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GOVERNOR

State of California



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FIRE HAZARD PLANNING

General Plan Technical Advice Series

Governor's Office of Planning and Research

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General Plan Technical Advice Series

The Governor's Office of Planning and Research

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The General Plan Technical Advice Series is intended to offer land use practitioners, particularly at the local level, conscience information regarding some aspect of the General Plan law. This series of occasional papers is part of OPR's public education and training program for planners, developers and others. This advice is intended to supplement, but not to amend or revise the *California General Plan Guidelines*.

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INTRODUCTION

The intent of this advisory is to assist city and county planners to have more meaningful discussions with fire mitigation, preparedness and response professionals for the purpose of developing effective policies in the General Plan that can be carried through to specific plans, zoning ordinances and other local planning documents.

OPR also encourages Fire Safe Councils, concerned citizens, elected officials, fire authorities and city and county planners to use the opportunity of an update to the General Plan to better integrate local fire hazard mitigation plans with the General Plan.

Appendix 1 includes an extensive list of sources that may be useful in development of fire-related policies in the General Plan. Integration of the General Plan, the fire hazard mitigation plan and other hazard reduction policies, plans and mitigation activities is essential to providing a robust wildfire hazard mitigation program to California communities.

SECTION I. FIRE SAFE COUNCILS A NEW PLANNING PARTNER

The federal Disaster Mitigation Act of 2000 (DMA 2000) enacted a number of changes under Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) which led to a new requirement that communities develop these Local Hazard Mitigation Plans in order to be eligible for FEMA mitigation project assistance.

Fire Safe Councils play an important role in the development of these plans.

The typical Fire Safe Council consists of state and federal fire agencies, local fire districts, businesses, local government, and local concerned citizens formed to enhance the effectiveness of fire protection. Some councils have also combined with neighboring fire safe councils to develop countywide wildfire hazard mitigation plans.

These Fire Safe Councils can provide an excellent resource to planners and elected officials in the development of the fire protection and prevention policies and implementation measures in the General Plan. OPR encourages the use of these Councils for both their expertise and as a means for expanding public participation in the General Plan preparation process.

Funding Available

Funding is available for projects that improve the effectiveness of local fire protection. Examples include funds distributed through the National Fire Plan, the California Fire Plan and House Resolution (H.R.) 2389 - (The Secure Rural Schools and Community Self-Determination Act of 2000). Additionally jurisdictions that develop Multi-Hazard Mitigation Plans that meet FEMA requirements may be eligible for federal funds for planning activities. Funding for development of Fire Hazard Mitigation Plans may be available from the National Fire Plan through the following programs:

- USFS State & Private Forestry Economic Action Program.
- Community Based Wildfire Protection Program, administered by the California Fire Safe Council.

See the California Fire Alliance Resource Guide at www.cafirealliance.org/grant.asp for more information on funding for Community Safe Fire Plans.

BACKGROUND ON DMA 2000

The DMA 2000 authorized changes for federal programs under the Stafford Act related to pre-disaster mitigation, for streamlining the administration of disaster relief, and for controlling federal costs of disaster assistance. These changes have collectively brought greater focus on pre-disaster planning and activities as a means for reducing response and post-disaster costs. California local governments, nationally known for their planning and disaster mitigation efforts have a unique opportunity to join efforts with the Fire Safe Councils to provide more targeted wildfire prevention polices and implementation strategies.

On February 26, 2002, an Interim Final Rule (IFR)(44 CFR Parts 201 & 206), to implement the DMA 2000, was published that addressed state mitigation planning, identified new local mitigation planning requirements, authorized Hazard Mitigation Grant Program (HMGP) funds for planning activities, and the possibility of an increase in the percentage of HMGP funds available to states that develop a comprehensive, enhanced, State Hazard Mitigation Plan.

In accordance with the February 26th and a further October 1st IFRs, local governments must have a Local Hazard Mitigation Plan, reviewed by the State Mitigation Officer and approved by FEMA, prior to November 1, 2004, as a condition of receiving FEMA mitigation project assistance. These Local Mitigation Plans must be revised, reviewed and approved, every 5 years.

According to the February 26, 2002 IFR, section 201.6, local and tribal governments must include the following in their Local Hazard Mitigation Plans:

- A planning process
- An assessment of the risks
- A mitigation strategy
- A plan maintenance and updating process

According to the February 26th IFR, a stated goal for FEMA is for State and local governments to develop comprehensive and integrated plans that are coordinated through appropriate State, local, and regional agencies, as well as non-governmental interest groups, and, to the extent feasible and practicable, to consolidate the planning requirements for different mitigation plans and programs.

Although the Local Hazard Mitigation Plan and the General Plan will not be identical documents, much of the data and analysis requirements are similar, and, clearly, it is essential that polices in one document will need to be consistent with the policies in the other. OPR recommends that local governments work with and support the efforts of Fire Safe Councils as a means for ensuring effective and integrated wildfire mitigation programs.

II. INCORPORATING FIRE HAZARD POLICES IN THE GENERAL PLAN

A. INTRODUCTION

State law requires each city and county to adopt a General Plan. The General Plan is the master document, or constitution, that governs land use and development within a community. State law gives cities and counties (hereafter referred to as "county") wide latitude in formatting a General Plan, but every county's General Plan must satisfy fundamental content requirements which are described in the Government Code and in the *General Plan Guidelines* from the Office of Planning and Research (OPR). Foremost of these content requirements is the inclusion of seven (7) mandatory components, or elements, including the land use, transportation, housing, open space, conservation, noise and safety element.

No one element of the General Plan has greater legal status or importance over any other rather, when complete, serve as an integrated, internally consistent and compatible statement of local policies. In recognition of local differences, State law empowers counties to tailor the General Plan to locally relevant issues. Optional elements may also be adopted to more fully reflect local conditions and interests. For a more in-depth discussion of the General Plan Elements see Appendix 3.

There are many opportunities to address fire protection, fire prevention and hazard mitigation in the General Plan, most obviously in the safety element which deals with all manner of natural and man-made hazard to life and property. Unfortunately, wildfire hazard is too often underplayed in the General Plan. California's increasing population and expansion of development into previously undeveloped areas is creating more "urban-wildland interface" issues with a corresponding risk of economic loss caused by wildland fire.

OPR recommends that wildfire hazard reduction policies be regularly reviewed and updated to ensure every community is operating under the most effective policies for the community based on development patterns, geography and other local conditions.

B. DEVELOPMENT OF FIRE MITIGATION POLICIES IN THE GENERAL PLAN

Counties have wide discretion in addressing locally important issues in the General Plan like fire hazards. The types of safety issues that concern each county may be very different, however many rural and suburbanizing counties recognize wildland fire hazard as a growing concern, exacerbated by population growth and increasing demands on natural resources.

OPR's *General Plan Guidelines* recommend that for every locally relevant issue, the county should articulate one or more broad objectives, establish more specific policies that would help achieve those objectives, and finally, devise implementation measures (specific action items or funding programs) to implement the policies. Before starting this process, adequate and accurate data and information must be collected and analyzed to provide the basis for sound policy decisions. Below is a brief discussion on the

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development of the general plan and how policies related to fire safety may be developed to meet local needs and conditions.

1. Data and Analysis

Collection of appropriate data is necessary to describe the conditions, constraints, opportunities, and character of the issue. The data and analysis section may include narrative descriptions, numerical data, maps, charts, and any other means of providing information about the issue of concern.

Fire and resource protection can be enhanced if the data and analysis portion of the plan describe the wildland fire environment in detail: fire history, slopes, fuel loadings, average/worst fire danger, rates of spread, potential for structural threat, access, ignition causes. Post-fire flood damage potentials could also be described.

The data and analysis section is the starting point for better fire and resource protection. The more complete the analysis, the stronger the justifications for action will be. If data and analysis are weak or incomplete, then everything that follows will also be weak.

2. Objectives, Goals and Policy Development

After conducting the data and analysis, issues of concern will arise. From these issues comes the development of objectives and goals which in turn leads to the identification of policies to achieve those objectives/goals. Policies need to be action oriented (“shall” rather than “should”) and linked to city or county ordinances or other feasible implementation mechanisms. Every aspect of a problem must have some kind of coping policy identified. For example, if fuel loading was identified in the data and analysis section as a problem, there should be some statement(s) to the effect that development will be designed or controlled to reduce the volume. If access was identified as a problem, there should be policies to improve road design.

3. Implementation Measures

These are the actual steps local government will take to implement their defined policies. Each policy described must have at least one (1) implementation measure, and may have several. For example, if a policy calls for improved access, then the implementation measure might be to adopt the road and street design recommendations in “Fire Safe Guides for Residential Development in California” into the local subdivision ordinance.

If a policy requires fuel reduction measures, then key ridges might be designated for fuel breaks, and a development agreement could require construction and maintenance by the developer. The government code also contains some specific implementation requirements. For example GC section 65564 requires that every local open-space plan contain an “action program consisting of specific programs with the legislative body intends to pursue in implementing its open-space plan.”

Fire mitigation policies could be implemented through this action program with regards to fuel break/fuel reduction programs within designated open-space areas. Additionally GC section 65910 requires each city and county to “prepare and adopt an open-space zoning

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ordinance consistent with the local open-space plan.” Again specific fire hazard mitigation policies may be implemented through this ordinance with regards to open-space areas.

