnel ▪ Medical Air Evacuation (Based in Auburn & Redding)		x		Town Contracts with County of Napa

F.3.3 Fiscal Capability

This section identifies the financial tools or resources that the City could potentially use to help fund mitigation activities. These include City-specific capabilities, as well as county, state and federal resources. It is also important to note that funding can also be sourced from participating agencies/organizations that collaborate with the City in the implementation of mitigation actions.

Financial Resources	*Yes*	*No*	*Department / Agency*
Capital improvement programming	x		Public Works
Community Development Block Grants (CDBG)		x	
Special purpose taxes	x		
Gas / electric utility fees	x		
Water / sewer fees	x		
Stormwater Utility fees	x		
Development impact fees	x		
General obligation, revenue, and/or special tax bonds		x	
Partnering arrangements or intergovernmental agreements	x		
DWR Position 84 Bond Funding		x	
Weatherization Services		x	

F.3.4 Political Capability

Political capability in this instance is being measured by the degree to which local political leadership (including appointed boards) is willing to enact policies and programs that reduce hazard vulnerabilities in your community, even if met with some opposition. Examples may include guiding development away from identified hazard areas, restricting public investments or capital improvements within hazard areas, or enforcing local development standards that go beyond minimum State or Federal requirements (e.g., building codes, floodplain management, etc.). The Town of Yountville HMP Planning Committee Focus Group rated the political capability to enact policies and programs that reduce hazard vulnerabilities.

The diagram below provides a simple 0 to 5 scale for which the Yountville Planning Committee used to assess the Town of Yountville. The Yountville Focus Group agreed that political boards

are “moderately willing” to “very willing” to change policy or programs. Generally, a higher score corresponds to a higher degree of community political capability.

Very Willing ***Moderately Willing*** ***Unwilling to Adopt Policies / Programs***

Score: 3.5

F.3.5 Self-Assessment of Capability

The Yountville HMP Planning Committee conducted a short Capabilities Assessment Self-Survey in order to understand the degree of capability for categories reviewed previously in this section. Using Table 4 4 as an outline, the Planning Committee agreed “as a group” upon the degree of capability; limited, moderate, or high for each capability area. The survey conclusion results are based upon information provided previously in this Section and working knowledge of Town operations.

Table 5-14: Yountville Self-Assessment

	Degree of Capability		
Capability Area	***Limited***	***Moderate***	***High***
Planning and Regulatory Capability			x
Administrative and Technical Capability		x	
Fiscal Capability		x	
Community Political Capability		x	

