

## **IV. Hazard Mitigation Goals and Policies**

### **Overview:**

A **Local Hazard Mitigation Plan** (LHMP) is a local government plan that is designed to reduce or eliminate risks to people and property from natural and man-made hazards. Mitigation strategies are supported by state government and federal programs, in line with the Disaster Mitigation Act.

The need for hazard mitigation has become more recognized over the past few years due to the large number of natural hazards which have occurred in the U.S and the increase in the costs to achieve post disaster recovery. Money spent prior to a hazardous event to reduce the impacts of a disaster can result in substantial savings in life and property following the event. The benefits of implementing a mitigation program usually far outweigh the costs. Because of this, the Federal Emergency Management Agency (FEMA) and the states have developed national and state Mitigation strategies and funding is becoming increasingly more available to support hazard mitigation efforts.

The advantages of developing a local LHMP program are numerous and include:

1. Guidance in developing pre and post mitigation plans;
2. Identifying priority projects and programs for funding; and
3. Increasing the likelihood of State and Federal funding for pre- and post-hazard mitigation projects.
4. Identifying and justifying the incorporation of these mitigation strategies into other planning mechanisms such as the County General Plan, Zoning Ordinances, and building codes.

### **Planning Process:**

The data used to build our mitigation strategies was acquired through several sources and means and they include:

1. Collecting data from previous disaster events that have occurred here and in similar jurisdictions;
2. Actively engaging community members, and public agency representatives to identify the hazards that exist, and what can, and should be done to eliminate, and or minimize these hazards; and
3. An analysis of mitigation strategies that have proven to be cost effective in eliminating, and or mitigating the affects of disaster events.

Following a thorough hazard, risk and vulnerability analysis by all who have participated in this effort, mitigation strategies were then developed to eliminate, and or mitigate the dangers that exist to life and property. Clearly, wildland fire is our greatest concern as these disaster events have impacted our county on numerous occasions, and as recently as 2007 with the Angora fire in South Lake Tahoe. The Angora fire burned 3,400 acres of forest, and

destroyed 254 homes before it was contained. In the aftermath of the fire, the governors of California and Nevada called for a bi-state commission to review why this fire was so devastating, and to consider the “lessons Learned” in future development, vegetation management and fire mitigation work. The California – Nevada Tahoe Basin Fire Commission report (with mitigation actions) can be found at: <http://resources.ca.gov/TahoeFireCommission/>. We can reasonably predict based on past wildland fire activity and the conditions that exist today, and into the future, a major and highly destructive wildland fire will once again occur. Our wildland fire threat is so severe we devoted an entire section of this plan to that one specific hazard.

Hazards relating to flooding and mitigation are also seen as needing priority attention for prevention and mitigation action. When we have significantly heavy rainfall, and or rainfall combined with significant snowmelt, water will tend to go over the banks of rivers, creeks and streams. What can compound flooding is when vegetation and debris has been allowed to build up in the channels and that in turn adds to water running over banks. A culvert that is too small for drainage will also cause water to flow out and damage nearby structures and infrastructure.

To mitigate the potential for wildland fires and other identified hazards, the County and several of its political sub-divisions have successfully applied for, and been awarded FEMA mitigation grant funds. These funds have been used to mitigate our wildland fire threat by reducing fuel loads, creating fuel breaks, and defensible space around homes. Flooding hazards have been reduced by enlarging culverts, and clearing streams, creeks, and drainages of debris and excess vegetation. Prior lessons learned and mitigations strategies have been included in the County’s General Plan (Adopted 2004).