III. CONSIDERATIONS WHEN DEVELOPING FIRE HAZARD POLICIES INTO THE GENERAL PLAN

This section address the specific issues related developing fire hazard policies into the General Plan. For each type of condition addressed, the subsection identifies the elements of the General Plan that may be impacted, relevant data and analysis followed by examples of polices which may address issues and conditions identified.

The policy examples are included not as policy recommendations, but as examples of the scope and level of detail which is most appropriate for a General Plan. In Appendix 2, The Mandatory Elements of the General Plan, additional guidance is provided on how these polices can be further addressed in specific plans, zoning and development agreements. The following subsections are not organized in any particular order and each plays in integral part in fire hazard mitigation planning. Each local government should take care to include policies in their General Plan related to fire hazard mitigation that are relative to the local conditions.

A. FIRE HAZARD - ALL AREAS

Fires are regular occurrences in California and mitigation opportunities exist at all stages including before, during and after a fire event. This subsection includes general considerations for prevention, protection and fire loss mitigation. Subsequent subsections address special considerations for wildland, urban interface and urban areas.

1. Assets at Risk from Wildfire

Possible affected GP Elements: Safety, Housing, Land Use

Data & Analysis:

Below is a list of data that may be useful in establishing a current picture of assets at risk, both public and private, which may be effected by wildfire. Check with the local CDF unit for California Fire Plan information with regards to assets at risk.

- Identify areas/assets at risk such as::
 - Recreational areas
 - Scenic areas
 - Ecologically significant areas
 - Critical watersheds
 - Public and private timberland
 - Wildlife habitat
 - Rangelands
 - Water supplies
 - Watersheds prone to contribute to flooding
 - Air Quality
 - Historic sites
 - Emergency Shelters
 - Structures, such as homes and business
 - Utilities and accompanying

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- Sensitive soils
 - Landslide prone areas
 - Infrastructure
 - Population and economic centers.
 - Classify assets based on their vulnerability to wildfire.
 - Evaluate the identified assets based on economic and social value to the community and replacement value.
 - Prioritize the assets for assisting in the selection of mitigation efforts and development of fire response plans.
- Note:** Assets are tangible and intangible. Prioritization can be accomplished in a variety of ways: most expensive to replace, easiest to protect, broadest benefit to community, closest to urbanized areas and any other priority system that may be relevant to the community.
- Additional data and analysis may be appropriate based on local conditions and geographic circumstances.

Policy Examples:

Based upon the data, analysis and prioritization of the local assets, policies should be developed appropriate for local conditions to mitigate potential losses due to wildfire.

In developing appropriate local policies to protect assets which may be at risk in the event of a wildfire, there are several key areas to consider including but not limited to, cost of protection/mitigation, ability to protect the asset or mitigate the threat, and the consequences of losing the asset to the community.

The following are examples of policies that a local government might adopt to mitigate damage to assets, both public and private, related to a wildfire:

- The County shall establish site specific safety measures to protect county assets from wildfire.
- Public and Private landowners shall implement site specific safety measures that mitigate to a low risk condition fire hazards around county assets.
- County agencies shall work cooperatively with other agencies and private interests to educate private landowners on fire-safe measures to achieve a low risk condition.
- Public and private funding, where available shall be used to the greatest extent practical to assist private landowners in implementing safety measures to achieve a low risk condition.
- Public and private property owners shall create and maintain a 1/4 mile fuel modification zone (buffer zone) around county assets to achieve a low risk condition.

2. Water Supply

Possible affected GP Elements: Safety, Circulation

Data & Analysis:

Below is a list of data that may be useful in establishing a current picture of water supplies related to wildfire suppression.

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- Review National Fire Protection Association Standards 1141 and 1231.
- Identify existing peakload water supply including private water supplies which might be used to fight wildfires.
- Determine current minimum peakload water supply necessary to serve the area.
- Project future peakload water supply and demand
- Evaluate the adequacy of the water delivery system.
- Identify and price potential improvements to the water supply to meet the current and projected identified need.
- Identify peakload water supply requirements necessary to avoid unacceptable risks.
- Evaluate cost benefit analysis of additional water storage with regards to wildfire suppression.
- Coordinate with water agencies regarding existing and future water supply.
- Coordinate with fire agencies regarding existing and planned service areas and capacity.

Policy Examples:

Based upon the data and analysis of the hazards, risks and vulnerabilities, associated with water supply, policies should be developed appropriate for local conditions to ensure access and availability of water supply in case of a wildfire. Issues which policy makers may wish to consider include, but are not limited to, protecting existing water supplies, developing additional water supplies and maintaining and/or enhancing the integrity of the delivery systems.

The following are examples of policies that a local government might adopt with regards to water supply and fire hazards:

- Public agencies shall maintain adequate water supplies to provide reasonable protection of assets from wildfire without disruption to community water supplies.
- Implement Office of Emergency Services URAMP Program.
- The county shall adopt a specific water supply standard such as NFPA 1142, "Rural Water Supplies". A developer shall certify compliance with that standard and continue maintenance and availability of that water supply.
- Each property outside of a developed water system shall maintain sufficient usable water storage to provide wildfire and structure protection on the property.

3. Emergency Services

Possible affected GP Elements: Safety, Circulation, Land Use, Open Space, and Conservation

Data & Analysis:

Below is a list of data that may be useful in establishing a current picture of emergency services related to wildfire.

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- Emergency response:
 - Identify the LAFCO approved service areas of emergency services including fire, police, ambulance, etc.
 - Review the LAFCO municipal service review (MSR), if completed, for the emergency services in the area. If no MSR is available, undertake your own review of the services including cost, municipal service level, response time, condition of existing facilities and vehicles, local delivery system and other relevant information.
 - Identify (map) existing and proposed emergency service facilities.
 - Identify areas where emergency services are not readily available.
 - Determine the projected need for emergency services in the area.
 - Based upon the LAFCO MSR, your own MSR and any other related information, evaluate the adequacy of existing emergency services and demand for additional services for current and projected need in the area.

Note: Beginning in 2000 MSR background

Policy Examples:

Based upon the data and analysis of local emergency services, policies should be developed appropriate for local conditions to mitigate potential losses due to wildfire. Issues which policy makers may wish to consider include, but are not limited to, mutual aid and other protection/response partnerships, desired emergency service levels, available resources to sustain the desired level of emergency services, the cost of maintaining protection measures, reasonable supplemental funding mechanisms, public awareness of emergency service levels, protection capability relative to growth and development, and centralized versus decentralized training opportunities.

The following are examples of policies that a local government might adopt with regards to emergency services:

- No development shall be approved unless the local government can make a finding that development can be reasonably accessed and served in the case of a wildfire.
- New development and subdivisions shall include appropriate facilities to assist and support wildfire suppression.
- Fire safe measures shall be commensurate with the response time for emergency services (e.g. longer distance to a fire department calls for more stringent mitigation measures).
- Communities and open space areas shall provide ¼ mile fuel modification zone for areas suitable for emergency protective services.
- Fire Districts/Departments will engage in wildland fire training with a recognized state or federal wildland fire agency at least once a year.
- All new fire district/department staff responsible for fire suppression activities shall receive a minimum of ___ hours of training in local terrain during their first year.
- County shall identify and/or construct a low risk fire safety area (location) where community members can evacuate to and wait until emergency service providers can

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reach them. The county shall annually review the adequacy of the fire protection infrastructure relative to growth and development.

- The county shall consider the long-term maintenance needs of emergency service equipment and facilities when developing its annual budget.

4. Emergency Evacuations

Possible affected GP Elements: Safety, Circulation, Land Use, and Open Space

Data & Analysis:

Below is a list of data that may be useful in establishing a current picture of local need and potential response strategies for emergency evacuations related to wildfire.

- Identify previously designated emergency evacuation routes.
- Identify the number of people who currently use these routes.
- Develop a projected increase of people who would need to use these routes over the next ten years.
- Identify potential circulation improvements necessary to avoid unacceptable community risks.
- Evaluate the availability and access of signed routes for use by evacuees and response vehicles during a fire emergency.
- Identify potential availability of alternate routes.
- Identify the adequacy of the access and evacuation routes relative to the degree of development or use (e.g., road width, road type, length of dead-end roads, turnouts, etc.) (Public Resources Code (PRC) [4290](#).)
- Evaluate the potential for disruption to evacuation routes from fire, landslide movement, fault ruptures, earthquake-triggered failures, volcanic eruption and other hazards.
- Identify the location and capacity of existing emergency shelters.
- Estimate the need for expanded capacity at existing shelters or the need for additional emergency shelters. Shelter needs include residents, workers, campers, tourists and other people reasonably expected in the area.

Policy Example:

Based upon the data and analysis of various scenarios for emergency evacuations at the local level, policies should be developed appropriate for local conditions. Issues which policy makers may wish to consider include, but are not limited to, the cost for retrofitting evacuation routes relative to sheltering in place, public awareness of evacuation routes, maintain the availability of evacuation routes and unique conditions relative to specific land uses or special needs populations. The following are examples of policies that a local government might adopt with regards to emergency evacuations:

- The county shall designate and maintain safe emergency evacuation routes from all communities and assets at risk.

