

General Plan Safety Element Assessment

Board of Forestry and Fire Protection



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Purpose and Background

Upon the next revision of the housing element on or after January 1, 2014, the safety element is required to be reviewed and updated as necessary to address the risk of fire for land classified as state responsibility areas and land classified as very high fire hazard severity zones. (Gov. Code, § 65302, subd. (g)(3).)

The safety element is required to include:

- Fire hazard severity zone maps available from the Department of Forestry and Fire Protection.
- Any historical data on wildfires available from local agencies or a reference to where the data can be found.
- Information about wildfire hazard areas that may be available from the United States Geological Survey.
- The general location and distribution of existing and planned uses of land in very high fire hazard severity zones (VHFHSZs) and in state responsibility areas (SRAs), including structures, roads, utilities, and essential public facilities. The location and distribution of planned uses of land shall not require defensible space compliance measures required by state law or local ordinance to occur on publicly owned lands or open space designations of homeowner associations.
- The local, state, and federal agencies with responsibility for fire protection, including special districts and local offices of emergency services. (Gov. Code, § 65302, subd. (g)(3)(A).)

Based on that information, the safety element shall include goals, policies, and objectives that protect the community from the unreasonable risk of wildfire. (Gov. Code, § 65302, subd. (g)(3)(B).) To carry out those goals, policies, and objectives, feasible implementation measures shall be included in the safety element, which include but are not limited to:

- Avoiding or minimizing the wildfire hazards associated with new uses of land.
- Locating, when feasible, new essential public facilities outside of high fire risk areas, including, but not limited to, hospitals and health care facilities, emergency shelters, emergency command centers, and emergency communications facilities, or identifying construction methods or other methods to minimize damage if these facilities are located in the SRA or VHFHSZ.
- Designing adequate infrastructure if a new development is located in the SRA or VHFHSZ, including safe access for emergency response vehicles, visible street signs, and water supplies for structural fire suppression.
- Working cooperatively with public agencies with responsibility for fire protection. (Gov. Code, § 65302, subd. (g)(3)(C).)

The safety element shall also attach or reference any fire safety plans or other documents adopted by the city or county that fulfill the goals and objectives or contains the information required above. (Gov. Code, § 65302, subd. (g)(3)(D).) This might include Local Hazard Mitigation Plans, Unit Fire Plans, Community Wildfire Protection Plans, or other plans.

There are several reference documents developed by state agencies to assist local jurisdictions in updating their safety elements to include wildfire safety. The Fire Hazard Planning, General Plan Technical Advice Series from the Governor's Office of Planning and Research, referenced in Government Code section 65302, subdivision (g)(3) and available at

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https://www.opr.ca.gov/docs/Final_6.26.15.pdf

provides policy guidance, information resources, and fire hazard planning examples from around California that shall be considered by local jurisdictions when reviewing the safety element of its general plan.

The Board of Forestry and Fire Protection (Board) utilizes this Safety Element Assessment in the Board's

review of safety elements under Government Code section 65302.5. At least 90 days prior to the adoption or amendment of their safety element, counties that contain SRAs and cities or counties that contain VHFHSZs shall submit their safety element to the Board. (Gov. Code, § 65302.5, subd. (b).) The Board shall review the safety element and respond to the city or county with its findings regarding the uses of land and policies in SRAs or VHFHSZs that will protect life, property, and natural resources from unreasonable risks associated with wildfires, and the methods and strategies for wildfire risk reduction and prevention within SRAs or VHFHSZs. (Gov. Code, § 65302.5, subd. (b)(3).)

The CAL FIRE Land Use Planning team provides expert fire protection assistance to local jurisdictions statewide. Fire captains are available to work with cities and counties to revise their safety elements and enhance their strategic fire protection planning.

Methodology for Review and Recommendations

Utilizing staff from the CAL FIRE Land Use Planning team, the Board has established a standardized method to review the safety element of general plans. The methodology includes

- 1) reviewing the safety element for the requirements in Government Code section 65302, subdivision (g)(3)(A),
- 2) examining the safety element for goals, policies, objectives, and implementation measures that mitigate the wildfire risk in the planning area (Gov. Code, § 65302, subd. (g)(3)(B) & (C)), and
- 3) making recommendations for methods and strategies that would reduce the risk of wildfires (Gov. Code, § 65302.5, subd. (b)(3)(B)).