F.4 Yountville Hazard Maps

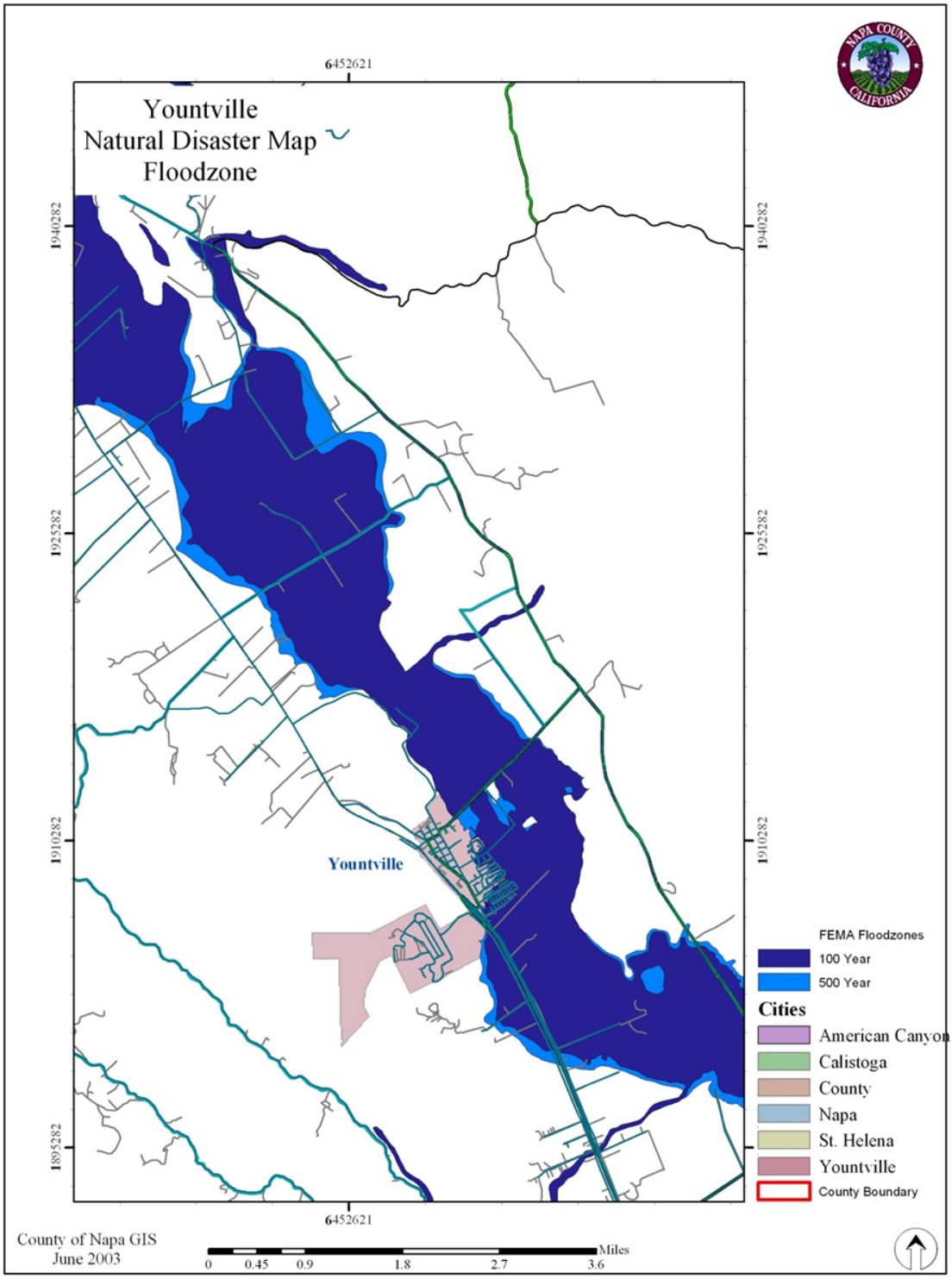


Figure 5-42: Yountville Floodzones

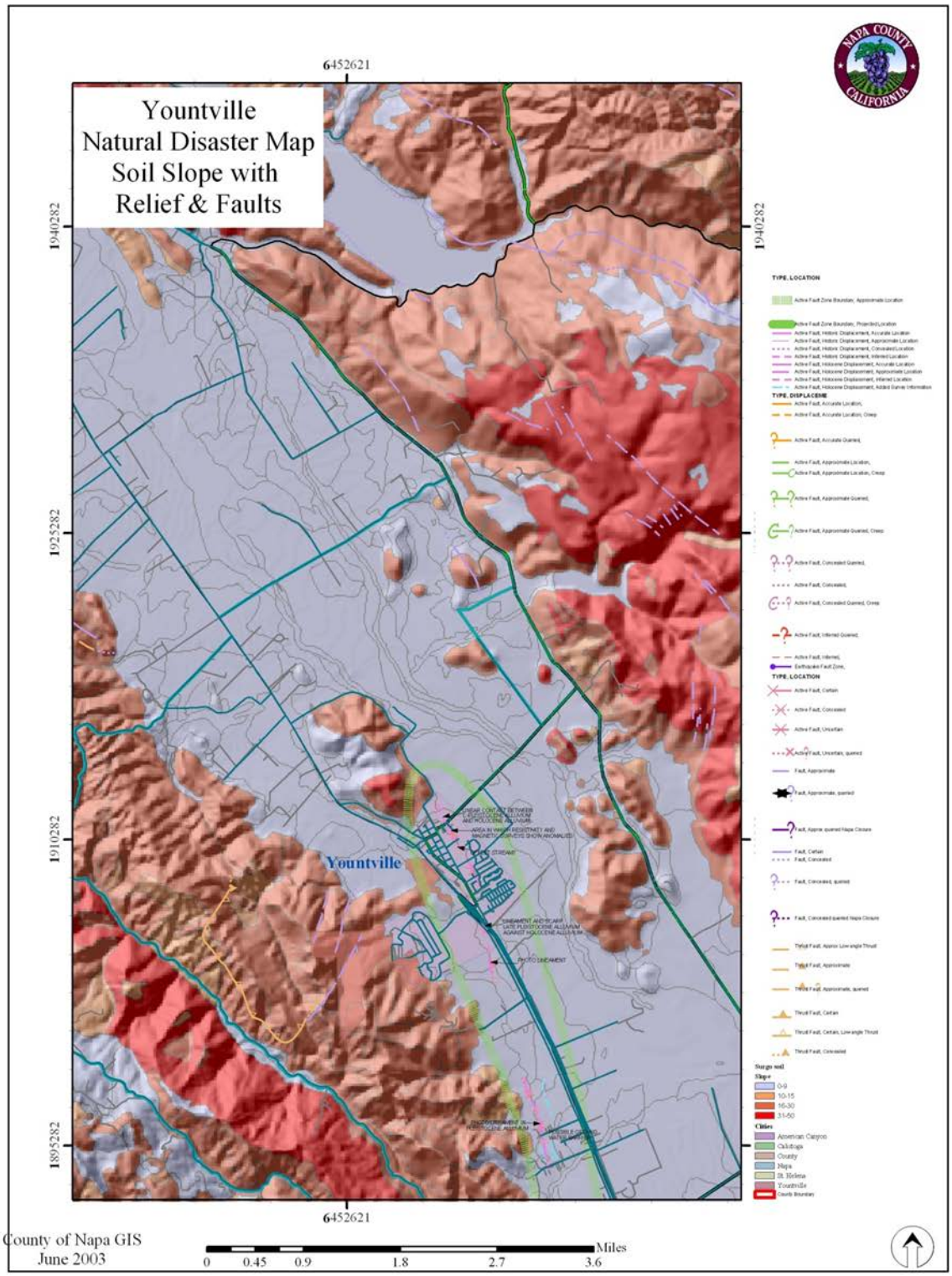


Figure 5-43: Yountville's Faults and Soil Relief

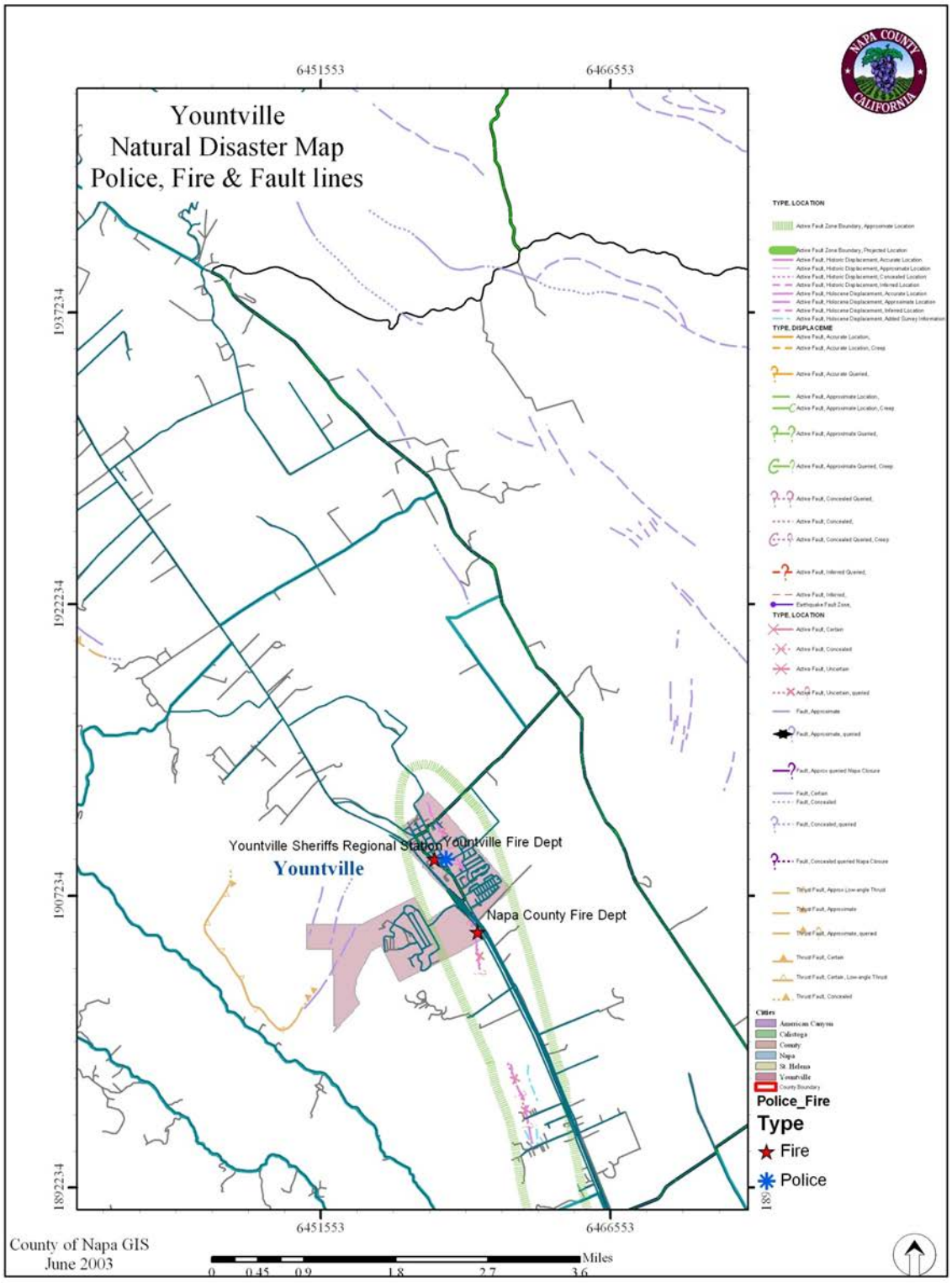


Figure 5-44: Yountville Fault Lines and Police and Fire Facilities

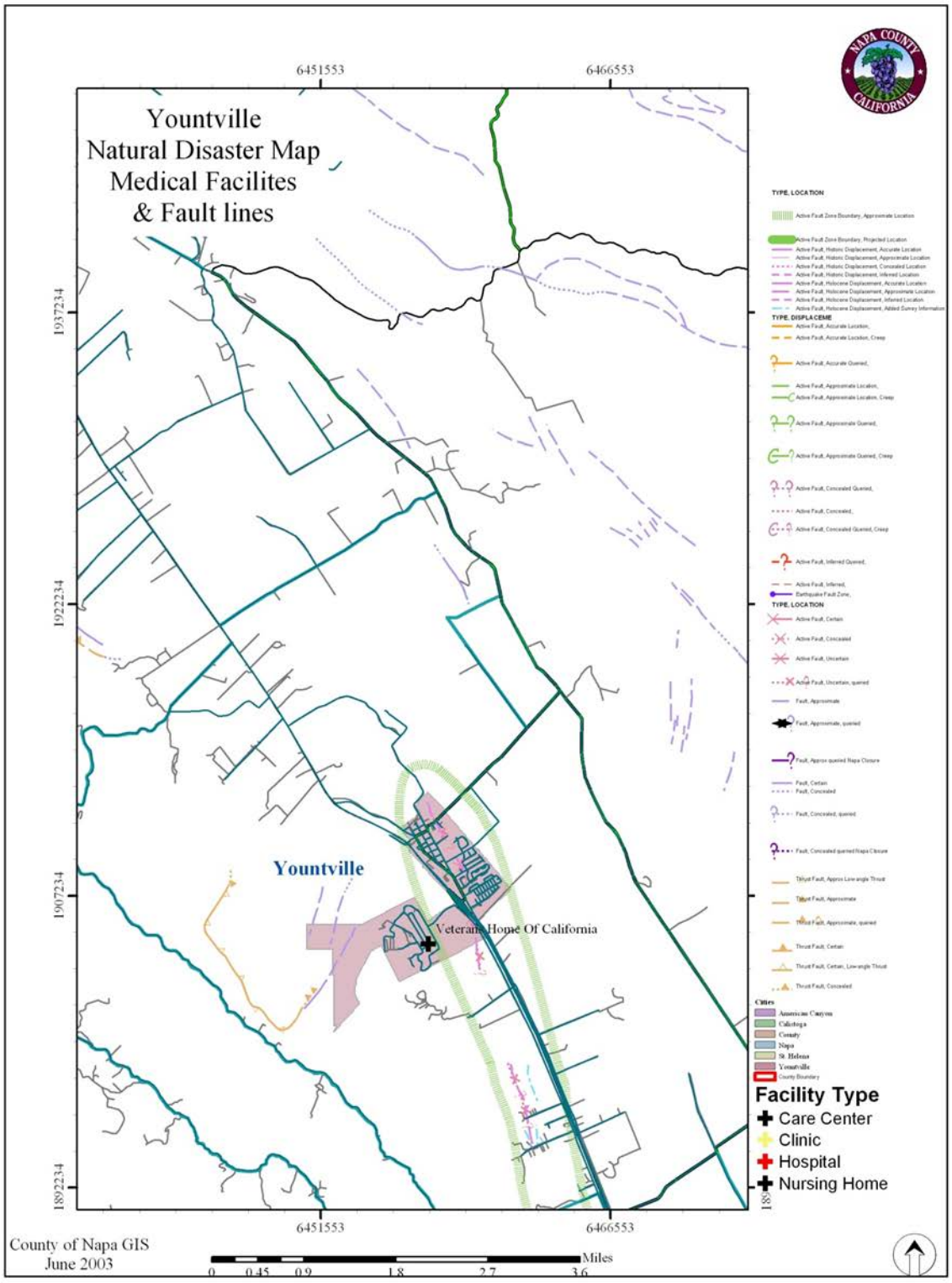


Figure 5-45: Yountville Fault Lines and Medical Facilities

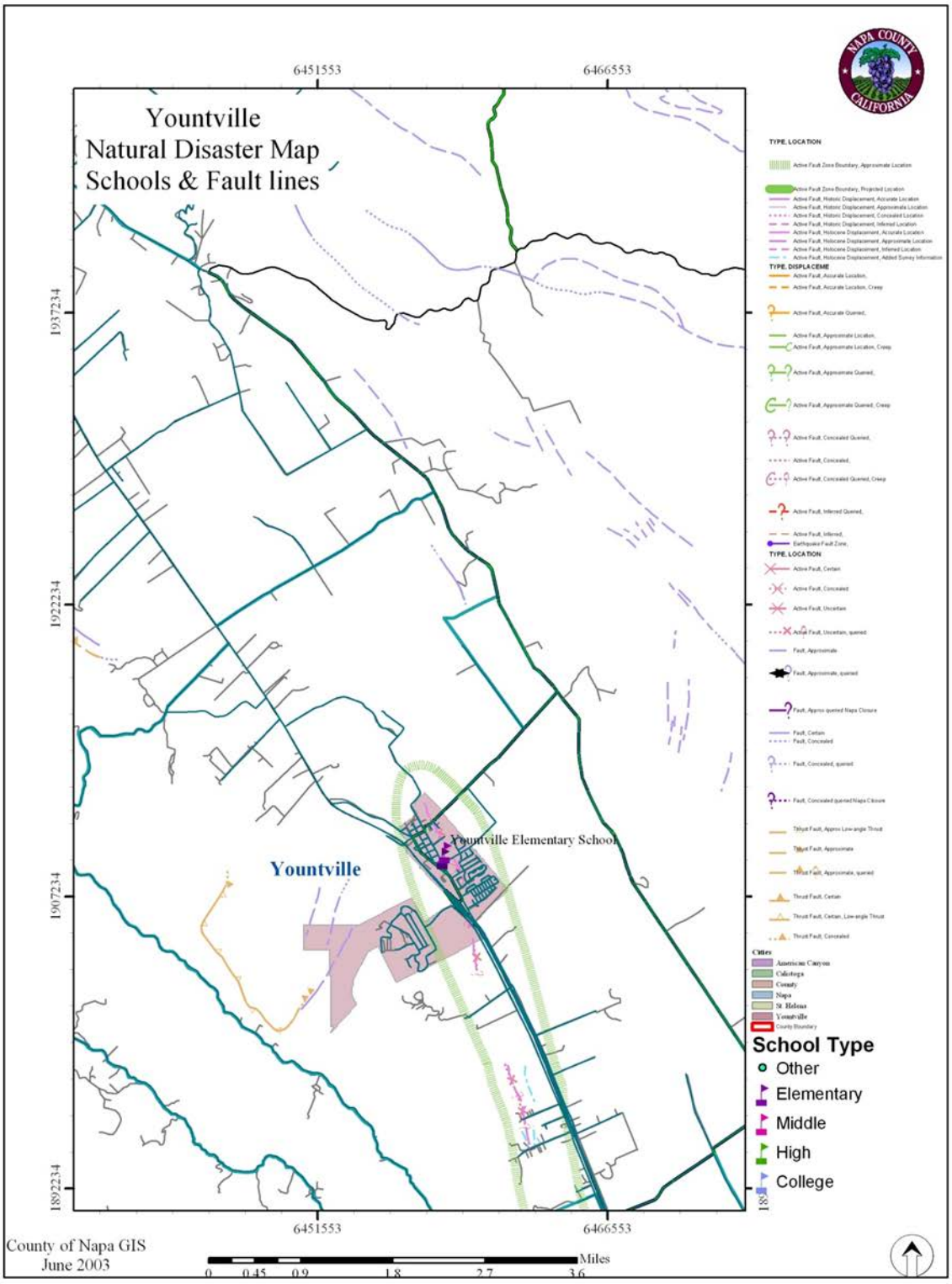


Figure 5-46: Yountville Fault Lines and School Facilities

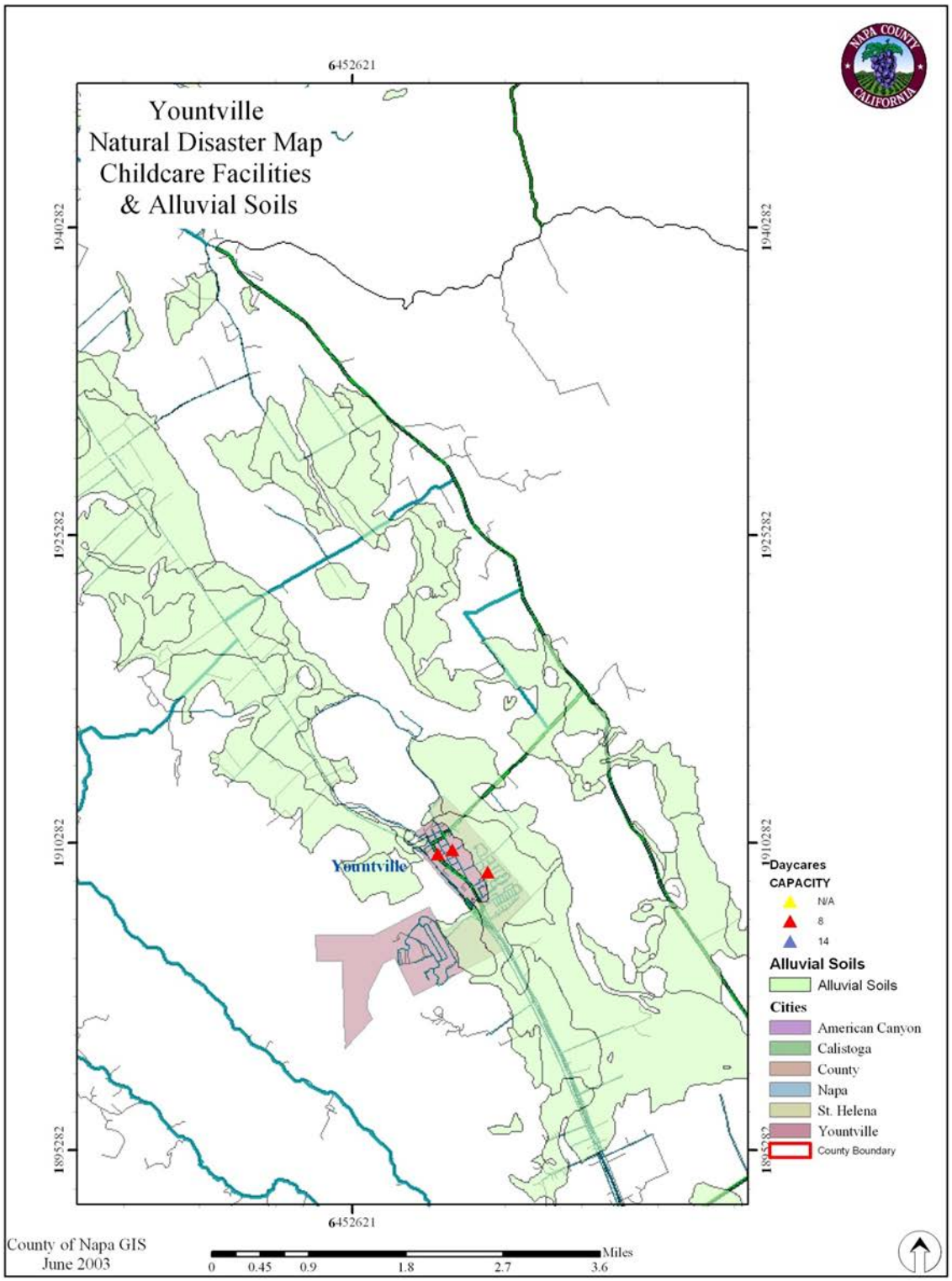


Figure 5-47: Yountville Alluvial Soils and Childcare Facilities

Appendix G: **Napa Valley College**

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G.1 Risk Assessment

Table 5-15 displays RF index criteria and weighting determinations from the Napa Valley College HMP Planning Committee Focus Group. Final RF scores determine High, Moderate, or Low risk designations based upon the conclusion index. It should be noted that although some hazards are classified as posing "Low Risk", their occurrence of varying or unprecedented magnitudes is still possible and will continue to be re-evaluated during future updates of this plan. Due to the inherent errors possible in any disaster risk assessment, the results of the risk assessment should only be used for planning purposes and in developing projects to mitigate potential losses.

Table 5-15: Napa Valley College Risk Factor Results Table

Rank	Natural Hazards	Probability	Wt.	Impact	Wt.	Spatial Extent	Wt.	Warning Time	Wt.	Duration	Wt.	RF Factor
1	Wildfire	1	0.3	1	0.3	1	0.2	3	0.3	2	0.2	**1.3**
2	Flooding	2	0.6	3	0.9	3	0.6	4	0.4	4	0.4	**2.9**
3	Earth-Quake	2	0.6	1	0.3	1	0.2	2	0.2	2	0.2	**1.5**

Risk Factor Conclusion	
HIGH RISK (3.0 – 4.0)	
MODERATE RISK (2.0 – 2.9)	Flooding
LOW RISK (0.1 – 1.9)	Wildfire, and Earthquake