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- The county shall establish a unified road signing and street addressing system.
- The county shall establish and maintain low risk fire safety areas (location) and/or emergency shelters.
- The county shall establish a public information program educating the public on evacuation routes and fire safety.
- The county shall provide for broad public access to information regarding evacuation routes.
- The county shall establish minimum road widths and flammable vegetation clearances for evacuation routes. (*PRC Sections [4290](#) and [4291](#)*)

5. Firefighter Safety

Possible affected GP Elements: Safety, Land Use

Data & Analysis:

Below is a list of data that may be useful in establishing a current picture of firefighter safety related to wildfire.

- Identify existing defense zones.
- Identify low risk fire safety areas (location).
- Identify existing and alternate evacuation routes.
- Evaluate adequacy of existing defense zones.
- Evaluate need for additional defense zones to protect assets or communities at risk.
- Evaluate area to determine where it would be unsafe for ground fire fighting.
- Designate and map updated defense zones.

Policy Example:

Based upon the data and analysis of the hazards, risks and vulnerabilities, regarding firefighter safety, policies should be developed appropriate for local conditions. Issues which policy makers may wish to consider include, but are not limited to, ability to maintain safety areas and defense zone, the appropriateness of centralized or decentralized training and unique geographic considerations for fire fighters.

The following are examples of policies that a local government might adopt with regards to firefighter safety:

- Public agencies shall designate and maintain low risk fire safety areas (locations).
- Public agencies shall designate and maintain fire defense zones where fire fighters can control wildfire without undue risk to their lives.
- Designate and publicize areas where firefighter safety prohibits ground attack fire fighting.
- Public Agencies and residential developments shall maintain fire defense improvements.

6. Fire Effects (Minimizing Fire Loss)

Possible affected GP Elements: Conservation, Open Space, Land Use

Data & Analysis:

Below is a list of data that may be useful in establishing a current picture of fire effects related to wildfire:

- Establish desired initial attack success rate.
- Identify maximum acceptable fire size.
- Determine which geographic areas would benefit from mitigation programs to reduce fire effects in the event of fire.
- Estimate cost of treatment methods and compare to cost of suppression.
- Determine which mitigation measures should be used in each geographic area to accomplish fuel modification and reduce fire risk. The following are possible choices:
 - Education
 - Increase initial attack capability
 - Prescribed Burns
 - Wildfire protection zones
 - Forest thinning
 - Grazing

Policy Examples:

Based upon the data and analysis of the hazards, risks and vulnerabilities with regards to fire effects, policies should be developed appropriate for local conditions. Issues which policy makers may wish to consider include, but are not limited to, treatment costs verses suppression costs; cost, benefits and opportunities for mitigation at the parcel level verses the landscape level; cost to replace a community asset; impact of an irreplaceable community asset; the potential impact of mitigation measures on areas of special concern (cultural, environmental); and, fixed fire defense opportunities vs. land management opportunities.

The following are examples of policies that a local government might adopt to mitigate fire effects:

- Forest thinning, grazing, and hand or mechanical clearing shall be conducted in lieu of prescribed fire unless prescribed fire can be clearly shown to provide the greatest overall benefit.
- Each community shall establish and maintain a plan that identifies hazards and risks, identifies targeted priority areas, and establishes preferred vegetation/fuel treatment methods and timing.

B. FIRE HAZARD - WILDLAND AREAS

In addition to the areas of concern listed in the "Fire Hazards-All Areas" section, the following should be considered when developing policies related to wildland areas.

1. Fuel Modification

Possible affected GP Elements: Safety, Land Use, Open Space, and Conservation

Data & Analysis:

Below is a list of data that may be useful in establishing a current picture of fuel modification in wildland areas related to wildfire. In order to identify the local areas at risk with regards to fuel modification collect and analyze the following.

- Identify and classify fire hazard severity **zones** based on:
 - Degree of development.
 - Fuel loading.
 - Weather.
 - Slope.
 - Aspect.
 - Accessibility to fire protection assistance (i.e., response time, availability of helispots, proximity of air tanker attack bases, availability of woods workers, etc.).
 - Proximity to communities or assets at risk.
 - Historic fire data.
 - Other pertinent information and maps (see GC [Sections 51178-51189.5](#), PRC [Sections 4201-4205](#) and <http://www.fire.ca.gov/ab6/ab61st.html>).
- Analyze the potential for fire to critically impact or eliminate habitat or open-space values.
- Identify the policy implications for fire safe or fuels reduction policies of both public and private conservation or open-space areas.
- Prioritize areas needing vegetation/fuel treatment by:
 - Identify maximum acceptable fire size.
 - Estimating costs of treatment methods.
 - Developing timeline for implementation and maintenance of fuels treatments.
 - Evaluating how treatment methods impact habitat and open space resources and floodplains.

Policy Examples:

Based upon the data and analysis of the hazards, risks and vulnerabilities with regards to fuel modification, policies should be developed appropriate for local conditions to mitigate potential losses due to wildfire. In addition to the issues discussed in Fire Hazards - All Areas, policy makers may wish to consider other issues unique to wildland fires including, but are not limited to, acceptable level of fire risk, the degree of

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consistency and coordination between public and private landowner fuel modification activities, the variety of fuel modification techniques and public awareness and ability to comply with residential clearance policies.

The following are examples of policies that a local government might adopt with regards to fuel modification to mitigate fire hazards in wildland areas.

- Prior to the construction of any structure, whether residential, recreational, or commercial, a site specific fuel mitigation plan shall be prepared. The location and development of any road, or any other man-made structure that may act as a fuel barrier, shall be done in consideration of its maximum benefit as a fuel barrier/fire break. The plan shall cover the entire parcel and include measures for modifying fuel loading prior to development and a plan to maintain that protection over time.
- All residences shall comply with the fuel modification requirements of PRC [Section 4291](#), whether located in state responsibility or local responsibility areas.
- Forest thinning and grazing and hand or mechanical clearing shall be conducted in lieu of prescribed fire unless prescribed fire is clearly shown to provide the greatest overall benefit.
- County resources will work with landowners to assist in choosing the best method of fuel reduction.
- County shall establish desired initial attack success rate.
- Evaluate how methods impact habitat and open space resources and floodplains.
- Identify preferred methods for areas needing treatment:
 - Education
 - Increase initial attack capability
 - Prescribed fire
 - Wildfire protection zones
 - Forest thinning
 - Grazing
 - Mechanical clearing
 - Hand clearing (piling, burning/chipping)

C. URBAN INTERFACE AREAS

In addition to the areas of concern listed in the “Fire Hazards-All Areas” section, the following should be considered when dealing with urban interface areas.

1. Urban Interface Hazards

Possible affected GP Elements: Land Use

Data & Analysis:

Below is a list of data that may be useful in establishing a current picture of fire hazards in the Urban Interface. The purpose of the collection and analysis of the following data is to determine areas containing hazards, risks, and vulnerabilities in the Urban Interface.

- Check the list of “Communities at Risk” per the National Fire Plan (see www.cafirealliance.org).
- Check “high fire hazard severity zones” maps. (GC [Section 51178](#), see maps at <http://ceres.ca.gov/planning/nhd/> and check with local governments for updates).
- Update “high fire hazard severity zones” maps as necessary.
- Inventory and prioritize your assets at risk (public and private).
- Undertake cost/benefit analysis of various hazard mitigation measures as opposed to fire suppression.
- Establish low risk category standards (tree spacing, predicted surface fuels flame length to crown height ratios, etc).

Policy Examples:

Based upon the data and analysis of the hazards, risks and vulnerabilities, policies should be developed appropriate for local conditions to mitigate potential losses due to wildfire.

In addition to the issues discussed in Fire Hazards - All Areas, urban interface areas may require the consideration of other conditions including construction and zoning requirements, impact of permanent residents vs. seasonal residents, and maintenance of mitigated areas.

The following are examples of policies that a local government might adopt to mitigate fire hazards in the urban interface:

- Public and private landowners shall minimize the risk of wildfire moving from one property to adjacent property.
- Public landowners shall provide a minimum of ¼ mile defensible fuel profile (buffer zone) at property lines and near points of special interest.
- Public landowners shall implement safety measures that result in a low risk category designation for wildfires threatening the urban interface.
- County agencies shall work cooperatively with other agencies and private interests to educate private landowners on fire-safe measures to implement in order to achieve a low risk category designation.
- Public and private funding for fire risk hazard reduction shall be prioritized to assist private landowners in implementing safety measures for a low risk designation.

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- All residential, commercial and industrial construction and development will comply with the Board of Forestry's State Responsibility Area Fire Safe Regulations (see California Code of Regulations, Title 14, Sections 1270 et seq.) relating to roads, water, signing and fuel modification.
- Public and private property owners shall maintain property in a low risk category (PRC [Section 4291](#) and GC [Section 51182](#)).
- Landowners shall maintain minimum defensible space from all structures or improvements on their property and work with neighbors and local government to address defensible space within 100' of structures that lies on adjacent property.
- The county shall work to facilitate agreements to provide fuel reduction efforts between public and private ownership's where recommended clearances extend onto public lands.

D. FIRE HAZARD - URBAN AREAS

In addition to the areas of concern listed in the "Fire Hazards-All Areas" section, the following should be considered when dealing with urban areas.