#### Inclusion into other Planning Mechanisms:

The Angora Fire has underscored the need for a comprehensive review of fire prevention and fuels management practices in the Lake Tahoe Basin, and on July 5, 2007, Nevada Governor Jim Gibbons publicly invited California Governor Arnold Schwarzenegger to join him in establishing a joint fire commission to review fuels management of forests in the Tahoe Basin as well as the policies and procedures of the various agencies that govern fuels management within the Basin. (The Emergency California-Nevada Tahoe Basin Fire Commission Report, May 2008)

The California-Nevada Tahoe Basin Fire Commission’s report includes 48 findings and 90 recommendations. They are organized into six categories that address both, short- and long-term needs, policy changes, education, funding, governmental structures, and environmental practices related to Lake Tahoe’s vulnerability to wildfire.

The Commission’s challenge from the Governors was to take a treasured jewel, two states, and a diverse community, strongly held beliefs, the work of many regulatory agencies, and the input of a concerned public to create a set of recommendations to reduce the risk of wildfire to Lake Tahoe. The Commission’s report recommends some change from past practices.

The information developed as a result of this planning effort for all of the hazards identified will be considered for adoption in other planning mechanisms such as the County's General Plan and Zoning Ordinances.

#### Implementation, Administration, Timelines and Cost-Benefit:

This plan is a multi-jurisdictional plan that includes the participation of many public and private agencies. Participating agencies have discussed the formation of a Joint Powers Authority (JPA), and or Firesafe Council to apply for and administer mitigation grant funds. Since wildland fires are a number one priority concern for all of the participants involved in this plan, a JPA may be the best means by which to collectively address the hazard across jurisdictional lines, and enhance our opportunities to successfully be awarded grant funding. The JPA, and or Firesafe Council would also manage the grant and the work to be done.

Some jurisdictions may elect to apply for grants and implement – manage their projects on their own. This may be more effective and efficient when the mitigation project focuses on a particular type of mitigation for a specific hazard in a geographic area. Our wildland fire hazard poses an extreme and imminent danger to life and property and mitigating actions must be taken immediately. The wildland fire section (Section VI) identifies with specifics the projects (location, type of mitigation, cost-benefit analysis) that we hope to fund with grant monies as there are no General Funds available now, and or into the future.

There are 566,000 acres in El Dorado County where CAL FIRE has the primary responsibility for wildland fire response, we refer to these lands as State Responsibility Area (SRA), and the remaining acres are the responsibility of the US Forest Service or Local Government. Federal lands are not covered by this Hazard Mitigation Plan. The SRA lands are broken into three Fire Hazard Severity Zones; Moderate, High and Very High. There are over 311,000 acres (40,000 parcels) in the Very High Severity Zone. The value of structures in the Very High Severity Zone is over 3.8 billion dollars (average value per acres is \$12,257.00). The average cost to do fuel reduction projects in the Very High Severity Zone is \$2500/acre, obviously the cost to mitigate and prevent large damaging fires is much less than the value. This does not include the value of the water or other resources that are destroyed during a devastating wildfire.

In the Annex section of this plan you will find documentation from participating jurisdictions on the mitigation projects they intend on applying for with FEMA. Again, all have voiced that there is no General Fund monies for mitigation work other than what can be accomplished through employees on straight-time conducting outreach education programs to the public, and their work in enforcing building codes, zoning ordinances, and other regulatory actions that help prevent, and or mitigate disaster events. Grant funding is an essential element to accomplish many of the other mitigation projects we hope to complete as they are of High Priority.

Several agencies will seek grant funds to enlarge culverts and remove debris from rivers, creeks and streams that pose a hazard for flooding. Enlarging culverts are a one-time enhancement that will aid in preventing, and or mitigating floods. The cost of culvert enlargement can be as little as \$2,000 dollars and in turn protect several million dollars

worth of structures, household contents, and prevent damage to infrastructure. Vegetation and debris clearing from rivers, creeks and streams is equally inexpensive given the protection it can provide from flooding. The only issue is that there will have to be on-going debris and vegetation clearing. Both efforts are seen as high priority projects.