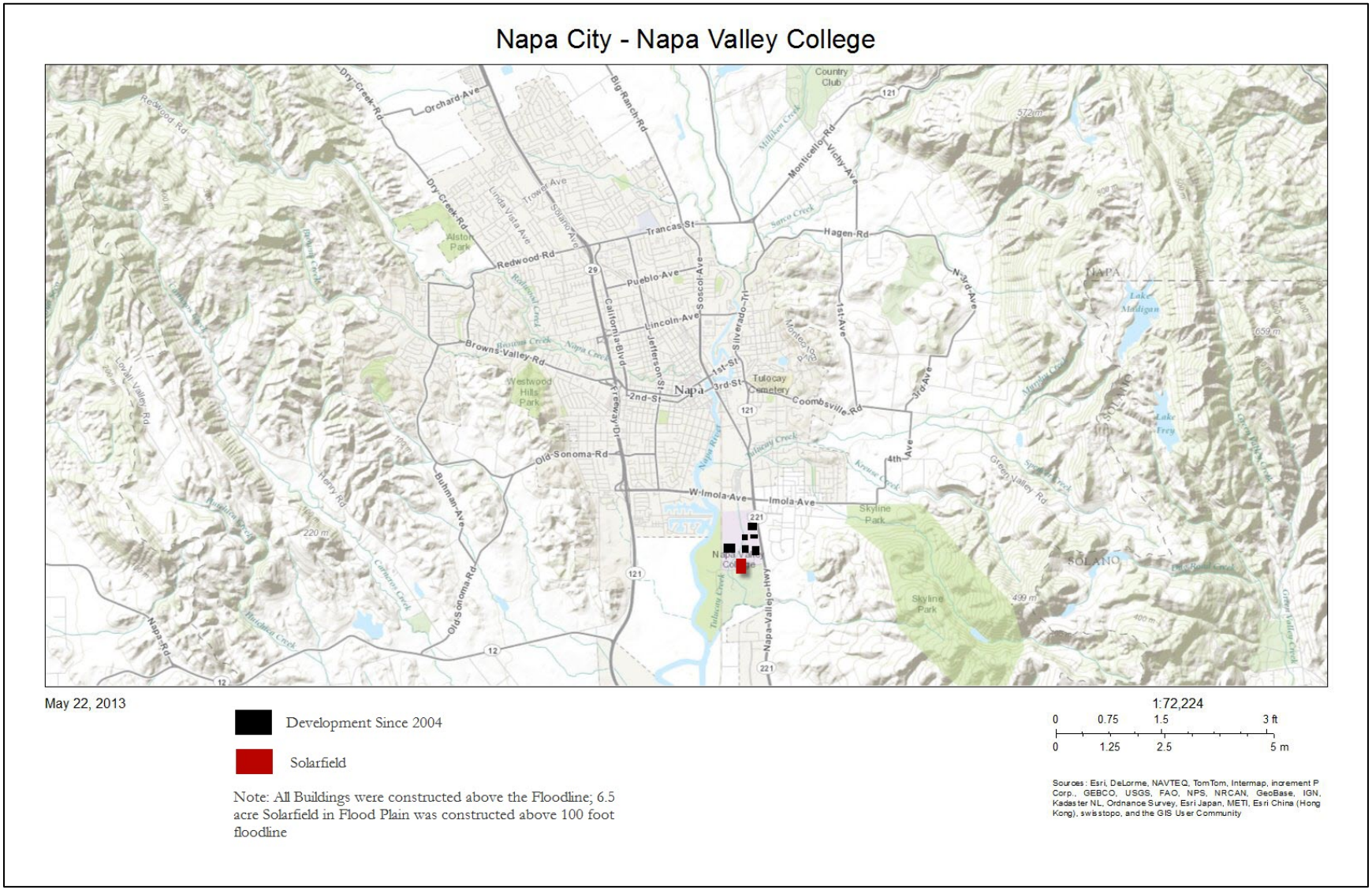
The RF results assist planners to classify risk for each hazard regardless of hazard type. For purposes of this plan the following classifications are used:

Low Risk—Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.

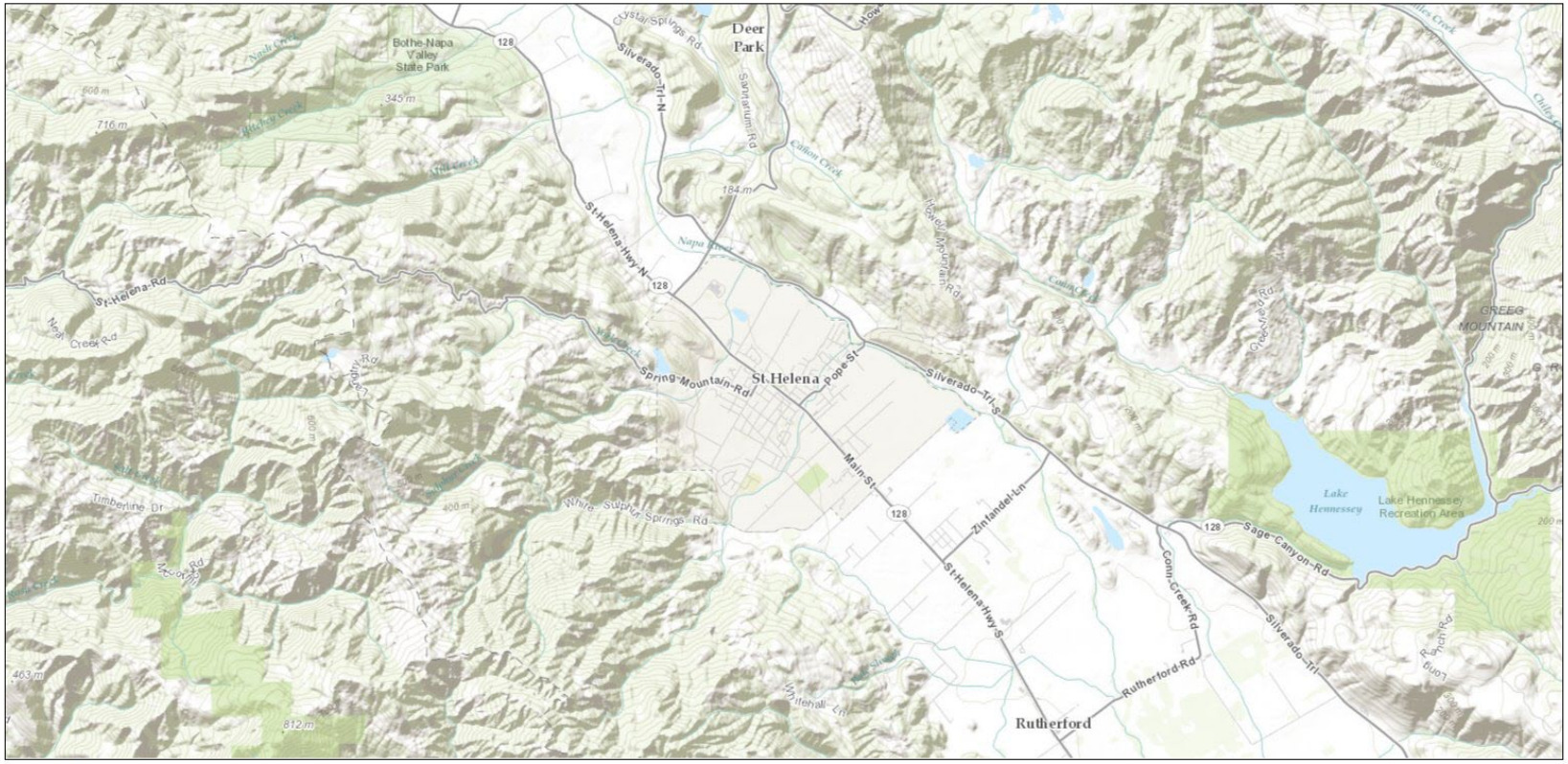
Moderate Risk —Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.

High Risk—Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past.

G.2 Future Development



St. Helena - Napa Valley College



May 22, 2013

1:72,224

0 0.75 1.5 3 ft

0 1.25 2.5 5 m

Note: No new or planned development on St. Helena Napa Valley College Campus since 2004

Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

Napa Valley College Campus has experienced a number of facility upgrades and additions since the 2004 Napa County HMP. Development that has occurred since the previously approved (2004) HMP has occurred outside the identified flood plain and has adhered to State Seismic Standards.

A small solar field is planned for construction in the near future. The solar field is intently planned for construction in the identified flood plain. Construction methods account for base flood elevations and is considered low impact development within the identified 100-year flood zone.

G.3 Capabilities Assessment

In preparing the mitigation actions, the Napa Valley College HMP Planning Committee members were asked to consider their overall capability to mitigate identified hazards. The mitigation strategy includes an assessment of Napa Valley College's planning and regulatory, administrative/technical, fiscal, and political capabilities to complete the identified mitigation actions.

G.3.1 Planning and Regulatory Capability

Napa Valley College has several plans and programs in place that guide the College's mitigation of development in hazard-prone areas. The following table lists planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities. Table 5-16 provides a sample list of possible planning and regulatory capabilities.