1. Fuel/Structure Modification

Possible affected GP Elements: Safety, Land Use, Open Space, Conservation, and Housing

Data & Analysis:

Below is a list of data that may be useful in establishing a current picture of fuel and structure modifications in urban areas related to wildfire. In order to identify the local areas/structures at risk with regards to fuel and structure modifications collect and analyze the following:

- Identify and classify fire hazard severity areas (Bates Bill?).
- Evaluate age, condition, and size of structures (code related issues).
- Evaluate use and occupancy of structures.
- Evaluate construction materials and roofing assemblies.
- Evaluate structure density.
- Evaluate access and evacuation routes.
- Evaluate historical fire data.
- Evaluate other pertinent information (maps).
- Evaluate landscaping as potential fire hazard.
- Evaluate neighborhood defensible space (island of safety).
- Identify fire protection jurisdictions.
- Evaluate use of open space and other facilities as part of overall fire protection/mitigation plan.

Fire Hazard Planning

- Inventory urban forests and evaluate affect with regard to fire hazard.

Policy Examples:

Based upon the data and analysis of the hazards, risks and vulnerabilities with regards to fuel/structure modifications, policies should be developed appropriate for local conditions to mitigate potential losses due to fire. In addition to the issues discussed in Fire Hazards - All Areas, urban areas may require the consideration of other conditions including construction and zoning requirements, impact of permanent residents vs. seasonal residents, maintenance of mitigated areas, access routes, acreage of open space and/or areas having wildland fuel characteristics vs. wildfire response capability. The following are examples of policies that a local government might adopt to mitigate fire hazards in urban areas.

- Urban developments shall be planned and constructed to resist the encroachment of uncontrolled fire.
- Creation of a self assessment district to maintain a fuel modification program.
- Establish public education services through the appropriate fire protection agencies.
- Open space facilities will be planned, designed, and placed to provide for fire protection/mitigation.
- Structures with fire protection sprinkler systems must provide for outside alarm notification.
- In high fire hazard areas fire rated roofing and construction materials shall be used in reconstruction and new development.
- Use of fire rated materials for construction purposes shall not be used as a means to discriminate against affordable housing policies.
- Open spaces shall be maintained so that ground fuels don't promote the spread of wildfire and aerial fuels don't allow the spread of a fire through the tree canopy.
- Public Open Spaces shall be used as demonstration areas and examples to neighborhood residents.
- Create an urban forestry plan to be concert with local fire plan.

E. POST EVENT RECOVERY & MAINTENANCE

1. Post Event Section

Introduction

The Recovery and Maintenance phase is an opportunity for the community and landowners to re-evaluate land uses and practices. A current General Plan will usually have the baseline data which to make the analysis.

2. Short Term Recovery: Directly Related to Impacts of Fire

Possible affected GP Elements: Land Use, Open Space, and Conservation

Data & Analysis:

Below is a list of data that may be useful in establishing a current picture of short-term recovery possibilities related to impacts of a wildfire.

- Evaluate post fire fuel hazard ratings.
- Evaluate vegetation/fuel conditions relative to future flood and fire control
- Evaluate vegetation conditions relative to future fire conditions and wildlife habitat

Policy Examples:

Based upon the data and analysis, policies should be developed for short term recovery methods that are appropriate for local conditions to mitigate potential future losses due to wildfire. Issues that public policy makers may choose to consider include but are not limited to, benefit of recommended measure commensurate with the protection needed, opportunities for re-introduction of native species, short term recovery needs vs. long term environmental health, debris removal vs. habitat health, and consider short term flood risks and mitigation opportunities.

The following are examples of policies that a local government might adopt to mitigate wildfire impacts in the shortly after an event.

- The County shall endeavor to reduce post fire recovery time by replanting native species.
- Ensure fire protection measures provide sustainability for restoration projects.
- Ensure reduced future fire risk by removing sufficient dead woody vegetation while retaining reasonable wildlife habitat (cross-link with water quality).
- Retain sufficient downed logs for erosion control as well as habitat

3. Long Term Opportunities-Maintenance

Possible affected GP Elements: Safety, Land Use, Open Space, and Conservation

Data & Analysis:

Below is a list of data that may be useful in establishing a current picture of long term maintenance opportunities related to wildfire:

- Identify endangered species, cultural and historic resources, hazardous material conditions.
- Evaluate patterns and trends of development.
- Evaluate impacts, and potential impacts, of event on availability and condition of infrastructure.

Fire Hazard Planning

- Evaluate impact, and potential impacts of the event on environment and ecosystem, including primary, secondary, and tertiary impacts.
- Evaluate “Fire Plan”, Safety Element, for adequacy.

Policy Examples:

Based upon the data and analysis of the long term maintenance opportunities policies should be developed appropriate for local conditions to mitigate potential losses due to wildfire. Issues that public policy makers may choose to consider include but are not limited to, the extent to which existing land use designations are appropriate, the potential for the re-evaluation of community assets, the success of past mitigation measures, sustainability of recommended fire mitigation measures and assurance that mitigation measures are continued to be implemented.

The following are examples of policies that a local government might adopt to mitigate fire impacts over the long term.

- Subdivisions and developments shall be designed to exist in concert with the natural ecosystem and to promote forest health and stewardship.
- Protect investment through reduction of fire risk.
- Extend defensible fuel profile zone agreements to subsequent landowners.
- Promote the opportunity to return to native plant species.
- In high risk wildland fire areas rebuild structures with a minimum 100 foot setback (when feasible) from property lines.
- Residential dwellings will be re-built using state of the art construction methods, materials, codes, and standards to reduce their susceptibility to wildfire.
- The legislative body shall periodically review the jurisdictions fire history and lessons learned, for the purpose of ensuring that mitigation measures are being maintained.

F. FLOOD HAZARD RELATED TO WILDFIRE (PRE- AND POST-FIRE)

1. Fire Effects

Possible affected GP elements: Land Use, Open Space, and Conservation

Data & Analysis:

Below is a list of data that may be useful in establishing a current picture of flood hazards related to wildfire. In order to identify the local areas at risk from floods due to wildfire collect and analyze the following:

- Collect historical data on flooding, such as frequency and intensity.
- Identify (map) areas within floodplains or subject to inundation by a 100-year flood and the 500-year flood (see <http://ceres.ca.gov/planning/nhd/>).
- Identify historic rainfall intensity.

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- Determine and map areas that are potentially prone to flooding, and debris flow, following a catastrophic wildfire.
- Determine specific vulnerabilities within the identified flooding areas.

Policy Examples:

Based upon the data and analysis of the hazards, risks and vulnerabilities with regards to flooding, policies should be developed appropriate for local conditions to mitigate potential losses due to wildfire. Issues that public policy makers may choose to consider include but are not limited to, the need to re-asses an area after a wildfire to determine increased risk to flooding, and the cost and benefit associated with new mitigation measures regarding flooding due to wildfire.

The following are examples of policies that a local government might adopt to mitigate flood hazards related to a wildfire:

- All wildfire burned areas shall be treated to control storm water runoff prior to winter rains.
- Wildfire areas shall be restored by planting native vegetation cover or encouraging the re-growth of native species as soon as possible to aid in control of storm water runoff.
- Potential for future flood hazard shall be reduced by sufficient removal of dead, woody vegetation along watercourses following a catastrophic fire to reduce the risk of future catastrophic fires.
- Fire hazard reduction measures should balance forest health with fuel reduction activities while keeping in mind the potential effect on flood management.

(Note: Reduction in fire risk will simultaneously reduce flood risk.)

G. LANDSLIDE HAZARD

1. Wildfire Effects

Possible affected GP Elements: Conservation, Open Space

Data & Analysis:

Below is a list of data that may be useful in establishing a current picture of landslide effects as a result of a wildfire. In order to identify the local areas at risk from landslides due to a wildfire collect and analyze the following:

- Identify landslide prone areas from the Division of Mines and Geology and the U.S. Geological Survey landslide inventory and landslide and debris-flow susceptibility maps where maps exist.
- Identify areas which would be prone to landslides following a catastrophic wildfire.

Policy Examples:

Based upon the data and analysis of the hazards, risks and vulnerabilities with regards to landslides, policies should be developed appropriate for local conditions to mitigate

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potential losses due to wildfires and subsequent landslides. Issues that public policy makers may choose to consider include but are not limited to, the extent to which the area is at risk to landslides due to wildfire, the need to adopt new mitigation measures, and the potential impact of mitigation measures on areas of special concern (cultural, environmental), and cost of mitigation vs. benefits.

The following are examples of policies that a local government might adopt to mitigate landslide hazards.

- All wildfire areas prone to landslides shall be treated avert storm water runoff prior to winter rains.
- Native vegetation cover shall be planted or temporary slope stabilization measures will be installed as soon as possible to aid in landslide control.
- Potential for landslides shall be reduced by sufficient removal of dead, woody vegetation following a catastrophic fire.

(Note: Reduction in fire risk will simultaneous reduce landslide.)

H. TERRORIST RISK

This sub-section is included to ensure that your terrorist preparedness actions do not substantially increase your fire risk or unduly restrict emergency response. Communities should carefully way the impact of both terrorism preparedness activities and fire preparedness activities and ensure that clear communication exists pre-incident and during the incident between the legislative body, law enforcement, emergency response units.

Possible affected GP Elements: Circulation, Land Use

Data & Analysis:

Below is a list of data that may be useful in establishing a current picture of terrorist risks that are related to wildfire:

- Identify potential access barriers which, if removed, would prevent fire fighter access (bridges, dams, etc.).
- Develop an alternative emergency access plan.
- Identify areas for treatment as survivor zones (areas that could survive without protection assistance).
- Prioritize zones of treatment if sufficient suppression forces are unavailable.