The safety element will be evaluated against the attached Assessment, which contains questions to determine if a safety element meets the fire safety planning requirements outlined in Government Code, section 65302. The reviewer will answer whether or not a submitted safety element addresses the required information, and will recommend changes to the safety element that will reduce the wildfire risk in the planning area. These recommended changes may come from the list of sample goals, policies, objectives, and implementation measures that is included in this document after the Assessment, or may be based on the reviewer's knowledge of the jurisdiction in question and their specific wildfire risk. By answering the questions in the Assessment, the reviewer will determine if the jurisdiction's safety element has adequately addressed and mitigated their wildfire risk. If it hasn't, any specific recommendations from the reviewer will assist the jurisdiction in revising the safety element so that it does.

Once completed, the Assessment should provide clear guidance to a city or county regarding any areas of deficiency in the safety element as well as specific goals, policies, objectives, and implementation measures the Board recommends adopting in order to mitigate or reduce the wildfire threat in the planning area.

General Plan Safety Element Assessment

Jurisdiction: Portola	Notes: SE Review	CAL FIRE Unit: LMU	Date Received: 3-15-19
County: Plumas	LUPP Reviewer: Shane Vargas	UNIT CONTACT: John Berglund	Date Reviewed: 3-20-19

Background Information Summary

Specific background information about fire hazards in each jurisdiction.

Indicate whether the safety element includes the specified information. If YES, indicate in the comments where that information can be found; if NO, provide recommendations to the jurisdiction regarding how best to include that information in their revised safety element.

	Yes	No	Comments/Recommendations
Are Fire Hazard Severity Zones Identified? <i>CAL FIRE or Locally Adopted Maps</i>	X		Safety Element, 7.4 Wildland Fire, Fire Hazard Severity Zones, page 7-7 and figure 7-1 on page 7-8 ***Recommended wording change from 2008 CAL FIRE recommended maps to “the most current CAL FIRE adopted maps”.
Is historical data on wildfires or a reference to where the data can be found, and information about wildfire hazard areas that may be available from the United States Geological Survey, included?	X		Referenced - Local Hazard Mitigation Plan, Appendix 4, Figure 15
Has the general location and distribution of existing and planned uses of land in very high fire hazard severity zones (VHFHSZs) and in state responsibility areas (SRAs), including structures, roads, utilities, and essential public facilities, been identified?	X		Safety Element, 7.4 Wildland Fire, General Location and Distribution of Land Uses in the Very High Fire Hazard Severity Zones, page 7-9
Have local, state, and federal agencies with responsibility for fire protection, including special districts and local offices of emergency services, been identified?	X		Safety Element, 7.4 Wildland Fire, Local, State, and Federal Agencies Responsible for Fire Protection, pages 7-10 & 7-11
Are other fire protection plans, such as Community Wildfire Protection Plans, Local Hazard Mitigation Plans, CAL FIRE Unit or Contract County Fire Plans, referenced or incorporated into the Safety Element?	X		Safety Element, 7.4 Wildland Fire, multiple locations and Other Documents Related to Fire Protection, page 7-14
Any other relevant information regarding fire hazards in SRAs or VHFHSZs?			

Goals, Policies, Objectives, and Feasible Implementation Measures

A set of goals, policies, and objectives based on the above information to protect the community from unreasonable risk of wildfire and implementation measures to accomplish those stated goals, policies, and objectives.

Critically examine the submitted safety element and determine if it is adequate to address the jurisdiction’s unique fire hazard. Answer YES or NO appropriately for each question below. If the recommendation is irrelevant or unrelated to the jurisdiction’s fire hazard, answer N/A. For NO, provide information in the Comments/Recommendations section to help the jurisdiction incorporate that change into their safety element revision. This information may utilize example

recommendations from Sample Safety Element Recommendations and Fire Hazard Planning in Other Elements of the General Plan below, may indicate how high of a priority this recommendation is for a jurisdiction, or may include other jurisdiction-specific information or recommendations.

Avoiding or minimizing the wildfire hazards associated with new uses of land.