Table 5-16: Napa Valley College Planning and Regulatory Capability

Hazard	Plan/Program/ Regulation	Responsible Agency	Comments
Multi-Hazard	California Building Codes	Facilities Department/Department of State Architect	Napa County has adopted new building codes and regulations that protect new development and buildings from flooding, wildfire and EQ.
Multi-Hazard	Zoning Regulations	DSA	
Multi-Hazard	Comprehensive Land Use Plan (or General, Master or Growth Mgmt. Plan)	Facilities Department/Board of Trusties	
Multi-Hazard	Capital Improvement Plan	Facilities Dept./Stat of California Chancellor's office	
Wildfire / Flood	USDA	NRCS	Flood and Fire Recovery on Private Lands

Hazard	Plan/Program/ Regulation	Responsible	Comments
Flood	Prop 50/84 Integrated Regional Water Management (IRWM)	DWR	DWR has a number of IRWM grant program funding opportunities. Current IRWM grant programs include: planning, implementation, and stormwater flood management. http://www.water.ca.gov/iwrm/grants/index.cfm
Flood	USDA	NRCS	Improve floodplain function and reduce effects of flooding on private lands
Flood	Central Valley Flood Protection Plan	DWR	State legislative requirements provide Napa County local planning responsibilities for floodplain management (e.g., general plans, zoning ordinances, development agreements, tentative maps, and other actions).
Flood	NFIP	Napa County Flood Control / Buildings Dept.	NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in participating communities. As a participating member of the NFIP, Napa County Officials are dedicated to protecting homes of more than 160 policies currently in force. ▪ 163 policies in force ▪ $37,987,500 insurance in force ▪ 34 paid losses ▪ $680,554 total paid losses 6 substantial damage claims since 1978
Flood	DWR Prop 84	DWR	▪ Grant funding just came out from the Flood Operations Center.
Flood	***USDA***	Natural Resources Conservation Service (NRCS)	Emergency Watershed Protection Program Environmental Quality Incentive Program

G.3.2 Administrative and Technical Capability

Napa Valley College has several departments and agencies that have both the administrative authority and technical capabilities related to hazard mitigation and loss prevention, as identified below:

Table 5-17: Napa Valley College Administrative and Technical Capability

Staff/Personnel Resources	***Yes***	***No***	***Department / Agency***	***Comments***
Planners (with land use / land development knowledge)		x	Planning and Building	

Staff/Personnel Resources	***Yes***	***No***	***Department / Agency***	***Comments***
Planners or engineers (with natural and/or human caused hazards knowledge) Public Works has capability.	x		Facilities/College Police	
Engineers or professionals trained in building and/or infrastructure construction practices (includes building inspectors)	x		Facilities	
Emergency Manager	x		College Police	
Floodplain Manager (Planning Director / Public Works Director)	x		Facilities	
Land surveyors		x		
Scientists or staff familiar with the hazards of the community	x		Staff in facilities and College Police as well as instructors	
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program	x		Geology staff / Police	
Grant writers or fiscal staff to handle large/complex grants	x		Business office/Institutional Advancement	
Construction Equipment	x		Facilities	Smaller scale equipment
Public Works: ▪ Technical Assistance ▪ Personnel Assistance	x		Facilities Department	

Staff/Personnel Resources	*Yes*	*No*	*Department / Agency*	*Comments*
Utilities / Dam Safety Experts ▪ Dam Safety Personnel ▪ PG&E Arborist		x		
State Emergency Management Personnel ▪ State OES Access ▪ CCIC Access ▪ Mobile Emergency Personnel ▪ Medical Air Evacuation (Based in Auburn & Redding)		x		
Regional Medical Assistance Personnel	x		Nursing Institute staff onsite periodically	CMT program on campus
National Weather Service Weather Watchers		x		

G.3.3 Fiscal Capability

This section identifies the financial tools or resources that the College could potentially use to help fund mitigation activities. These include College-specific capabilities, as well as city, county, state and federal resources. It is also important to note that funding can also be sourced from participating agencies/organizations that collaborate with the College in the implementation of mitigation actions.

Table 5-18: Napa Valley College Fiscal Capability

Financial Resources	*Yes*	*No*	*Department / Agency*
Capital improvement programming	x		District Office
Community Development Block Grants (CDBG)		x	
Special purpose taxes	x		Possible
Gas / electric utility fees		x	
Water / sewer fees		x	
Stormwater Utility fees		x	
Development impact fees		x	
General obligation, revenue, and/or special tax bonds	x		Possible
Partnering arrangements or intergovernmental agreements	x		
DWR Position 84 Bond Funding		x	
Weatherization Services		x	

G.3.4 Political Capability

Political capability in this instance is being measured by the degree to which local political leadership (including appointed boards) is willing to enact policies and programs that reduce hazard vulnerabilities in your community, even if met with some opposition. Examples may

include guiding development away from identified hazard areas, restricting public investments or capital improvements within hazard areas, or enforcing local development standards that go beyond minimum State or Federal requirements (e.g., building codes, floodplain management, etc.).

The Napa Valley College HMP Planning Committee Focus Group rated the political capability to enact policies and programs that reduce hazard vulnerabilities. The diagram below provides a simple 0 to 5 scale for which the Planning Committee used to assess the College. The Napa Valley College Focus Group agreed that political boards are "moderately willing" to change policies or programs. Generally, a higher score corresponds with a higher degree of community political capability.

Very Willing ***Moderately Willing*** ***Unwilling to Adopt Policies / Programs***

Score: 3.0

G.3.5 Self-Assessment of Capability

The Napa Valley College HMP Planning Committee conducted a short Capabilities Assessment Self-Survey in order to understand the degree of capability for categories reviewed previously in this section. Using as an outline, the Planning Committee agreed "as a group" upon the degree of capability; limited, moderate, or high for each capability area. The survey conclusion results are based upon information provided previously in this Section and working knowledge of College operations.

Table 5-19: Napa Valley College Self-Assessment of Capability

	Degree of Capability		
Capability Area	***Limited***	***Moderate***	***High***
Planning and Regulatory Capability		x	
Administrative and Technical Capability		x	
Fiscal Capability	x		
Community Political Capability		x	

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Appendix H. **Napa County Office of Education**

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H.1 Risk Assessment

Table 5-20 displays RF index criteria and weighting determinations from the NCOE HMP Planning Committee. Final RF scores determine High, Moderate, or Low risk designations based upon the conclusion index. It should be noted that although some hazards are classified as posing "Low Risk", their occurrence of varying or unprecedented magnitudes is still possible and will continue to be re-evaluated during future updates of this plan. Due to the inherent errors possible in any disaster risk assessment, the results of the risk assessment should only be used for planning purposes and in developing projects to mitigate potential losses.

Table 5-20: NCOE Risk Factor Results Table

Rank	Natural Hazards	Probability	Wt.	Impact	Wt.	Spatial Extent	Wt.	Warning Time	Wt.	Duration	Wt.	RF Factor
1	Wildfire	2	0.6	3	0.9	3	0.6	3	0.3	4	0.4	**2.8**
2	Flooding	2	0.6	4	1.2	3	0.6	4	0.4	4	0.4	**3.2**
3	Earth-Quake	2	0.6	3	0.9	3	0.6	2	0.2	4	0.4	**2.4**

Risk Factor Conclusion	
HIGH RISK (3.0 – 4.0)	
MODERATE RISK (2.0 – 2.9)	Flooding
LOW RISK (0.1 – 1.9)	Wildfire, and Earthquake

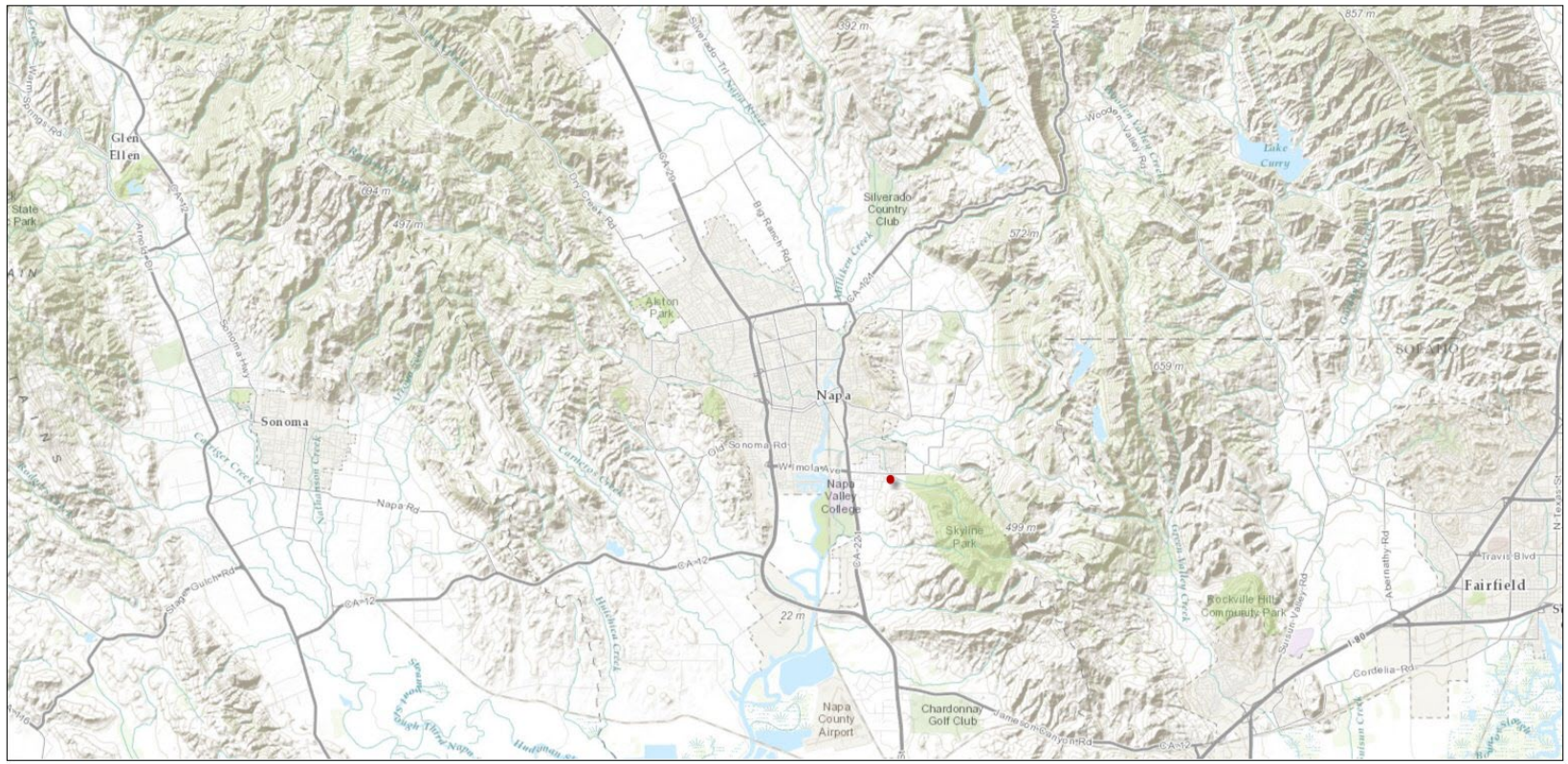
The RF results assist planners to classify risk for each hazard regardless of hazard type. For purposes of this plan the following classifications are used:

Low Risk—Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.