Policy Examples:

Based upon the data and analysis of the hazards, risks and vulnerabilities with regards to terrorists, policies should be developed appropriate for local conditions to mitigate potential losses due to wildfire. Issues that public policy makers may choose to consider include but are not limited to, identify and prioritize assets at risk for protection in the absence of response forces, are ground circulation routes adequate in the event of

Fire Hazard Planning

wildfire due to terrorist attacks, identify areas that could be exploited by terrorists that would tie up fire response assets and/or inhibit emergency response.

The following are examples of policies that a local government might adopt to mitigate terrorist risks related to wildfires:

- Wildfires shall be limited in size by the establishment of survivor zones (areas that could stop fires without protection assistance).
- Second-line defense zones shall be strategically placed to be used independent of key structures (bridges, dams).
- Key structures (bridges, dams) shall be protected from terrorist attack to prevent fire emergencies.
- Defense zones shall be adequate for fire protection without dependency on air attack.



Gray Davis
GOVERNOR

State of California



Tal Finney
INTERIM DIRECTOR

FIRE HAZARD PLANNING

General Plan Technical Advice Series

APPENDICES

Governor's Office of Planning and Research

November 2003

APPENDIX 1: CONTACT INFORMATION, RELATED WEB-PAGES AND PUBLICATIONS

Contact names, phone numbers, web pages, email addresses, documents, maps, and legislation for emergency preparedness and planning.

ORGANIZATION	CONTACT
State Fire Marshall's Office (SFMO)	Melissa Frago, Program Coordinator Data Collection & Analysis/Fire Safe Planning OSFM - Code Development & Analysis Division (916) 445-8422 Melissa.frago@fire.ca.gov
California Department of Forestry and Fire Protection (CDF)	Rich Schell, Staff Chief California Fire Plan California Department of Forestry and Fire Protection (916) 653-7472 rich.schell@fire.ca.gov
Governor's Office of Planning and Research (OPR) State Clearinghouse and Planning Unit	P.O. Box 3044 Sacramento CA 95812-3044 (916)-445-0613 web page: www.opr.ca.gov E-mail: state.clearinghouse@opr.ca.gov
Office of Emergency Services (OES)	Hazard Mitigation Unit - North Phone: 916-845-8150 Fax: 916-845-8386 Hazard Mitigation Unit - South Phone: 626-683-6700 Fax: 626-683-6702

WEB-PAGE ADDRESSES		
ORGANIZATION	ADDRESS	DESCRIPTION
Governor's Office of Planning and Research (OPR)	www.opr.ca.gov	Information on the Governor's Office of Planning and Research and publication produced by OPR.
California Department of Forestry and Fire Protection (CDF)	www.fire.ca.gov	Direct link to the Department of Forestry and Fire Protections Web-Page. Look here for listing of local CDF units in your area.
U.S. Forest Service, Department of Agriculture	www.r5.fs.fed.us/	Direct link to the Forest Service Pacific Southwest Region Home Page which contains contact information for California Field offices.
Contract Counties: Marin County Fire Los Angeles County Fire Orange County Fire Authority	www.marincountyfire.org www.lacofd.org www.ocfa.org	Direct links to the web pages for the counties that contract with CDF to provide their own wildfire suppression services.

WEB-PAGE ADDRESSES		
ORGANIZATION	ADDRESS	DESCRIPTION
Governor’s Office of Emergency Services (OES)	www.oes.ca.gov	Direct link to the Governor’s Office of Emergency Services Home Page.
Federal Emergency Management Agency (FEMA)	www.fema.gov/txt/library/fr02-4321.txt	Hazard Mitigation Planning and Hazard Mitigation Grant Program
Federal Insurance & Mitigation Administration (FIMA)	www.fema.gov/fima	Manages the National Flood Insurance Program and oversees FEMA’s mitigation programs.
FEMA State and Local Mitigation Planning Resources	www.fema.gov/fima/planning_toc3.shtm www.fema.gov/fima/planning.shtm www.fema.gov/fima/planning_resource.shtm	How to Guide. Understanding Your Risks (identifying hazards and estimating losses). Provides lists of various guides and other resources for creating hazard mitigation plans that comply with DMA 2000.
FEMA’s Hazards	www.fema.gov/hazards	For information about a specific hazard and how to deal with it.
Fire Safe Councils	www.firesafecouncil.org	Home page for the Fire Safe Councils

LIST OF AVAILABLE PLANNING RESOURCES		
ELEMENT	AUTHORITY	DESCRIPTION
General Plan Guidelines	OPR	Comprehensive Guide to city and county planning. Discussion of the General Plan and its contents.
Planning, Zoning, and Development Law	OPR	California Government Code Sections 65000 - 66037 (Planning and Zoning Law) and Sections 66410-66499.58 (Subdivision Map Act) plus Miscellaneous Planning-Related Laws
Planners Training Series	OPR	Publications discussing planning specific topics (i.e. Variances, Conditional Use Permits)
General Planning Publication	OPR	Publications covering a variety of general planning topics (i.e. Citizens Guide to Planning, The Planning Commissioner’s Book)
CEQA Technical Advice Series	OPR	Publications dealing with the California Environmental Quality Act.
Fire Hazard Severity Zoning	SFMO	Assessment of fire hazard severity and identification / adoption of hazardous areas for the purpose of public safety and fire prevention is currently required in both SRA and LRA.
Firewise Information	Firewise	www.firewise.org Provides documents, videos, and other resources.

LIST OF AVAILABLE PLANNING RESOURCES		
ELEMENT	AUTHORITY	DESCRIPTION
		<p>Firewise Downloads (zip files) www.firewise.org/downloads.html Especially note: Fire Hazard Assessment in the Wildland/Urban Interface: www.firewise.org/pubs/WHAM/nfpa/wham.pdf Developing A Cooperative Approach to Wildfire Protection: www.firewise.org/pubs/developing/ Firefighter Safety in the Wildland/Urban Interface: www.firewise.org/pubs/firefighter_safety/</p>
Firewise Communities Workshops	Firewise	<p>www.firewise.org/communities Through presentations by experts and local stakeholders and workshop tools such as state-of-the-art mapping and wildfire simulations, community leaders and professionals will learn first hand the complexities involved in building communities (and citizenry) that are prepared for the inevitable effects of unwanted wildland fire. Participants learn how to:</p> <ul style="list-style-type: none"> ➤ recognize interface fire hazards ➤ design Firewise homes and landscapes ➤ deliver fire education ➤ and incorporate Firewise planning into existing and developing areas of communities
Model Ordinance for Defensibility of Space and Structures.	Publication - SFMO	<p>Includes Zoning, Fire Protection Planning, Building Standards and Enforcement of fire prevention measures within Very High Fire Hazard Severity Zones. www.osfm.fire.ca.gov/pdf/fireengineering/structural/MainText.pdf</p>
Real Estate (Wildfire) Natural Hazard disclosure	Publication - SFMO	<p>Requires written disclosure upon sale of real property whether or not the property is located in an identified or adopted Very High Fire Hazard Severity Zone. www.ceres.ca.gov/planning/nhd/wildfirehazards.html</p>

LIST OF AVAILABLE PLANNING RESOURCES		
ELEMENT	AUTHORITY	DESCRIPTION
A discussion of the County General Plan and the role of Strategic Fire Protection Planning	Publication - SFMO	Outlines strategic planning for fire safety and prevention within a County General Plan update. www.ucfpl.ucop.edu/UWI%20Documents/169.pdf
I-Zone - Urban/Wildland fire Prevention and Mitigation	Publication - SFMO	Contains several chapters about various aspects of fire prevention in the Urban-Wildland Interface areas of California. www.ucfpl.ucop.edu/FMIZone.htm
Fire Hazard Zoning fieldguide	Publication - SFMO	Outlines and explains state laws relating to LRA and SRA fire hazard zoning.
Fire Prevention Field Guide	Publications - SFMO	www.osfm.fire.ca.gov/firesafeplanning.html Various field guides for fire prevention: <ul style="list-style-type: none"> ➤ Structural Fire Prevention Field Guide ➤ Fire Hazard Zoning Field Guide ➤ Industrial Operations Field Guide ➤ Power Line Fire Prevention Field Guide ➤ Property Inspection Guide ➤ Railroad Fire Prevention Field Guide
Wildland Fire Hazard Assessment	Publication - SFMO	A research document containing information about fire hazard zoning history, laws and levels of compliance in local jurisdictions. This document also includes several different fire hazard assessment methods.
Wildland Urban Interface Code (IFC)	Publication - ICBO	A model fire safety code for reference and/or adoption in Urban-Wildland Interface areas. www.icbo.org/gateway/UWIS2K.htm
Informing the Public about Hazards	FEMA	www.fema.gov/hazards Information about specific hazards and how to deal with them.
FEMA State and Local Mitigation Planning Resources	FEMA	www.fema.gov/fima/planning.shtm www.fema.gov/fima/planresource.shtm Provides lists of various guides and other resources for creating mitigation plans that comply with DMA 2000.
DMA 2000: State & Local Plan Interim Criteria and Mitigation Planning Workshop for Local Governments	FEMA	www.fema.gov/fima/planning8.shtm In March and April, 2002, two-day planning workshops used to brief FEMA and state personnel on DMA planning requirements, as well as gain knowledge and skills needed to enable participants to fulfill mitigation planning responsibilities under the act were