	Yes	No	N/A	Comments/Recommendations
Land Use				
Does local ordinance require development standards that meet or exceed title 14, CCR, division 1.5, chapter 7, subchapter 2, articles 1-5 (commencing with section 1270) (SRA Fire Safe Regulations) and title 14, CCR, division 1.5, chapter 7, subchapter 3, article 3 (commencing with section 1299.01) (Fire Hazard Reduction Around Buildings and Structures Regulations) for SRAs and/or VHFHSZs?	X			Safety Element, 7.4 Wildland Fire, Land Use Requirements, page 7-9
Are there goals and policies to avoid or minimize new residential development in VHFHSZs?	X			Safety Element, 7.4 Wildland Fire, General Location and Distribution of Land Uses in the Very High Fire Hazard Severity Zones
Has fire safe design been incorporated into future development requirements?	X			Safety Element, 7.4 Wildland Fire, Land Use Requirements, paragraph 3, page 7-9
Are new essential public facilities located outside high fire risk areas, such as VHFHSZs, when feasible?	X			Safety Element, 7.4 Wildland Fire, Land Use Requirements, paragraph 4, page 7-10
Are there plans or actions identified to mitigate existing non-conforming development to contemporary fire safe standards, in terms of road standards and vegetative hazard?	X			Safety Element, 7.4 Wildland Fire, 7.4.1 Wildland Fire Safety Goals, Policies, WF-P-7, page 7-15
Does the plan include policies to evaluate re-development after a large fire?	X			Safety Element, 7.4 Wildland Fire, 7.4.1 Wildland Fire Safety Goals, Policies, WF-P-8, page 7-9
Fuel Modification				
Is fuel modification around homes and subdivisions required for new development in SRAs or VHFHSZs?	X			Safety Element, 7.4 Wildland Fire, Land Use Requirements, paragraph 3, page 7-10
Are fire protection plans required for new development in VHFHSZs?	X			Safety Element, 7.4 Wildland Fire, Land Use Requirements, paragraph 2, page 7-9
Does the plan address long term maintenance of fire hazard reduction projects, including community fire breaks and private road and public road clearance?	X			Safety Element, 7.4 Wildland Fire, 7.4.1 Wildland Fire Safety Goals, Policies, WF-P-6, page 7-15
Access				
Is there adequate access (ingress, egress) to new development in VHFHSZs?	X			Safety Element, 7.4 Wildland Fire, 7.4.1 Wildland Fire Safety Goals, Policies, WF-P-3 & WF-P-4 page 7-14

Are minimum standards for evacuation of residential areas in VHFHSZs defined?	X			Safety Element, 7.4 Wildland Fire, Access, paragraph 2, page 7-10 and by reference, The Cities Evacuation Plan and Plumas County Emergency Operations Plan
If areas exist with inadequate access/evacuation routes, are they identified? Are mitigation measures or improvement plans identified?	X			Safety Element, 7.4 Wildland Fire, Access, paragraph 2, "All areas of the city have adequate access and evacuation routes"
Are there policies or programs promoting public outreach about defensible space or evacuation routes? Are there specific plans to reach at-risk populations?	X			Safety Element, 7.4 Wildland Fire, Access, paragraph 3
Fire Protection				
Does the plan identify future water supply for fire suppression needs?	X			Safety Element, 7.4 Wildland Fire, Land Use Requirements, page 7-10, paragraph 6
Does new development have adequate fire protection?	X			Safety Element, 7.4 Wildland Fire, Land Use Requirements, page 7-10, paragraph 6
Develop adequate infrastructure if a new development is located in SRAs or VHFHSZs.				
	Yes	No	N/A	Comments/Recommendations
Does the plan identify adequate infrastructure for new development related to:				
Water supply and fire flow?	X			Safety Element, 7.4 Wildland Fire, Land Use Requirements, page 7-10, paragraph 6
Location of anticipated water supply?	X			Safety Element, 7.4 Wildland Fire, City of Portola Facilities and Equipment, paragraph 2, page 7-11
Maintenance and long-term integrity of water supplies?	X			Safety Element, 7.4 Wildland Fire, City of Portola Facilities and Equipment, paragraph 2, page 7-11
Evacuation and emergency vehicle access?	X			Safety Element, 7.4 Wildland Fire, Wildland Fire Safety Goals, Policies, WF-P-3
Fuel modification and defensible space?	X			Safety Element, 7.4 Wildland Fire, Wildland Fire Safety Goals, Policies, WF-P-5
Vegetation clearance maintenance on public and private roads?	X			Safety Element, 7.4 Wildland Fire, Land Use Requirements, page 7-10, paragraph 3
Visible home and street addressing and signage?	X			Safety Element, 7.4 Wildland Fire, Land Use Requirements, paragraph, page 7-9
Are community fire breaks identified in the plan? Is there a discussion of how those fire breaks will be maintained?	X			Safety Element, 7.4 Wildland Fire, Wildland Fire Safety Goals, Policies, WF-P-5 Safety Element, 7.4 Wildland Fire, Land Use Requirements, page 7-10, paragraph 5 CWPP, 8.3 Landscape Level Fuel Reduction Treatments, paragraph 2, page 13

Working cooperatively with public agencies responsible for fire protection.