Protection of critical facilities from terrorist attack was of significant concern for public safety agencies and utility companies. They see their facilities and infrastructure for water storage and conveyance, power transmission as being very vulnerable to attack. Protecting water purity is also a priority concern. These agencies will be pursuing grant funds for training of staff in terrorism awareness and response – recovery operations. Additional grants will be sought to harden their facilities and infrastructure for detection and prevention of intrusion. A terrorist attack on critical facilities, infrastructure, and water quality could result in great loss of life, and millions of dollars in property damage and lost business revenue. The costs associated with training employees (\$25,000) and hardening of facilities with improved fences, locking devices and detection devices (\$500,000) is minimal given the potential loss in life and property that can occur.

The following mitigation goals and strategies are from the County’s 2004 General Plan.

**POLICY SECTION**

**GENERAL**

**GOAL 6.1: COORDINATION**

**A coordinated approach to hazard and disaster response planning.**

**OBJECTIVE 6.1.1: EL DORADO COUNTY OPERATIONAL AREA MULTI-HAZARD EMERGENCY OPERATIONS FUNCTIONAL PLAN**

**The El Dorado County Operational Area Multi-Hazard Emergency Operations Functional Plan shall serve as the implementation program for this Goal.**

Policy 6.1.1.1 The El Dorado County Operational Area Multi-Hazard Emergency Operations Functional Plan shall serve as the implementation program for the coordination of hazard planning and disaster response efforts within the County. The County will ensure that the El Dorado County Operational Area Multi-Hazard Emergency Operations Functional Plan is updated on a regular basis to keep pace with the growing population.

**IMPLEMENTATION**

**MEASURE HS-A**

Maintain emergency response procedures and programs, including agreements with other local, state, and federal agencies, to provide coordinated disaster response and programs to inform the public of emergency	Sheriff’s Department (Office of Emergency Services), County Administrative Officer, Department of Transportation, Environmental Management, and General Services
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preparedness and response procedures. [Policy 6.1.1.1] Responsibility:	Department
Time Frame:	Ongoing review and updating of the Operational Area Multi-Hazard Functional Emergency Operations Plan.

## **FIRE SAFETY**

### **GOAL 6.2: FIRE HAZARDS**

**Minimize fire hazards and risks in both wildland and developed areas.**

#### **OBJECTIVE 6.2.1: DEFENSIBLE SPACE**

**All new development and structures shall meet “defensible space” requirements and adhere to fire code building requirements to minimize wildland fire hazards.**

Policy 6.2.1.1 Implement Fire Safe ordinance to attain and maintain defensible space through conditioning of tentative maps and in new development at the final map and/or building permit stage.

Policy 6.2.1.2 Coordinate with the local Fire Safe Councils, California Department of Forestry and Fire Protection, and federal and state agencies having land use jurisdiction in El Dorado County in the development of a countywide fuels management strategy.

#### **OBJECTIVE 6.2.2: LIMITATIONS TO DEVELOPMENT**

**Regulate development in areas of high and very high fire hazard as designated by the California Department of Forestry and Fire Prevention Fire Hazard Severity Zone Maps.**

Policy 6.2.2.1 Fire Hazard Severity Zone Maps shall be consulted in the review of all projects so that standards and mitigation measures appropriate to each hazard classification can be applied. Land use densities and intensities shall be determined by mitigation measures in areas designated as high or very high fire hazard.

Policy 6.2.2.2 The County shall preclude development in areas of high and very high wildland fire hazard or in areas identified as “urban wildland interface communities within the vicinity of Federal lands that are a high risk for wildfire,” as listed in the Federal Register of August 17, 2001, unless such development can be adequately protected from wildland fire hazard, as demonstrated in a Fire Safe Plan prepared by a Registered Professional Forester (RPF) and approved by the local Fire Protection District and/or California Department of Forestry and Fire Protection.