LIST OF AVAILABLE PLANNING RESOURCES		
ELEMENT	AUTHORITY	DESCRIPTION
		conducted at each FEMA region. The materials used in those courses, as well as state and local plan interim criteria can be accessed online.
DMA 2000: Local Plan Crosswalk	FEMA	www.fema.gov/doc/fima/app2_082902.doc Checklist for review and submission of Local Mitigation Plans to the State Hazard Mitigation Officer
Western Governor’s 10 Year Comprehensive Strategy	National Fire Plan and Western Governor’s Association	www.westgov.org/wga/initiatives/fire/final_fire_rpt.pdf
Western Governor’s 10 Year Implementation Plan	National Fire Plan and Western Governor’s Association	www.westgov.org/wga/initiatives/fire/implem_plan.pdf
Healthy Forests Initiative	Office of The President	www.whitehouse.gov/infocus/healthyforests/toc.html
Wildfire Suppression: Strategies for Containing Costs, National Academy of Public Administration	Document - National Fire Plan and National Academy of Public Administration(NAPA)	http://38.217.229.6/NAPA/NAPAPubs.nsf/9172a14f9dd0c36685256967006510cd/93c992a504968d5485256c7d00545b41/\$FILE/WILDFIRE%2BSUPPRESSION%2BReport%2BSept%2B02.pdf
“Growing Smart Legislative Guidebook” Section 7-210 Natural Hazards Element	American Planning Association (APA)	www.planning.org/guidebookhtm/chapter_seven_5.htm

GIS RESOURCES		
ELEMENT	AUTHORITY	DESCRIPTION
California Maps	CDF/FRAP	Maps of various fire-related data; can be downloaded as pdf files or as meta-data for GIS analysis
<i>Disaster Response: GIS for Public Safety</i>	Book - ESRI Press	by Gary Amdahl, ISBN 1-879102-88-9, \$19.95 list (discounts available at online bookstores)
GIS Technology for Disasters and Emergency Management	ESRI	www.esri.com/library/whitepapers/pdfs/disastermgmt.pdf
Geographic Information Systems: A Powerful New Tool for Fire and Emergency Services	ESRI	www.esri.com/library/whitepapers/pdfs/fire_ems.pdf
TBD	OES	The Governor’s Office of Emergency Services can provide assistance {Note: per Randy Fortner}
Template for Fire Safe Plans	State of Utah	http://www.nr.utah.gov/SLF/fmcommu

GIS RESOURCES		
ELEMENT	AUTHORITY	DESCRIPTION
	Department of Natural Resources	nityfirepln.htm
Template for DMA 2000 Compliant Fire Mitigation Plans for California Communities	TBD	{Note: this effort is currently in process by a working group of the California Fire Safe Council (of which I am a member). The target for completion is February 2003, so hopefully a reference can be included in this document.}

STATUARY AND OTHER REQUIREMENTS OF THE PLAN(S)		
ELEMENT	AUTHORITY	DESCRIPTION
California Fire Plan	<p>PRC 4130</p> <p>http://www.leginfo.ca.gov/cgi-bin/displaycode?section=prc&group=04001-05000&file=4125-4136</p>	<p>A plan for adequate statewide fire protection of state responsibility areas shall be prepared by the board in which all land of each type shall be assigned the same intensity of protection.</p> <p>The CA Fire Plan is a statewide planning framework to assess wildland fire related conditions and apply appropriate pre-fire actions to reduce the costs and losses from wildfire. Currently adopted by OES as the State Hazard Mitigation Plan. Required by the CA BOF&FP to be updated by CDF every 5 years. The plan is built at the local level with significant input from federal and local government and stakeholders</p>
State Responsibility Area Review	<p>PRC 4128.5</p> <p>http://www.leginfo.ca.gov/cgi-bin/displaycode?section=prc&group=04001-05000&file=4125-4136</p>	Requires the Board of Forestry and Fire Protection to review and adopt updates to State Responsibility Area (that area of the State where CDF has wildland fire protection responsibility), every 5 years
Board of Forestry & Fire Protection's Fire Safe Regulations	<p>PRC 4290</p> <p>http://www.leginfo.ca.gov/cgi-bin/displaycode?section=prc&group=04001-05000&file=4291-4299</p>	Regulations require that specific fire safe standards be met in the planning and development of a subdivision as well as the issuance of a building permit.
Building Standards	<p>GC 51189</p> <p>http://www.leginfo.ca.gov/cgi-bin/displaycode?section=gov&group=51001-52000&file=51175-</p>	Authorizes the State Fire Marshal to adopt building standards for fire safety in Very High Fire Hazard Severity Zones, and to publish a model ordinance for structure defensibility.

STATUARY AND OTHER REQUIREMENTS OF THE PLAN(S)		
ELEMENT	AUTHORITY	DESCRIPTION
	51189	
California All Incident Reporting System	HSC 13110.5 http://www.leginfo.ca.gov/cgi-bin/displaycode?section=hsc&group=13001-14000&file=13100-13135	Requires reporting to State Fire Marshal of all fire, emergency medical services, hazardous materials and other fire department responses.
Fire Hazard Severity Zones	GC 51175-51179 http://www.leginfo.ca.gov/cgi-bin/displaycode?section=gov&group=51001-52000&file=51175-51189	Requires local jurisdictions to assess hazards and adopt fire prevention standards for defensible space within Very High Fire Hazard Severity Zones.
	4291	
	51182	
FEMA Interim Final Rule: Disaster assistance: Hazard mitigation planning and Hazard Mitigation Grant Program	Disaster Mitigation Act of 2000	http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2002_register&docid=02-4321-filed.pdf

LIST OF CURRENT PLANNING AND OUTREACH PROCESSES		
ELEMENT	SOURCE	DESCRIPTION
CA Fire Plan	CDF Units	The CA Fire Plan is an assessment tool based upon scientific data and stakeholder validation of the input values and resulting assessment. The plan is developed locally in 27 independently assessed and assembled plans that evaluate Assets at Risk, Level of Service, Vegetation and Fire Weather. The resulting data aggregate identifies priority areas for pre-fire management projects. Community and local government planning can take advantage of the data and assessments that are readily available.

BASELINE DATA USED IN PLANNING AND EVALUATING PROGRAMS AND PLANS		
ELEMENT	AUTHORITY	DESCRIPTION
State Responsibility Area	PRC 4128.5 http://www.leginfo.ca.gov/cgi-bin/displaycode?section	Acts as trigger for application of regulations and standards.

BASELINE DATA USED IN PLANNING AND EVALUATING PROGRAMS AND PLANS		
ELEMENT	AUTHORITY	DESCRIPTION
	=prc&group=04001-05000&file=4125-4136	

LIST OF PROGRAMS WHICH PROVIDE PLANNING MONEY		
ELEMENT	AUTHORITY	DESCRIPTION
National Fire Plan	Federal Funding	California Fire Alliance Resource Guide: www.cafirealliance.org/grant.asp Some of these funds are administered by the California Fire Safe Council Community - Based Wildfire Protection Plan: www.firesafecouncil.org/ca/fundingindex.html
FEMA - Hazard Mitigation Planning and Hazard Mitigation Grant Program	Federal Funding	For implementing Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act which provides new and revitalized approaches to mitigation planning.
Grants for Local Government	ESRI	www.esri.com

APPENDIX 2: THE MANDATORY ELEMENTS OF THE GENERAL PLAN

[Section 65000](#) et. seq. of the Government Code is referred to as the Planning and Zoning Law. As described in the *General Plan Guidelines*, each general plan must contain the seven elements mandated by state law ([Section 65302](#)). A jurisdiction may adopt additional “optional” elements on topics which it deems necessary. All elements of the general plan have equal weight; no one element is superior to another. The general plan consists of objectives, policies, and diagrams that establish the county’s vision of its future pattern of land uses. The various parts of the general plan must be internally consistent (GC [Section 65860](#)), so that no portion of the general plan contradicts or undercuts another. Objectives, policies and diagrams, for example, must be consistent across the elements. Often, this is best served by avoiding redundant objectives and policies among the elements. The general plan is a policy document. It is not regulatory, so it depends upon local regulations such as zoning and subdivision ordinances for its implementation. Recognizing the primacy of the general plan, California planning law requires all counties and general law cities to approve zoning, specific plans, subdivisions, development agreements, and capital improvement projects only when consistent with the adopted general plan.

Six (6) of the mandated elements (excluding the noise element) are briefly described below, along with comment on their importance to fire and resource protection, and sample evaluation criteria (see Figure 1).

Figure 1 - OPPORTUNITIES FOR FIRE AND RESOURCE PROTECTION IN GENERAL PLAN ELEMENTS

<u>ELEMENTS</u>	<u>OPPORTUNITIES</u>
Land Use	Greenbelts, Fuel Breaks, Fuel Reduction, Buffer Zones, Water Supply Requirements
Housing	Definition of Hazard Areas and appropriate mitigation for “Affordable Housing”.
Circulation	Strategic Access, Road Design, Helibases, Helispot, Evacuation Routes (ground and air), ingress/egress.
Conservation	Fuelbreaks, Fuel Reduction Zones, Additional Design Requirements for Development near Commercial Timber Zones (TPZ’s), Air Tanker Base Locations, Helibases and Helispots.
Open Space	Fuelbreaks, Fuel Reduction Zones, Strategic Access and Water Supplies, Off-Site Linking of Strategic Improvements.
Safety	Evacuation Routes, Water Supplies, Road Standards, Fuel Reduction Buffer Zones, Air Access, Definition of Hazard Areas and Mitigation Requirements, house and road signage.

i. Land Use

The Land Use element identifies lands for particular purposes. It designates the general development objectives and locations of various land uses such as commercial, industrial, residential, open space and agriculture. The major objective of the land use element is to establish a pattern of compatible uses.