	Yes	No	N/A	Comments/Recommendations
Is there a map or description of existing emergency service facilities and areas lacking service, specifically noting any areas in SRAs or VHFHSZs?	X			Safety Element, 7.4 Wildland Fire, City of Portola Facilities and Equipment, Figure 7-2, page 7-13 and paragraph 2, page 7-11
Does the plan include an assessment and projection of future emergency service needs?	X			Referenced in General Plan, 6.13 Fire Protection, Policy PF-P-43 and Implementation PF-I-39
Are goals or standards for emergency services training described?	X			Safety Element, 7.4 Wildland Fire, Local, State, and Federal Agencies Responsible for Fire Protection, 1 st paragraph, page 7-10
Does the plan outline inter-agency preparedness coordination and mutual aid multi-agency agreements?	X			Safety Element, 7.4 Wildland Fire, Local, State, and Federal Agencies Responsible for Fire Protection, page 7-11, paragraph 2

Sample Safety Element Recommendations

These are examples of specific policies, objectives, or implementation measures that may be used to meet the intent of Government Code sections 65302, subdivision (g)(3) and 65302.5, subdivision (b). Safety element reviewers may make recommendations that are not included here.

A. Maps, Plans and Historical Information
1. Include or reference CAL FIRE Fire Hazard Severity Zone maps or locally adopted wildfire hazard zones.
2. Include or reference the location of historical information on wildfires in the planning area.
3. Include a map or description of the location of existing and planned land uses in SRAs and VHFHSZs, particularly habitable structures, roads, utilities, and essential public facilities.
4. Identify or reference a fire plan that is relevant to the geographic scope of the general plan, including the Unit/Contract County Fire Plan, Local Hazard Mitigation Plan, and any applicable Community Wildfire Protection Plans.
5. Align the goals, policies, objectives, and implementation measures for fire hazard mitigation in the safety element with those in existing fire plans, or make plans to update fire plans to match the safety element.
6. Create a fire plan for the planning area.

B. Land Use
1. Develop fire safe development codes to use as standards for fire protection for new development in SRAs or VHFHSZs that meet or exceed the statewide minimums in the SRA Fire Safe Regulations.
2. Adopt and have certified by the Board of Forestry and Fire Protection local ordinances which meet or exceed the minimum statewide standards in the SRA Fire Safe Regulations.
3. Identify existing development that do not meet or exceed the SRA Fire Safe Regulations or certified local ordinances.
4. Develop mitigation measures for existing development that does not meet or exceed the SRA Fire Safe Regulations or certified local ordinances or identify a policy to do so.
C. Fuel Modification
1. Develop a policy to communicate vegetation clearance requirements to seasonal, absent, or vacation rental owners.
2. Identify a policy for the ongoing maintenance of vegetation clearance on public and private roads.
3. Include fuel breaks in the layout/siting of subdivisions.
4. Identify a policy for the ongoing maintenance of existing or proposed fuel breaks.
5. Identify and/or map existing development that does not conform to current state and/or locally adopted fire safety standards for access, water supply and fire flow, signing, and vegetation clearance in SRAs or VHFHSZs.
6. Identify plans and actions for existing non-conforming development to be improved or mitigated to meet current state and/or locally adopted fire safety standards for access, water supply and fire flow, signing, and vegetation clearance.
D. Access
1. Develop a policy that approval of parcel maps and tentative maps in SRAs or VHFHSZs is conditional based on meeting the SRA Fire Safe Regulations and the Fire Hazard Reduction Around Buildings and Structures Regulations, particularly those regarding road standards for ingress, egress, and fire equipment access. (See Gov. Code, § 66474.02.)
2. Develop a policy that development will be prioritized in areas with an adequate road network and associated infrastructure.
3. Identify multi-family housing, group homes, or other community housing in SRAs or VHFHSZs and develop a policy to create evacuation or shelter in place plans.
4. Include a policy to develop pre-plans for fire risk areas that address civilian evacuation and to effectively communicate those plans.
5. Identify road networks in SRAs or VHFHSZs that do not meet title 14, CCR, division 1.5, chapter 7, subchapter 2, articles 2 and 3 (commencing with section 1273.00) or certified local ordinance and develop a policy to examine possible mitigations.
E. Fire Protection
1. Develop a policy that development will be prioritized in areas with adequate water supply infrastructure.
2. Plan for the ongoing maintenance and long-term integrity of planned and existing water supply infrastructure.
3. Map existing emergency service facilities and note any areas lacking service, especially in SRAs or VHFHSZs.
4. Project future emergency service needs for the planned land uses.
5. Include information about emergency service trainings or standards and plans to meet or maintain them.
6. Include information about inter-agency preparedness coordination or mutual aid agreements.