### **OBJECTIVE 6.2.3: ADEQUATE FIRE PROTECTION**

#### **Application of uniform fire protection standards to development projects by fire districts.**

- Policy 6.2.3.1 As a requirement for approving new development, the County must find, based on information provided by the applicant and the responsible fire protection district that, concurrent with development, adequate emergency water flow, fire access, and fire fighting personnel and equipment will be available in accordance with applicable State and local fire district standards.
- Policy 6.2.3.2 As a requirement of new development, the applicant must demonstrate that adequate access exists, or can be provided to ensure that emergency vehicles can access the site and private vehicles can evacuate the area.
- Policy 6.2.3.3 Day care centers shall be subject to conformance with all applicable sections of Title 19 of the Fire Code.
- Policy 6.2.3.4 All new development and public works projects shall be consistent with applicable State Wildland Fire Standards and other relevant State and federal fire requirements.

### **OBJECTIVE 6.2.4: AREA-WIDE FUEL MANAGEMENT PROGRAM**

#### **Reduce fire hazard through cooperative fuel management activities.**

- Policy 6.2.4.1 Discretionary development within high and very high fire hazard areas shall be conditioned to designate fuel break zones that comply with fire safe requirements to benefit the new and, where possible, existing development.
- Policy 6.2.4.2 The County shall cooperate with the California Department of Forestry and Fire Protection and local fire protection districts to identify opportunities for fuel breaks in zones of high and very high fire hazard either prior to or as a component of project review.

### **OBJECTIVE 6.2.5: FIRE PREVENTION EDUCATION**

#### **Inform and educate homeowners regarding fire safety and prevention.**

- Policy 6.2.5.1 The County shall cooperate with the U.S. Forest Service, California Department of Forestry and Fire Protection, and local fire districts in fire prevention education programs.

### **MEASURE HS-B**

Work with the local Fire Safe Councils, fire protection districts, U.S. Forest Service, and California Department of Forestry and Fire Protection to develop and implement a countywide Wildfire Safety Plan. The Wildfire Safety Plan shall focus on, but not be limited to, the following:

- Public wildfire safety education;
- Basic fire protection standards for different areas of the county;
- Appropriate mitigation for development in areas having high and very high fuel hazards;
- Opportunities for fire fuel reduction;
- Implementation of fire safe standards;
- Coordination with fire protection districts
- Fuels management standards to apply to new development adjacent to forested areas and within greenbelts; and
- Appropriate standards for open space and greenbelts.

[Policies 6.2.1.1, 6.2.4.2, and 6.2.5.1]

Responsibility:	Planning Department, Department of Transportation, and Building Department
Time Frame:	Develop draft plan within six months of General Plan adoption.

## **GEOLOGIC AND SEISMIC HAZARDS**

### **ASBESTOS**

Asbestos is of special concern in El Dorado County because it occurs naturally in surface deposits of several types of ultramafic materials (materials that contain magnesium and iron and a very small amount of silica). Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining.

The El Dorado County Air Quality Management District (AQMD) is responsible for implementing and enforcing asbestos-related regulations and programs. This includes implementation of Title 17, Sections 93105 and 93106 of the California Code of Regulations (Asbestos Airborne Toxic Control Measure-Asbestos-Containing Serpentine) and the County's Naturally Occurring Asbestos and Dust Protection Ordinance. Regulated activities include construction or digging on a site containing naturally occurring asbestos in rock or soils and the sale and use of serpentine material or rock containing asbestos materials for surfacing. Asbestos-related measures presented in this General Plan are focused on supporting the actions of the AQMD.