Importance to Fire Hazard Planning:

Land use decision can create wildfire hazard problem areas. Wildfire hazard is not necessarily a fire problem as much as it is a land use issue. Wildfire hazard is a set of conditions, not necessarily a location. Even highly urbanized areas can have wildfire hazard, an example is the Oakland/Berkeley hills.

The Land Use element can help to reduce wildland and urban fire hazards by establishing objectives and policies that avoid or carefully plan development in fire hazard areas. These objectives and policies should be carried into the zoning and subdivision ordinances in the form of development standards. For example the Land Use element may establish policies related to buffer zones, adequate emergency access and egress, and other fire safe planning policies in areas within or adjacent to hazardous fire areas. The element may also identify high priority fire hazard areas that will be subject to these policies. Examination of the Land Use element in comparison with State Responsibility Area (SRA) and Local Responsibility Area (LRA) lands may show current or future conflicts with fire and resource protection. Since zoning districts are derived from land use designations, it is important to assure that those designations, policies, and ordinances are compatible with wildland protection. For example, Residential, Open Space, Agriculture, and Timber Preserve land uses could be designated to include fuel break and fuel reduction zones.

Sample Evaluation Criteria:

Does the Land Use element include wildland fire risks and hazards in the data and analysis section? Do policies include requirements to reduce hazard levels by various means? Are recreation areas (parks, golf courses) and agricultural uses (pastures, irrigated tree farms) located to provide "buffers" between development and wildlands?

ii. Housing

This element is required to designate how the government will regulate density and intensity of residential development. It includes provisions for low income and handicapped needs.

Sample Evaluation Criteria:

Does the data and analysis section for this element describe vulnerable, unsafe areas for housing? Do the policies recognize these areas so that this type of development is prohibited there? (These issues may be better addressed in the Land Use element to avoid redundancy.) Are required construction standards in conflict with defined fire protection needs (access, roofing material and construction, fire flow)? If so, what compensating mitigation measures are required to provide safety?

III. Circulation

This element consists of the general location of existing and planned transportation routes and public utilities. Designations, policies, and implementation measures in this element (and all others) must be correlated (consistent) with the Land Use element. The information is usually shown on maps or diagrams to show how the transportation system serves the various land use designations.

Importance to Fire Hazard Planning:

This is the primary designator of access routes and road design requirements (not engineering standards). GC [Section 14000](#) requires that the Circulation element provide transportation facilities that reduce hazards to human life and minimize damage to natural resources. This provides the opportunity to make strong recommendations about transportation routes and design requirements such as turn-outs, helispots, and safety zones.

Sample Evaluation Criteria:

Does the element plan for satisfactory access to/from high hazard areas? Are standards high enough to provide safe evacuation from residential (and other) land use designations? Are policies defined to limit the number and length of one-way roads? Are heliports and helispots designated in areas that will facilitate suppression and other emergency needs?

iv. Conservation

This element describes how the jurisdiction intends to protect and conserve its natural resources. The element should cover water, soils, forests, wildlife, and fisheries. Potential fire and flood impacts on all resources should be included to the extent that it is pertinent to the city or county.

Importance to Fire Hazard Planning:

Fire can severely damage or destroy forest and wildlife resources and adversely impact other resources as a result of erosion and other effects that follow the loss of forest cover. The Conservation element may establish objectives and policies for the conservation of these resources through reduction or avoidance of fire hazards. However, these objectives and policies may be more effective if located in the Land Use, Circulation, Open Space, or Safety elements and linked to regulatory requirements. This element ties to the CDF mission of protecting SRA lands as well as local fire agency protection of LRA lands and such lands should be taken into consideration when developing policies in this element.

Sample Evaluation Criteria:

Is the element consistent and logically applied, or does it just gather up unusable areas and “lump” them into a conservation category? Does the element discuss resource values? Are potential resource losses from fire (soil loss, sedimentation, local flooding, timber production, wildlife habitat, etc.) included in the data and analysis section? Do

policies include management options of prescribed fire and fuelbreaks to enhance protection?

v. Open Space

This element designates areas for preservation and managed production of natural resources, outdoor recreation, and public health and safety (GC Section 65560(b)(4)). [Section 65560-4](#) of the Government Code dictates that the element should include designation of "areas that require special management because of fire risks." The Code authorizes the connecting or linking of these areas into complete networks in the interest of public safety. Additionally GC section 65564 requires an action program to implement the requirements of the open-space element.

Importance to Fire Hazard Planning:

The Open Space element should identify areas of high fire hazard and establish objectives and policies to protect the public from those hazards. This may include policies relating to fuel breaks, fuel reduction zones, access, water availability, and fire safe standards. These policies should be carried over into the zoning and subdivision ordinances for implementation.

Sample Evaluation Criteria:

Does the element relate to fire safety and suppression effectiveness? Is it correlated with the Land Use, Safety, and Conservation elements to provide integrated and systematic resource and public protection improvement? Does the element contain policies requiring dedication, construction, and/or maintenance of these improvements on all projects?

vi. Safety

The Safety element defines community protection measures in relation to fires, floods, seismic and geological, and other hazards. It must include provisions for evacuation routes, water supply (for fire suppression), minimum road widths, and clearances around structures. It should include mapping of fire hazard severity zones, and could include analyses of minimum suppression resources required.

Importance to Fire Hazard Planning:

The Safety element can include policies establishing general project design standards to reduce hazard levels and provide a policy basis for fire protection requirements in zoning, subdivision, and strategic fire defense ordinances.

Sample Evaluation Criteria:

Does the element correlate with others to provide for the best and safest suppression actions? Does it recognize evacuation needs? Does it address the traditional suppression problems and include policies and implementation measures to eliminate those problems?

Legal Adequacy of the General Plan

If any General Plan element (or elements) is judged legally inadequate, development approvals in the jurisdiction could be suspended until the deficiencies have been

corrected. This is a powerful incentive to any jurisdiction to review its Plan for completeness and adequacy.

Formal review is a job for attorneys and the courts, but the following questions can be used as an informal or initial test to determine whether or not a General Plan is weak or strong in terms of legal adequacy.

- It is complete? Are the seven (7) mandatory elements included?
- Do each of the elements contains supporting data, analysis, policies and implementation measures?
- Is it internally consistent? Do elements, data, policies, and implementation measures fit together? Are there omissions, conflicts?
- Is it long-term in perspective? Does it plan for the population growth, development potential, and resource issues that the community will face in the foreseeable future (usually 20 years)?
- Does it address all locally-relevant issues? What does it say about fire? Does it include a strategy to deal with wildland protection and fire hazards?
- Does it meet statutory criteria? Do the Conservation, Open Space, and Safety elements provide for public safety and resource protection? Does the Land Use element define hazard areas and offer mitigation?
- Are maps and diagrams adequate? Can you tell where specific uses are authorized? Where restrictions apply? Are map and diagram descriptions in agreement with the General Plan text?

General Plans should be reviewed periodically to ensure that they continue to reflect current values and policies of the community, and that they contain accurate information about existing resources and hazards. If necessary, the General Plan should be revised or amended to remain current.

v. Related Planning & Regulatory Tools

California courts have placed General Plans “atop the hierarchy of local government law regulating land use.” It is clearly established that all other planning and development approvals are subordinate to the General Plan and must be consistent with the General Plan. All subdivisions, zoning decisions, specific plans, and public works projects must be consistent with the General Plan. On this basis, there are numerous planning tools that are used to implement the General Plan. Several commonly used tools are briefly described below to illustrate how fire safety can be incorporated into site specific, or project specific developments, as well as local ordinances.

1. Specific Plan

A Specific Plan is a tool for the systematic implementation of the General Plan within all or a portion of the county's planning area. It may encompass unlimited land area within the jurisdiction, may deal with only one or all policies in the General Plan, and may even delve into subjects that were not addressed in the General Plan if they are relevant to the community. At a minimum, the Specific Plan must include a text and diagram which

specifies all of the following: (1) the proposed distribution, location and extent of all land uses including open space, (2) the proposed distribution, location, and extent of major components of the transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities that are needed to support the proposed land uses, (3) standards and criteria by which development will proceed and standards for the conservation and use of natural resources, and (4) a program of implementation measures including regulations, programs, public works projects, and financing measures to carry out the Specific Plan.

All principles, goals, objectives, policies, standards, and implementation measures of the Specific Plan must be consistent with the General Plan. Adoption of a Specific Plan is a legislative act similar to the adoption of the General Plan or zoning ordinance. It can be adopted by resolution or by ordinance and may be amended as often as necessary. All future public works projects, zoning actions and development activities within the planning area must be consistent with the Specific Plan.

A Specific Plan is particularly useful for planning large projects whose development may be phased over time. It can be used to assemble a set of land use specifications and implementation programs tailored to the unique characteristics of a particular site. Specific Plans can stipulate development timing or set a schedule for infrastructure improvements to solve problems like exposure to wildland fire hazard.