Moderate Risk —Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.

High Risk—Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past.

H.2 Future Development



The Napa County Office of Education has experienced minimal development since the 2004 Napa County HMP. Planned future developed is contained within existing campuses.

H.3 Capabilities Assessment

In preparing the mitigation actions, the Napa County Office of Education HMP Planning Committee members were asked to consider their overall capability to mitigate identified hazards. The mitigation strategy includes an assessment of Napa County Office of Education's planning and regulatory, administrative/technical, fiscal, and political capabilities to complete the identified mitigation actions.

H.3.1 Planning and Regulatory Capability

NCOE has several plans and programs in place that guide the mitigation of educational facilities development in hazard-prone areas. The following table lists planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities. Table 5-21 provides a sample list of possible planning and regulatory capabilities.

Table 5-21: NCOE Planning Regulatory Capability

Hazard	*Plan / Program / Regulation*	*Responsible Agency*	*Comments:*
Multi-Hazard	***Education Code***	California Department of Education	Napa County Office of Education follows Ed Code as required by California Department of Education.
Multi-Hazard	***Division of the State Architect***	State of California Department of General Services	*Enforces standards for school construction*
Multi-Hazard	***Office of Public School Construction***	State of California Department of General Services	*Enforces standards for school construction funded by the School Facility Program*

H.3.2 Administrative and Technical Capability

Napa County Office of Education has departments and agencies that have both the administrative authority and technical capabilities related to hazard mitigation and loss prevention, as identified below:

Table 5-22: NCOE Administrative and Technical Capability

Staff/Personnel Resources	Yes	No	Department / Agency	Comments
Planners (with land use / land development knowledge)		X		Districts may have staff in this role
Planners or engineers (with natural and/or human caused hazards knowledge) Public Works has capability.		X		Districts may have staff in this role Napa County Office of Education does not
Engineers or professionals trained in building and/or infrastructure construction practices (includes building		X		Districts may have staff in this role Napa County Office of Education does not
Emergency Manager	X		Business Services Division	
Floodplain Manager (Planning Director / Public Works		X		
Land surveyors		X		
Scientists or staff familiar with the hazards of the community		X		
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program		X		
Grant writers or fiscal staff to handle large/complex grants	X		School and Community Partnership Projects	
Construction Equipment		X		
Public Works: ▪ *Technical Assistance* ▪ *Personnel Assistance*		X		
Utilities / Dam Safety Experts ▪ *Dam Safety Personnel* ▪ *PG&E Arborist*		X		

State Emergency Management Personnel ▪ *State OES Access* ▪ *CCIC Access* ▪ *Mobile Emergency Personnel* ▪ *Medical Air Evacuation*		X		
Regional Medical Assistance Personnel		X		
National Weather Service Weather Watchers		X		

H.3.3 Fiscal Capability

This section identifies that the NCOE has little to no financial tools or resources that can potentially be used to help fund mitigation activities.

Table 5-23: NCOE Fiscal Capability

Financial Resources	Yes	No	Department / Agency	Comments
Capital improvement programming		X		
Community Development Block Grants (CDBG)		X		
Special purpose taxes		X		
Gas / electric utility fees		X		
Water / sewer fees		X		
Stormwater utility fees		X		
Development impact fees		X		County Office of Education – No Districts within Napa County - Yes
General obligation, revenue, and/or special tax bonds		X		County Office of Education - No Districts within Napa County - Yes

Partnering arrangements or intergovernmental		X		
DWR Position 84 Bond Funding		X		
Weatherization Services		X		

H.3.4 Political Capability

Political capability in this instance is being measured by the degree to which local political leadership (including appointed boards) is willing to enact policies and programs that reduce hazard vulnerabilities in your community, even if met with some opposition. Examples may include guiding development away from identified hazard areas, restricting public investments or capital improvements within hazard areas, or enforcing local development standards that go beyond minimum State or Federal requirements (e.g., building codes, floodplain management, etc.). The NCOE HMP Planning Committee Focus Group rated the political capability to enact policies and programs that reduce hazard vulnerabilities.

The diagram below provides a simple 0 to 5 scale for which the Planning Committee used to assess the Napa County Office of Education. The NCOE Focus Group agreed that political boards are "moderately willing" to change policies or programs. Generally, a higher score corresponds with a higher degree of community political capability.

Very Willing ***Moderately Willing*** ***Unwilling to Adopt Policies / Programs***

Score: 3.0

H.3.5 Self-Assessment of Capability

The Napa County Office of Education HMP Planning Committee conducted a short Capabilities Assessment Self-Survey in order to understand the degree of capability for categories reviewed previously in this section. Using Table 5-24 as an outline, the Planning Committee agreed "as a group" upon the degree of capability; limited, moderate, or high for each capability area. The

survey conclusion results are based upon information provided previously in this Section and working knowledge of NCOE's operations.

Table 5-24: NCOE Self-Assessment of Capability

	Degree of Capability		
Capability Area	***Limited***	***Moderate***	***High***
Planning and Regulatory Capability		x	
Administrative and Technical Capability		x	
Fiscal Capability		x	
Community Political Capability		x	

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Appendix I. **Presentation Material**

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Napa County Operational Area Hazard Mitigation Plan (NOAHMP) Update

Planning Committee Meeting #1

May 23rd, 2013

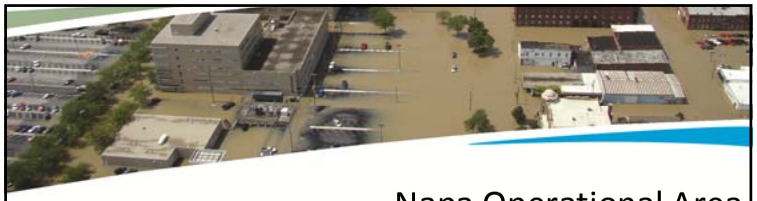
Name	Title	Jurisdiction/ Organization	Email	Telephone
Stephen Gott	VP – NAPA Firefighters		sgott@napafire	
Steve Rogers	Town Manager	Yountville	SRogers@yville.com	944-8765
Steve Campbell	Fire Chief	Calistoga	SCampbell@ci.Calistoga	889-2783
Matt Christensen	Director Facilities	Napa Valley College	mchristensen@napavalley.edu	707-253-3340
GLEN E WEEKS	FIRE Chief	AM CAN FPD	glenw@amcanfire.com	707-551-0450
Jim Tomlinson	LOGISTICS & PLANNING MANAGER	NCOE	jtomlinson@NAPACOE	707.253.6089
Steve Brassfield	Battalion Chief City Disaster Pgm Mngr	City of Napa	sbrassfield@cityofnapa.org	707-301-0842
Katy Wallis	County GIS	Napa County	katy.wallis@county of napa	707-253-6154
Steve Hawks	BC	Napa County Fire CAL FIRE	Steven.Hawkes@fire.ca.gov	707-944-9132
Kerry Whitney	Risk & OES Mgr	Napa Co.	kerry.Whitney@County of	707 253-4821
Jennifer JONES	Regional Disaster Dir	CA Northwest	jen.jones@redcross.napa.org	707-577-7609
Nick Neisius	Disaster Coordinator	Red Cross - Napa	nick.neisius@redcross.org	707-257-2900

Napa County Operational Area Hazard Mitigation Plan (NOAHMP) Update

Planning Committee Meeting #1

May 23rd, 2013

Name	Title	Jurisdiction/ Organization	Email	Telephone
William Imboden	Sergeant	St Helena PD	williami@CityofSthelena.org	
PETE MUNOZ	FIRE MARSHAL	NAPA CO. FIRE	PETE.MUNOZ@FIRE.CA.GOV	7079671421
Ingrid Goldberg	Planning Director	Calistoga	igoldberg@calistoga.ca.us	707 942 2763
KEN ARONSON	NVC - CALFIRE	NAPA VALLEY COLL	KARONSON@NAPAVALLEY.EDU	253-3331
Mike Randolph	Fire Chief	NFD	mrandolph@cityofnapa.org	257-9595
Karen Harnois	Eng. Assist. CFM	City	Kharnois@cityofnapa.org	257-9404
[illegible]	County OES	NAPA County	←	299-1892
Andrew Butler	Assoc Engineer	NC Flood	andrew.butler@countyofnapa.org	259-8671
Anne Steinhauer	Exec. Director	Red Cross	Anne.Steinhauer@redcross.org	257-2900



Napa Operational Area Hazard Mitigation Plan (NOAHMP) 2013 Update

Napa County, CA

NOAHMP Planning Committee Meeting #1
May 23, 2013

Agenda

10:00 a.m. – 10:15 a.m.