**GOAL 6.3: GEOLOGIC AND SEISMIC HAZARDS: Minimize the threat to life and property from seismic and geologic hazards.**

### **OBJECTIVE 6.3.1: BUILDING AND SITE STANDARDS**

**Adopt and enforce development regulations, including building and site standards, to protect against seismic and geologic hazards.**

- Policy 6.3.1.1 The County shall require that all discretionary projects and all projects requiring a grading permit, or a building permit that would result in earth disturbance, that are located in areas likely to contain naturally occurring asbestos (based on mapping developed by the California Department of Conservation [DOC]) have a California-registered geologist knowledgeable about asbestos-containing formations inspect the project area for the presence of asbestos using appropriate test methods. The County shall amend the Erosion and Sediment Control Ordinance to include a section that addresses the reduction of thresholds to an appropriate level for grading permits in areas likely to contain naturally occurring asbestos (based on mapping developed by the DOC). The Department of Transportation and the County Air Quality Management District shall consider the requirement of posting a warning sign at the work site in areas likely to contain naturally occurring asbestos based on the mapping developed by the DOC.
- Policy 6.3.1.2 The County shall establish a mandatory disclosure program, where potential buyers and sellers of real property in all areas likely to contain naturally occurring asbestos (based on mapping developed by the California Department of Conservation [DOC]) are provided information regarding the potential presence of asbestos subject to sale. Information shall include potential for exposure from access roads and from disturbance activities (e.g., landscaping).
- Policy 6.3.1.3 The County Environmental Management Department shall report annually to the Board of Supervisors regarding new information on asbestos and design an information outreach program.

#### **OBJECTIVE 6.3.2: COUNTY-WIDE SEISMIC HAZARDS**

##### **Continue to evaluate seismic related hazards such as liquefaction, landslides, and avalanche, particularly in the Tahoe Basin.**

- Policy 6.3.2.1 The County shall maintain updated geologic, seismic and avalanche hazard maps, and other hazard inventory information in cooperation with the State Office of Emergency Services, California Department of Conservation--Division of Mines and Geology, U.S. Forest Service, Caltrans, Tahoe Regional Planning Agency, and other agencies as this information is made available. This information shall be incorporated into the El Dorado County Operational Area Multi-Hazard Functional Emergency Operations Plans.
- Policy 6.3.2.2 Future subdivision in the area around Fallen Leaf Lake shall be precluded.
- Policy 6.3.2.3 An avalanche overlay zone shall be established and applied to all residential areas subject to avalanche. All new structures located within avalanche susceptible areas shall be designed to withstand the expected forces of such an event.
- Policy 6.3.2.4 *intentionally blank*



Policy 6.3.2.5 Applications for development of habitable structures shall be reviewed for potential hazards associated with steep or unstable slopes, areas susceptible to high erosion, and avalanche risk. Geotechnical studies shall be required when development may be subject to geological hazards. If hazards are identified, applicants shall be required to mitigate or avoid identified hazards as a condition of approval. If no mitigation is feasible, the project will not be approved.

**MEASURE HS-C**

Develop a program to collect, maintain, and update geological, seismic, avalanche, and other geological hazard information. [Policy 6.3.2.1]

Responsibility:	Planning Department and Sheriff's Department (Office of Emergency Services)
Time Frame:	Develop program within five years of General Plan adoption.

**MEASURE HS-D**

Develop and adopt standards to protect against seismic and geologic hazards. [Objective 6.3.1]

Responsibility:	Planning Department, Building Department, and Department of Transportation
Time Frame:	Develop standards within five years of General Plan adoption.

**MEASURE HS-E**

The County shall adopt a Naturally Occurring Asbestos Disclosure Ordinance that includes the provisions in the policy described in Policy 6.3.1.2.

Responsibility:	Environmental Management
Time Frame:	Present ordinance to Board of Supervisors within three years of General Plan adoption.

**MEASURE HS-F**

Develop a program to track asbestos-related information as it pertains to El Dorado County. [Policy 6.3.1.3]

Responsibility:	Environmental Management
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Time Frame:	Develop program within one year of General Plan adoption. Report results to the Board of Supervisors annually.
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**MEASURE HS-G**

Adopt California Building Code revisions. [Policy 6.3.2.4]

Responsibility:	Building Department
Time Frame:	Adopt revisions as UBC changes are promulgated (ongoing).