2. Subdivision Ordinance

Land cannot be subdivided for sale, lease or financing in California without local government approval. The Subdivision Map Act (GC [Section 66410](#), et seq.) establishes the basic subdivision procedures, while giving local government the authority to regulate the design and improvement of subdivisions, require dedications of public improvements, require payment of impact fees, and require compliance with the objectives and policies of the General Plan.

These regulatory powers can promote the usual array of land use, circulation, open space and safety element objectives, policies, and implementation measures. Regulation of subdivision design can encourage numerous General Plan objectives including wildland fire safety, through the requirement to address fire prevention measures such as emergency access, adequate infrastructure and facilities, and separation (buffers) between buildable lots and wildland areas, fuels reductions and fire protection measures such as residential sprinkler systems in homes abutting open space or where there is inadequate water for structure fire suppression. Local governments can also require dedication of public improvements and land (through fee title or easements) to serve the subdivision.

A tentative subdivision map or parcel map cannot be approved unless the county finds that the subdivision, together with design and improvement conditions, is consistent with all aspects of the General Plan or any applicable Specific Plan. Two (2) of the findings that can cause a subdivision to be denied are (1) that the site is physically ill suited for the proposed type or density of the development or (2) that the subdivision's design or improvements are likely to cause substantial environmental damage or cause public health or safety problems (GC [Section 66474](#)). These are important considerations for

counties who are reviewing subdivision proposals in areas that are subject to wildland fire hazard.

3. Development Agreement

Development Agreements are contractual agreements voluntarily entered into by a county and a developer to vest development rights for a specific development project. They provide the developer with the advantage of “locking-in” zoning and development regulations for a specified time period, giving the developer a degree of assurance that some future local policy or regulation will not nullify a development proposal. In exchange, the Development Agreement allows the local jurisdiction to obtain additional concessions from the developer, such as higher design standards or dedication of additional public facilities, or otherwise obligate the developer to provide improvements in excess of the usual legal limits on exactions.

Through the Development Agreement, the county may require the reservation or dedication of land for public purposes and may include conditions and restrictions for subsequent discretionary actions. For example, the county may require dedication of emergency access easements, dedication of land for fire fighting facilities, on-going maintenance of those facilities, and subsequent review of fire safety plans before later phases of development can begin. (GC [Section 65865.2.](#))

It is important that local governments be aware of their authority to negotiate and enforce the terms of a Development Agreement to prevent and mitigate wildland fire hazards. Since many Agreements include phased development anticipated to occur over many years, they often describe the first phase of development in detail, but leave later phases less well defined. To ensure that fire prevention, protection and mitigation are adequately considered in all phases of a project, it is important for local jurisdictions to anticipate fire protection needs for all phases of the project, condition the Agreement accordingly, and monitor and enforce the terms of the Agreement.

GC [Section 65865.1](#) requires annual review of the Development Agreement at which time the developer must demonstrate good faith compliance with the terms of the Agreement. If the county finds that this has not occurred and makes the necessary findings, it may terminate or modify the Agreement. Where measures to prevent and mitigate fire hazard have been incorporated into a Development Agreement and have not been implemented according to the Agreement, the county should be aware that it has this power to enforce compliance.

4. Zoning Ordinances:

Cities and counties are required to adopt zoning ordinances as a means of implementing the General Plan (GC Section 65860) The zoning ordinance can include requirements for setbacks, landscaping, and site access, to name a few, that can assist in reducing fire hazard. Further, a county could enact a fire hazard overlay zone that would apply to identified areas of fire hazard that would set out development standards that apply in addition to the requirements in the base zone. Keep in mind that zoning sets out physical standards for development and is not very well suited to enforcing maintenance and other activities. Most city/county ordinances provide for these activities outside the zoning ordinance, an example is yard maintenance ordinances established by some communities to enforce yard maintenance requirements. In addition, GC Section 65910 requires each

city and county to have an “open-space zoning ordinance” that is consistent with its open-space element. This requirement is an important implementation tool in linking fire safety provisions in the open-space element such as fuel break/fuel reduction with zoning for site-specific development permits.

APPENDIX 3: FEMA REQUIREMENTS RELATED TO LOCAL PLANNING

The Federal Emergency Management Agency's (FEMA) Interim Final Rule (IFR), published in the Federal Register on February 26, 2002, includes new requirements for State and local mitigation planning, and plans which must be approved by FEMA by November 1, 2003. These state and local plans are required in order for the state and/or local communities to be eligible for disaster assistance grants and other Stafford Act assistance, excluding emergency assistance.

The IFR is intended to provide guidelines for implementing Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), enacted under §104, the Disaster Mitigation Act of 2000 (DMA 2000). In addition, the FEMA IFR established local planning criteria so that local jurisdictions could actively begin the hazard mitigation planning process, and to develop comprehensive, local hazard mitigation plans before disaster events.

FEMA and the State of California recognize that local governments are involved in a range of planning activities. The local hazard mitigation plan is the representation of the jurisdiction's commitment to reduce risks from natural hazards, and serves as a guide for decision makers as they commit resources to reducing the effects of natural hazards. Local plans will also serve as the basis for the State to provide technical assistance and to prioritize project funding. However, for some communities, meeting the deadline of having an approved local hazard mitigation plan in place by November 1, 2003 would appear to be difficult.

Fortunately, there is a good deal of information already documented and available in the General Plan, and other community emergency and hazard plans. This information may be linked or referenced to complete sections of a jurisdiction's local hazard mitigation plan.

A review of the local planning requirements of the IFR indicate that the following required sections of a local mitigation plan should at least be partially completed by an up-to-date General Plan, and that a jurisdiction's General Plan should be considered a major resource and source of information for completing a community's local hazard mitigation plan.

Improved integration of mitigation planning with other community planning efforts and documents, will result in a better understanding of risks and vulnerabilities, as well as serve to expedite implementation of mitigation measures and activities to reduce the risk of hazards to the community, both pre- and post-disaster.

Sections of the Local Mitigation Plans, required by the IFR for Section 322 of the Stafford Act, that may be linked or referenced from information found in General Plans include:

NOTE: *The significant hazards, including natural, technological and non-natural are identified and analyzed in a comprehensive, up-to-date General Plan, and mitigation measures to reduce the risk of those hazards are also discussed in detail.*

IFR §201.6 Local Mitigation Plans.

(a)(3) Multi-jurisdictional plans (e.g. watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan. State-wide plans will not be accepted as multi- jurisdictional plans.

NOTE: A local government should include in its local hazard mitigation plan, documentation of attendance and participation in regional or multi-jurisdictional emergency and hazard prevention/mitigation meetings where the General Plan or other local plans were discussed.

IFR §201.6 (b) Planning Process - An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:

(b)(1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;

(b)(2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and

NOTE: A local government should include in its local hazard mitigation plan, documentation of the public's or neighboring communities official's attendance and participation in meetings or council sessions where the General Plan sections, concerning emergency and hazard prevention/mitigation issues, were discussed.

(b)(3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

NOTE: Local governments are encouraged to integrate, link and reference information from hazardous materials and other non-natural hazard plans and planning efforts within the community.

NOTE: For the items listed below in IFR §201.6 (c), Plan Content, A jurisdiction's General Plan, emergency plans, hazardous materials and other non-natural hazard plans should be considered a major resource and source of information for completing a community's local hazard mitigation plan.

IFR §201.6 (c) Plan Content - The plan shall include the following:

(c)(1) Documentation of the *planning process* used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

(c)(2) A *risk assessment* that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards. The risk assessment shall include:

(c)(2)(i) A description of the type, location, and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

(c)(2)(ii) A description of the jurisdiction's vulnerability to the hazards described in paragraph **(c)(2)(i)** of this section. This description shall include an overall summary of

each hazard and its impact on the community. The plan should describe vulnerability in terms of:

(c)(2)(ii)(A) The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;

(c)(2)(ii)(B) An estimate of the potential dollar losses to vulnerable structures identified in paragraph **(c)(2)(i)(A)** of this section and a description of the methodology used to prepare the estimate;

NOTE: Not all local jurisdictional General Plans provide "An estimate of the potential dollar losses to vulnerable structures." This information may exist only in the completed local hazard mitigation plan.

(c)(2)(ii)(C) Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

(iii) For multi-jurisdictional plans, the risk assessment section must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

(c)(2)(iii) For multi-jurisdictional plans, the risk assessment section must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

NOTE: Information on how a local jurisdiction's risk varies from a Multi-jurisdictional planning area may not be included in local General Plans or other local plans. This information may exist only in the completed local hazard mitigation plan.

(c)(3) A *mitigation strategy* that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools. This section shall include:

(c)(3)(i) A description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

(c)(3)(ii) A section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

NOTE: A local jurisdiction's analysis of a comprehensive range of specific mitigation actions for new and existing buildings and infrastructure may not be included in local General Plans or other local plans. This information may exist only in the completed local hazard mitigation plan.

(c)(3)(iii) An action plan describing how the actions identified in paragraph **(c)(3)(ii)** of this section will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

NOTE: An action plan, developed by local jurisdictions, describing how the specific mitigation actions will be prioritized, implemented and administered, according to a cost benefit analysis, may not be included in local General Plans or other local plans. This information may exist only in the completed local hazard mitigation plan.

APPENDIX 4: THE PARTNERSHIP MEMBERS

The Governor's Office of Planning and Research (OPR) would like to acknowledge and thank the members of the Integrated Multi-Hazard Planning Group (The Partnership) for their invaluable assistance in identifying key issues and for providing input into the development of this integrated fire hazard planning tool.

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