Part I

- Welcome and Introductions
- Project Overview
- HMP Update Process and Components
  - Planning Process
  - Plan Components
- Project Timeline
- Question and Answer Session

5 Min Break

10:20 a.m. – 12:00 p.m.

Part II

- Risk Factor Development
- Community Profiles
- Capabilities Assessment

Part I

- Welcome and Introductions
- Project Overview
- HMP Process and Components
  - Planning Process
  - Plan Components
- Overview of Existing HMP
- Project Timeline
- Question and Answer Session

Welcome and Introductions

Napa County Office of Emergency Services (OES) and Napa County Risk Management

County Project Manager	Kevin Twohey, OES Director
MHMP Planning Committee	Whoever wants to be!

Michael Baker Jr., Inc.

Project Manager	Ethan Mobley, AICP
Hazard Mitigation Planner	Desirae Hoffman
GIS /Hazus Specialist	Lane Simmons
Senior Technical Advisor	Carver Struve, CFM

Project Overview

- **What is Hazard Mitigation?**

  Hazard mitigation is any sustained action taken to reduce or eliminate long-term risk to life and property resulting from natural hazards.

- **What is a Mitigation Plan?**

  The plan is an official statement of Napa County's hazards, vulnerability analysis, and mitigation strategy. The result of a collaborative multi-agency and county citizen planning process. As a living document, it guides implementation activities to achieve the greatest reduction of vulnerability, which results in saved lives, reduced injuries, reduced property damages, and protection for the environment.

- **Why have a Mitigation Plan?**

  A mitigation plan allows communities to focus efforts and limited resources on the most highly desirable mitigation projects. Napa County also must have a State and federally approved plan to apply for and receive mitigation grants. These grants can augment local mitigation activities already done and planned activities too. Ultimately, these actions reduce vulnerability and communities are able to recover quickly and return to the "norm" after disasters.

5

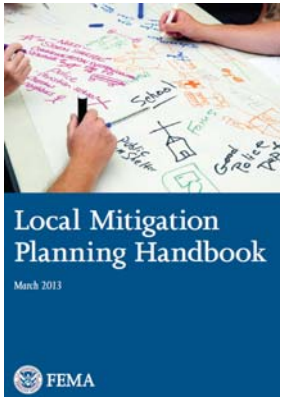
Project Overview
Primary Objectives

- Reconvene the HMP Planning Committee to provide required input and meet FEMA planning process requirements.
- Update the flood loss analysis to include repetitive loss properties and more information about the National Flood Insurance Program (NFIP) claims at a local scale.
- Update the capabilities assessment to include financial and human resource capabilities necessary to develop and implement mitigation actions
- Identify specific mitigation actions for each participating jurisdiction
- Identify the position, office, department, or agency responsible for implementing and funding mitigation actions
- Improve mitigation action implementation and reporting.
- Improve community profiles to describe changes in development that have occurred in hazard prone areas; increases and/or decreases in community risk as a result of hazard mitigation.
- Various plan updates to meet FEMA requirements.

6

Project Overview
Background

- Disaster Mitigation Act (DMA) 2000 (Public Law 106-390) provides the legal basis for FEMA mitigation planning requirements for State, local and Indian Tribal governments as a condition of mitigation grant assistance.
- Napa County developed the 2004 Hazard Mitigation Plan (HMP).
- FEMA requires an update every 5 years.
- Napa County initiated process in 2009; process ongoing.



7

HMP Process and Components
Planning Process

The planning process is predefined by federal regulations. The requirements and procedures for State, Tribal and Local Mitigation Plans are found in the Code of Federal Regulations (CFR) at:

Title 44, Chapter 1, Part 201 (44 CFR Part 201)

DMA (44 CFR 201.6)	Common Name
(1) Organize Resources	
201.6(c)(1)	Organize to prepare the plan
201.6(b)(1)	Involve the public
201.6(b)(2) and (3)	Coordinate with other agencies
(2) Assess Risks	
201.6(c)(2)(i)	Assess the hazard
201.6(c)(2)(ii) and (iii)	Assess the problem
(3) Develop the Mitigation Plan	
201.6(c)(3)(i)	Set goals
201.6(c)(3)(ii)	Review possible activities (actions)
201.6(c)(3)(iii)	Draft an action plan
(4) Plan Maintenance	
201.6(c)(5)	Adopt the plan
201.6(c)(4)	Implement, evaluate, and revise

8

HMP Process and Components
Planning Process

Organize Resources
- Build Planning Team
- Develop Public Outreach Strategy
- Review/Incorporate Existing Plans, Studies, Reports, and other technical data/ information

Assess Risks*
- Identify/Profile Hazards
- Assess Vulnerabilities

Develop Mitigation Plan
- Identify Goals
- Develop Capabilities Assesssment
- Review past/current mitigation measures
- Identify new mitigation measures

Draft Plan
- Background Information
- Plan Maintenance
- Document Authority and References

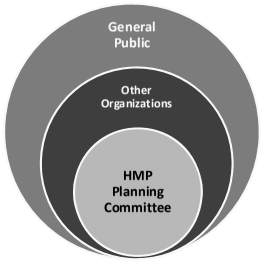
Plan Review/Revision
- Review Final Draft with Napa County Planning Committee and Public

Plan Adoption/Submittal
- Prepare Crosswalk for Submittal to FEMA Region IX and Cal EMA

* - Update the flood loss analysis to include repetitive loss properties.

HMP Process and Components
Planning Process: Step 1 Organize Resources

- **Build Planning Team**
  - Backbone of the planning process
  - Provides direction for the development of the HMP Update
  - Consists of key decision-makers in specific government functions
  - Public face of the HMP Update Planning Process
  - Provides input throughout the planning process
- **Review/Incorporate Existing Plans, Studies, Reports, Technical Data and Other Information**

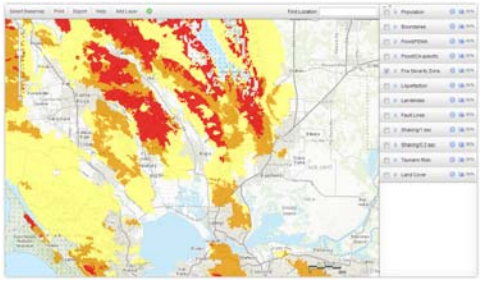


We need your help!!!!

HMP Process and Components
Planning Process: Step 2 Assess Risk

- Develop Risk Factors for Identified Hazards
- Profile Future Development in High Hazard Areas for each participating Jurisdiction

Risk Factor Conclusion	
HIGH RISK (3.0 – 4.0)	Wildfire
MODERATE RISK (2.0 – 2.9)	Flooding, Severe Weather, Geologic Hazards, Drought
LOW RISK (0.1 – 1.9)	Climate Change, Dam Failure



HMP Process and Components
Planning Process: Step 3 Update Mitigation Plan

- **Review Past Goals and Objectives**
- **Develop Capabilities Assessment**
  - Planning and Regulatory Capability
  - Administrative and Technical Capability
  - Fiscal Capability
  - Political Capability
- **Review Past / Current Mitigation Actions**
- **Identify New Mitigation Actions**
- **Evaluate / Prioritize Mitigation Actions**
- **Identify Implementation Strategy for Mitigation Actions.**

HMP Process and Components
Planning Process: Step 4 Plan Development

- Section 1: Legal Requirements
- Section 2: Hazard Mitigation Planning Process
- Section 3: Risk Assessment
- Section 4: Mitigation Strategies
- Section 5: Plan Maintenance Procedures
- Section 6: Appendices

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HMP Process and Components
Planning Process: Step 5 Review and Revision

- Update Admin Draft Plan
  - Edit and develop existing/new sections in current plan.
- Planning Committee review after edits are complete.
- Prepare for re-submittal, June 2013

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HMP Process and Components
Planning Process: Step 6 Plan Re-submittal and Adoptions

- Submit edits to FEMA with Crosswalk for final approval.
- The County BOS has already adopted the Multi-Hazard Mitigation Plan.
- Clock for 5 year update starts after receiving final FEMA approval.
- Next Steps…..Engage in Plan Maintenance and Update Activities

15

HMP Process and Components
Planning Process: Plan Maintenance

- **Plan Maintenance**
  - Monitoring, evaluating and updating the plan is important for the next update.
  - Incorporation into other planning mechanisms
  - Continued public involvement
  - A five-year process

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Questions?

Session Break

Part II

- Risk Factor Development (Task 1)
- Community Profile Update (Task 2)
- Capabilities Assessment Update (Task 3)

MHMP Update Planning Process

Workshop Process

- Provides us an opportunity to work as a team
- Provides transparency in the planning process
- Includes a series of data collection exercises to assemble necessary and required information.
- Provides documentation of the planning process to be included in the HMP Update
- Minimizes disruption and impacts to business process and resources by divide and conquer.