Fire Hazard Planning in Other Elements of the General Plan

When updating the General Plan, here are some ways to incorporate fire hazard planning into other elements. Wildfire safety is best accomplished by holistic, strategic fire planning that takes advantage of opportunities to align priorities and implementation measures within and across plans.

Land Use Element
Goals and policies include mitigation of fire hazard for future development or limit development in very high fire hazard severity zones.
Disclose wildland urban-interface hazards, including fire hazard severity zones, and/or other vulnerable areas as determined by CAL FIRE or local fire agency.
Design and locate new development to provide adequate infrastructure for the safe ingress of emergency response vehicles and simultaneously allow citizen egress during emergencies.
Describe or map any Firewise Communities or other fire safe communities as determined by the National Fire Protection Association, Fire Safe Council, or other organization.
Housing Element
Incorporation of current fire safe building codes.
Identify and mitigate substandard fire safe housing and neighborhoods relative to fire hazard severity zones.
Consider diverse occupancies and their effects on wildfire protection (group housing, seasonal populations, transit-dependent, etc).
Open Space and Conservation Elements
Identify critical natural resource values relative to fire hazard severity zones.
Include resource management activities to enhance protection of open space and natural resource values.
Integrate open space into fire safety planning and effectiveness.
Mitigation for unique pest, disease and other forest health issues leading to hazardous situations.
Circulation Element
Provide adequate access to very high fire hazard severity zones.
Develop standards for evacuation of residential areas in very high fire hazard severity zones.
Incorporate a policy that provides for a fuel reduction maintenance program along roadways.

of a partnership involving the delivery of police services between the community, the police and elected officials focused on making the City a quality place to live, work and play.

A primary characteristic of community oriented policing is involvement in the community. This can take the form of direct contact with the residents, such as foot or bicycle patrols in the neighborhoods, recreation, and commercial areas, participation in local youth activities, and working relationships with the local business community. The police service may include a mix of commissioned officers and non-commissioned officers designed to use noncommissioned officers for calls which require less safety training and responsibility. The non-commissioned officers, known as Community Service Officers, will be trained in recognition and identification of personal and public safety symptoms, criminal and traffic accident report writing and crime scene reconstruction. They would assist the commissioned officers by monitoring the neighborhoods, coordinating with block watch activities and assortment of crime prevention/human service activities. Such an approach would be particularly useful if the city pursues tourism and visitor based economic development. Such economic activity will involve management of large groups of visitors during special events. The guiding concept is to develop a police service tailored to the particular needs of Portola.

Law enforcement in Portola is provided by the Plumas County Sheriff's Office. There are currently five (5) patrolmen and one (1) supervisor serving the eastern portion of the County.

The patrol service for the eastern portion of the County is headquartered at the Sheriff's substation located on Gulling Street in Portola adjacent to the Portola Library and City Hall. The City of Portola contracts with the PCSO to provide patrol service within the city limits. The contract is renegotiated periodically to reflect increased levels of service and costs of service.

In order for the city to pursue implementation of the Community Oriented Policing concept it is necessary to establish specific guidelines and objectives for police services. This can be accomplished through close coordination with the County Sheriff, but as the community grows, the concept of a City-based police service should be considered.

Policies: Police

PF-P-42. The City will establish a standard for the level of police service and will establish the criteria for determining the circumstances under which police service will be improved.

Implementation: Police

PF-I-35. The City will review the level of service provided by the County Sheriff and determine whether increased levels of service are required to serve additional population.

PF-I-36. The City will establish the means of funding additional police service through benefit assessment districts, sales tax, fees for development, or other methods.

PF-I-37. The City will establish a plan to incorporate Community Oriented Policing principles in the current police service and will expand and tailor the service over time to meet the specific needs of the community.