**FLOOD HAZARDS**

**GOAL 6.4: FLOOD HAZARDS**

**Protect the residents of El Dorado County from flood hazards.**

**OBJECTIVE 6.4.1: DEVELOPMENT REGULATIONS**

**Minimize loss of life and property by regulating development in areas subject to flooding in accordance with Federal Emergency Management Agency (FEMA) guidelines, California law, and the El Dorado County Flood Damage Prevention Ordinance.**

- Policy 6.4.1.1      The County shall continue participation in the National Flood Insurance Program and application of flood plain zoning regulations.
- Policy 6.4.1.2      The County shall identify and delineate flood prone study areas discovered during the completion of the master drainage studies or plans.
- Policy 6.4.1.3      No new critical or high occupancy structures (e.g., schools, hospitals) shall be located in the 100-year floodplain of any river, stream, or other body of water.
- Policy 6.4.1.4      Creation of new parcels which lie entirely within the 100-year floodplain as identified on the most current version of the flood insurance rate maps provided by FEMA or dam failure inundation areas as delineated in dam failure emergency response plans maintained by the County shall be prohibited.
- Policy 6.4.1.5      New parcels which are partially within the 100-year floodplain or dam failure inundation areas as delineated in dam failure emergency response plans maintained by the County must have sufficient land available outside the FEMA or County designated 100-year floodplain or the dam inundation areas for construction of dwelling units, accessory structures, and septic systems. Discretionary applications shall be required to

determine the location of the designated 100-year floodplain and identified dam failure inundation areas on the subject property.

**MEASURE HS-G**

Adopt California Building Code revisions. [Policy 6.3.2.4]

Responsibility:	Building Department
Time Frame:	Adopt revisions as UBC changes are promulgated (ongoing).

**MEASURE HS-H**

Continue to participate in the Federal Flood Insurance Program, maintain flood hazard maps and other relevant floodplain data made available by other sources, and revise or update this information as new information becomes available. In its review of applications for building permits, discretionary project applications, and capital improvement proposals, the County shall determine whether the proposed project is within the 100-year floodplain based on these data. [Policies 6.4.1.1, 6.4.1.2, and 6.4.1.3]

Responsibility:	Planning Department, Building Department, Department of Transportation, and General Services Department
Time Frame:	Ongoing

**OBJECTIVE 6.4.2: DAM FAILURE INUNDATION**

**Protect life and property of County residents below dams.**

Policy 6.4.2.1 Apply a zoning overlay for areas located within dam failure inundation zones as identified by the State Department of Water Resources Division of Safety of Dams.

Policy 6.4.2.2 No new critical or high occupancy structures (e.g., schools, hospitals) should be located within the inundation area resulting from failure of dams identified by the State Department of Water Resources Division of Safety of Dams.

**HAZARDOUS MATERIALS**

**GOAL 6.6: MANAGEMENT OF HAZARDOUS MATERIALS**

**Recognize and reduce the threats to public health and the environment posed by the use, storage, manufacture, transport, release, and disposal of hazardous materials.**

**OBJECTIVE 6.6.1: REGULATION OF HAZARDOUS MATERIALS**

**Regulate the use, storage, manufacture, transport and disposal of hazardous materials in accordance with State and Federal regulations.**

Policy 6.6.1.1 The Hazardous Waste Management Plan shall serve as the implementation program for management of hazardous waste in order to protect the health, safety, property of residents and visitors, and to minimize environmental degradation while maintaining economic viability.

Policy 6.6.1.2 Prior to the approval of any subdivision of land or issuing of a permit involving ground disturbance, a site investigation, performed by a Registered Environmental Assessor or other person experienced in identifying potential hazardous wastes, shall be submitted to the County for any subdivision or parcel that is located on a known or suspected contaminated site included in a list on file with the Environmental Management Department as provided by the State of California and federal agencies. If contamination is found to exist by the site investigations, it shall be corrected and remediated in compliance with applicable laws, regulations, and standards prior to the issuance of a new land use entitlement or building permit.