Existing HMP Overview
Goals and Objectives

- *Promote disaster resistance for existing and future development*
- *Promote public understanding, support for disaster mitigation*
- *Protect Napa County from the devastation of large and small scale disasters*
- *Reduce deaths, injuries, structural damage from flooding*
- *Reduce deaths, injuries, structural damage from wildfires*
- *Reduce deaths, injuries, structural damage from earthquakes*

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Operational Area Planning
Updating Plan Components

- Napa County Operational Area HMP
  - Napa County Participating Agency
  - Napa County Partner Agency
  - State or Federal Partner Agency

Umbrella Plan Updates

- City of Calistoga
- City of American Canyon
- City of Napa
- City of St. Helena
- Napa County Flood Control and Water Conservation District
- Napa County Office of Education
- Napa Valley College
- Town of Yountville

Create Detailed Jurisdictional Appendices

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Operational Area Planning
Umbrella Plan Updates

- Napa County Operational Area HMP updates will occur in the following sections:
  - Section 2: Community Profiles
  - Section 3: Risk Assessment
  - Section 4: Capabilities Assessment

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Operational Area Planning
Participating Jurisdictions Updates

- Jurisdictional Appendices will include the following Sub-Sections:
  - Community Hazard Profile
  - Future Development in High Hazard Areas
  - Capabilities Assessments
  - Mitigation Actions
  - Implementation Strategy

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Existing HMP Overview
Risk Assessment: Task 1

- **Risk Factor Analysis:** The RF approach combines historical data, local knowledge, and consensus opinions to produce numerical values that allow identified hazards to be ranked against one another. These criteria are used to evaluate hazards and identify the highest risk hazard in Napa County.
  - Each degree of risk is assigned a value ranging from 1 to 4 and a weighing factor for each category has been predetermined.
  - The sum of all five categories equals the final RF value, as demonstrated in the example equation below:

RF Value = [(Probability x .30) + (Impact x .30) + (Spatial Extent x .20) + (Warning Time x .10) + (Duration x .10)]

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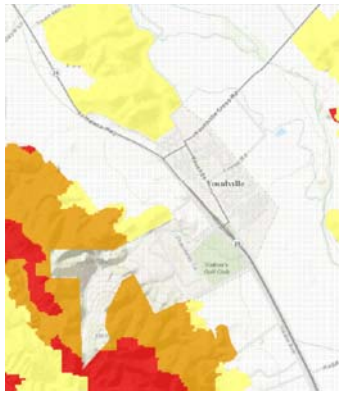
Existing HMP Overview
Risk Assessment: Task 2

- **Hazards Identified in 2009 HMP:**
  1. Flooding
  2. Earthquake
  3. Wildfire
- Using maps produced from My Plan: http://myplan.calema.ca.gov/
- Identify areas that have been developed since 2004.
- Identify areas that have the potential for development in the next 5 years.



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Existing HMP Overview
Capabilities Assessment: Task 3

- *Planning and Regulatory Capability*
- *Administrative and Technical Capability*
- *Fiscal Capability*
- *Community Political Capability*
- *Self-Assessment of Capability*

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Questions?

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Next Steps

Meeting June 20th; 10:00 a.m.
Same Place

Topics:

- Review Past / Current Mitigation Actions
- Identify New Mitigation Actions
- Evaluate / Prioritize Mitigation Actions
- Identify Implementation Strategy for Mitigation Actions.

Thank You for Your Participation

Contact: emobley@mbakercorp.com

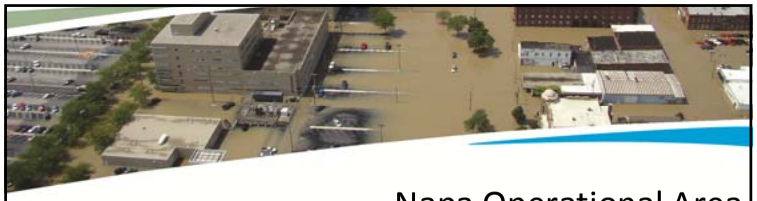
Napa County Operational Area Hazard Mitigation Plan (NOAHMP) Update

Planning Committee Meeting #2

June 20th, 2013

Name	Title	Jurisdiction/ Organization	Email	Telephone
Steve Gort	VP	FIREWISE	sgort@napafirewise.org	265-9224
Scott Upton	Chief	NCFD	Scott.Upton@fire.ca.gov	889-4375
Kerry Whitney	County Risk Mgr	Napa Co.	kerry.whitney@countyofnapa.org	253-4821

Name	Title	Jurisdiction/ Organization	Email	Telephone
Ingrm Goldberg		Calistoga		
Matt Christenson		Napa Valley College		
KEN ARNOLD		NAPA VALLEY COLLEGE	ICASMUD@NAPAVALLEY.EDU	
Nick Neisius		Red Cross	nick.neisius@redcross.org	
Karen Harnois	Eng. Assist. CFM	City of Napa	Kharnois@cityofnapa.org	707-257-9404
Steve Campbell	Fire Chief	City of Calistoga	S.Campbell@ci.calistoga.ca.us	707-942-2840
Andrew Butler	~~Asst. Engr~~ Assoc. Engr	NCFCWCD	andrew.butler@countyofnapa.org	707-259-8671
GLEN E WEEKS	FIRE CHIEF	AMERICAN CANYON	glenw@amcanfire.com	707-551-0650
KEN TWORT	OES	Napa Co		



Napa Operational Area Hazard Mitigation Plan (NOAHMP) 2013 Update

Napa County, CA

NOAHMP Planning Committee Meeting #2
June 20, 2013

Welcome and Introductions

Napa County Office of Emergency Services (OES) and Napa County Risk Management

County Project Manager	Kevin Twohey, OES Director
MHMP Planning Committee	Whoever wants to be!

Michael Baker Jr., Inc.

Project Manager	Ethan Mobley, AICP
Hazard Mitigation Planner	Desirae Hoffman
GIS /Hazus Specialist	Lane Simmons
Senior Technical Advisor	Carver Struve, CFM

Project Overview

- **What is Hazard Mitigation?**

  Hazard mitigation is any sustained action taken to reduce or eliminate long-term risk to life and property resulting from natural hazards.

- **What is a Mitigation Plan?**

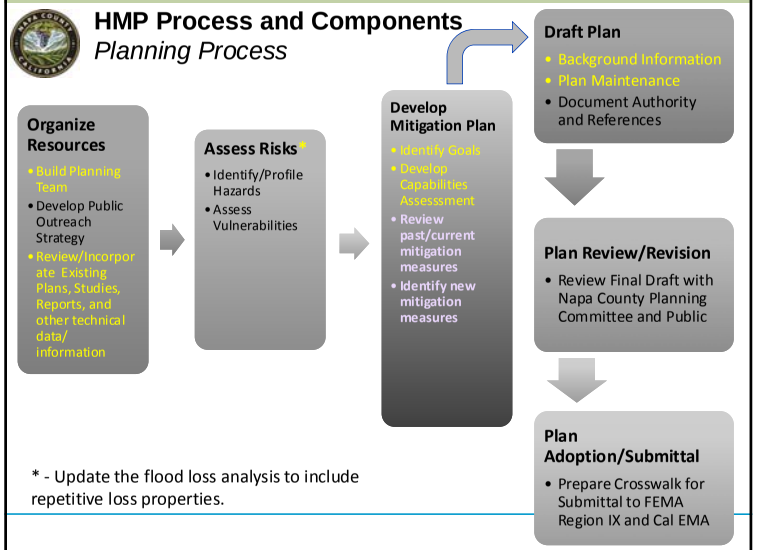
  The plan is an official statement of Napa County's hazards, vulnerability analysis, and mitigation strategy. As a living document, it guides implementation activities to achieve the greatest reduction of vulnerability, which results in saved lives, reduced injuries, reduced property damages, and protection for the environment.

- **Why have a Mitigation Plan?**

  A mitigation plan allows communities to focus efforts and limited resources on the most highly desirable mitigation projects and apply for and receive mitigation grants. Ultimately, these actions reduce vulnerability and communities are able to recover quickly and return to the "norm" after disasters.

HMP Process and Components

Planning Process



* - Update the flood loss analysis to include repetitive loss properties.

Agenda

- **Mitigation Plan Update**
  The Plan identifies a number of mitigation actions for each of the identified hazards (floods, earthquake, and wildfire). However, these mitigation actions address larger Napa County, with the exception of some with specific responsible agencies being participating jurisdictions. Specific mitigation actions for each participating jurisdiction are not identified.
- **Mitigation Action Update**
  The Plan does not include any information on the status of the mitigation actions identified in the previously-approved (2004) plan.
- **Mitigation Strategy Update**
  Some of the identified mitigation actions do not include an implementation strategy. The Plan only identifies the criteria used to rank the projects/mitigation actions (time horizon, cost, risk benefit, and input from local stakeholders), but does not provide a description of the economic considerations as part of the prioritization process.
- **Implementation Plan Update**
  The Plan only describes the integration process and does not provide a description of how the participating jurisdictions incorporated the mitigation plan, as appropriate, into other planning mechanisms as a demonstration of progress in local hazard mitigation efforts.

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Agenda

10:00 a.m. – 11:45 a.m. *Part I*
- Mitigation Action Review

11:15 a.m. – 12:00 p.m. *Part II*
- Existing Planning Mechanisms
- Review and Update Tempo
- Tools and Templates

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Part I

- Mitigation Action Review
- Mitigation Progress Reports
- Detailed Mitigation Implementation

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Part II

- Existing Planning Mechanisms
- Review and Update Tempo
- Tools and Templates

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Create Detailed Jurisdictional Appendices

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Next Steps
Draft Plan, Review and Submittal

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Thank You for Your Participation

Contact: emobley@mbakercorp.com

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