Policy 6.6.1.3 Provision must be made for disposal of aviation generated petroleum, oils, lubricants, and solvents at the County airports.

**MEASURE HS-N**

Collect and maintain information on sites known, or suspected to be contaminated by hazardous materials. The information shall include current data from the California Department of Toxic Substances Control’s Hazardous Waste and Substance Sites List compiled pursuant to Section 65962.5 of the Government Code. [Policy 6.6.1.2]

Responsibility:	Environmental Management and Planning Department
Time Frame:	Ongoing

**MEASURE HS-O**

Develop, implement, and update, as necessary, a plan for the storage, transport, and disposal of hazardous materials used at County-operated facilities. [Policy 6.6.1.3]

Responsibility:	Department of Transportation and General Services Department
Time Frame:	Develop plan within five years of General Plan adoption.

**Community and Participating Agency Contributions**

Community members and participating agencies have provided great insight on the hazards that concern them, and what should be done to eliminate, and or mitigate the threats that exist. The following list contains the mitigation goals, objectives and strategies in priority to be implemented:

**Goal #1:**

Wildland fires are prevented because community members are informed and practicing safe fire prevention practices.

**Objective:**

Public outreach programs are educating the public about the dangers wildfires pose, and what they can do to prevent them from occurring.

**Strategies:**

- a. Implement public outreach firesafe education programs
- b. Establish, and or maintain Community Emergency response Teams (CERT) to conduct firesafe inspections – assist with community fuel reductions programs
- c. Promote the reporting of unsafe activities that may lead to the start of a fire
- d. Evacuation warning systems are being acquired
- e. Evacuation planning and public education is being done

**Goal #2:**

The dangers of wildland fire have been greatly mitigated.

**Objective #2a:**

Work is being done to reduce fuel loads and create a buffer zone around endangered communities. In addition, homes are being built with fire retardant material, and older homes are being retro-fitted with these new materials.

**Strategies:**

- a. Grant applications are being applied for to fund fire mitigations projects
- b. Fuel loads and ladder fuel projects are being conducted
- c. Defensible space work and enforcement is taking place
- f. Fuel breaks are being created around wildland/urban interface communities
- g. Fire stations are being built, and or retro-fitted with fire retardant materials
- h. Fire fighting water storage capability is being established – enhanced in remote areas of the county

**Objective #2b:**

The directions and recommendations received from the California – Nevada Tahoe Basin Fire Commission is implemented.

**Strategies #2b:**

- a. Refer the California – Nevada Tahoe Basin Fire Commission for further details. The web site is: <http://resources.ca.gov/TahoeFireCommission/>.

**Goal #3:**

Streams, creeks and drainages are able convey heavy rainfall and sudden snowmelt without going over their banks. Damage to structures and critical infrastructure is prevented, and or greatly minimized.

Objective:

Stream, creeks and drainages are well maintained, and under sized culverts have been enlarged to handle heavy rainfall and sudden snowmelt events.

Strategies:

- a. Regular maintenance and clearing of debris and excess vegetation from streams, creeks, and drainages is being done
- b. Culverts and drainages failing to retain flowing water are being enlarged to handle the needed capacity
- c. Sandbags are ready for quick deployment during severe weather events that will bring heavy precipitation

**Goal #4:**

Land – mudslides hazards along the Highway 50 – American River Canyon area have been well map, and various activities have taken place to increase hillside stability. Warning sensors have been deployed for early notification of potential land-mudslide activity.

Objective:

Grant funds are being used for activities that map hazards, increase slope stability, and warn the public of a potential slide.

Strategies:

- a. Grant applications are made to fund hazard prevention and mitigation projects
- b. LIDAR and other technologies are used to map land-mudslide hazards
- c. Seeding and other projects are undertaken to increase slope stability
- d. Residents in the area are educated on the warning signs of land-mudslide dangers

**Goal #5**

New and older structures are able to withstand high wind events.

Objective 5a:

New buildings are being constructed in compliance with current building codes and stronger materials.

Strategies 5a:

- a. Enforce building codes
- b. Encourage the use of stronger building materials

Objective 5b:

Older buildings are being retro-fitted with new safety designs and stronger materials.

Strategies 5b:

- a. Seek grant funds for older home retro-fitting
- b. Require retro-fitting to new standards when substantial remodel, and or use is to take place

**Goal #6:**

New construction is being built to current earthquake standards for our region.

**Objective #6a:**

New homes are in compliance with building codes.

**Strategies #6a:**

- a. Enforce building codes
- b. Encourage builders to construct homes above current codes

**Objective #6b:**

Older homes are being retro-fitted to meet new earthquake standards.

**Strategies #6b:**

- a. Grant applications are made to fund older home retro-fits
- b. Grant funds are used to help residents secure home interior items such as cabinets and wall hangings

**Goal #7:**

Critical infrastructure has the capacity to prevent, mitigate, respond, and recover from a terrorist attack.

**Objective #7a:**

The security of our critical infrastructure has been enhanced with new technologies and defenses to prevent, and or mitigate a terrorist attack.

**Strategies #7a:**

- a. Grant applications have been made to harden infrastructure
- b. Fences, gates, locking mechanisms, lighting, and access restrictions have been installed
- c. Technologies have been implemented for the early detection of intruders and foreign substances in water supplies

**Objective #7b:**

Employees operating critical infrastructure are well trained and prepared to respond and recover from a terrorist attack.

**Strategies #7b:**

- a. Grant applications have been applied for to fund employee training and purchase equipment
- b. Employees have received training on terrorism awareness, response and recovery

**Goal #8:**

This consists of other recommendations such as seeking grant funds for the purchase of radio interoperability, fire station construction, and training of personnel in emergency response and recovery operations

**Goal #9:**

Reduce avalanche hazards.

Objective #9:

People and motorists are made aware of avalanche dangers.

Strategies #9:

- a. Outreach and public education
- b. Monitoring of avalanche hazards

**Goal #10:**

Reduce erosion hazards.

Objective #10:

Hillsides are stabilized.

Strategies #10:

- a. Outreach and public education
- b. Seeding of hillsides for improved stability.
- c. Enforce building and zoning codes by the County.

**Goal #11:**

Address Seiche wave concerns. This is new concern and much additional work needs to be done to address prevention, mitigation, response and recovery.

Objective #11:

Research is conducted to assemble plans that address this hazard.

Strategies #11:

- a. County OES to research existing studies on Seiche wave activity for the Tahoe Basin.
- b. Assemble multi-agency planning team.
- c. Apply for FEMA grants for research that needs to be conducted.

**Goal #12:**

Reduce Dam/Levee Failure.

Objective #12:

The integrity of dams and levees is maintained.

Strategies #12:

- a. County, State and Federal agencies enforce Dam/Levee construction and maintenance regulations.
- b. Conduct exercise drills for public alert and warning.
- c. Assemble evacuation routes.

**Continued Public Involvement:**



As mitigation strategies are implemented, a continued analysis will be undertaken to assess the effectiveness and cost – benefit gains achieved through these strategies. The public will be continually encouraged to participate in mitigation data gathering, analysis and subsequent implementation. As new technologies, building materials, and strategies are developed these need to be considered in our planning process. Public notices of future mitigation planning work will be disseminated to the public through local media, attendance at public functions, and regularly discussed in planning work shops such as those conducted for the County’s General Plan, Zoning, and building code hearings.

Regular meetings will also be held with our stakeholders and those can be accomplished through meetings that are regular held through the Board of Supervisors, District Board Meetings, FireSafe Council Meetings, and etc.