PF-I-38. The Planning Commission and City Engineer will review proposed residential street patterns to evaluate the accessibility for police patrols and emergency response.

6.13 FIRE PROTECTION

Fire protection and emergency response is essential for the well-being of the city residents and is fundamental to attract many types of business to the community. The cumulative effect of growth in the city will incrementally increase the number of calls for service from the Portola Fire Department (PFD). The current Insurance Services Organization (ISO) level of service, and other indicators of service capability, will be affected over time. The effects will be in terms of personnel requirements for training and emergency responses, and in increased need to upgrade equipment and engines.

The City of Portola Fire Department (PFD) provides fire protection throughout the city and in adjacent areas through mutual aid agreements. The PFD is primarily a volunteer organization, but maintains an ISO rating of 5. This reflects a relatively high standard of training, personnel, equipment, response times, and fire suppression water availability for a small, rural community. The PFD maintains two stations, one north of the Middle Fork Feather River at the intersection of Gulling Street and Plumas Street, and the other south of the river at the intersection of First Avenue and Pacific Street.

The City Engineer has identified a potential fire flow deficiency within portions of the city resulting from the elevation relative to, and the distance from, the south storage tank. This will be resolved by constructing a new water storage tank at a higher elevation on the south side of the city, and construction of new water distribution lines to serve Area B.

Policies: Fire Protection

PF-P-43. The City will establish fundamental standards for level of service that include response times and level of response criteria and will establish the criteria for determining the circumstances under which fire service will be improved.

Implementation: Fire Protection

PF-I-39. New development will participate in the funding of a prorata share of new fire protection equipment, including personnel safety equipment, engines, and stations through benefit assessment districts, sales tax, fees for development or other methods as may be established for this purpose.

PF-I-40. New construction will conform to all standards for fire safety as established by the City through zoning, other municipal codes, and building construction codes.

PF-I-41. The City Engineer will ensure that new development meets City standards for fire safety access and emergency egress.

7. SAFETY ELEMENT

Safety hazards can occur as a result of the actions of nature or works of man. The intent of the Safety Element is to identify the potential hazards in the community that must be considered when planning the location, type, and intensity of development. The primary objective of the Safety Element is to reduce the potential for loss of life, injuries, and property damage which could result from a natural or man caused disaster.

Authority

The Safety Element is mandated by the California Government Code (65302 (g)). The statute requires:

“.. A Safety Element for the protection of the community from any unreasonable risks associated with the effects of seismically induced ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence and other geologic hazards known to the legislative body; flooding; and wildland and urban fires. It shall also address evacuation routes, peak-load, water-supply requirements, and minimum road widths and clearances around structures as those items relate to identified fire and geologic hazards.”

Specific topics addressed in this Element include:

- Seismic and Geologic Hazards
- Flood Hazards
- Dam Failure Inundation
- Wildland Fire Protection
- Hazardous Materials

Relationship to Other Elements

The mandated Safety Element relates to the subjects addressed in the Land Use Element, Conservation and Open Space Element, Public Services and Facilities Element, and Air Quality Element.

7.1 SEISMIC AND GEOLOGIC HAZARDS

Geology of the Portola Region

Portola is located in the Humbug Valley Ground Water Basin. The Humbug Valley, the Sierra Valley to the east and the Mohawk Valley to the west, are believed to have been formed during the Pliocene-Pleistocene Eras (3 million to 11 million years ago). Evidently, these were undrained basins trapped among the volcanoes and granite knobs of the region. They filled with water during a time when rainfall was heavier than it is now, and became lakes until their outlet streams managed to erode valleys deep enough to restore drainage into the Feather River.

Much of the floor of Humbug Valley is comprised of lake deposits from the ancient lake. Intermediate alluvium, unconsolidated sand and silt not over 60 feet in thickness, overlay the lake deposits in areas adjacent to the Feather River, most of the City of Portola south of Highway 70, and the Charles Valley area north of Highway 70. Alluvial soils are among those least resistant to seismic shaking.

It is interesting that the Feather River drains this region westward toward and through the high Sierra Nevada Mountains. The river would be expected to flow “down hill” away from the high Sierra toward the east. This unexpected direction of flow indicates that the river is older than the outlines of the present landscape, and managed to maintain its westward course through all the regional faulting and volcanism of the last several million years. The river was able to erode its channel downward more rapidly than the uplift of the Sierra Nevada block.

The geology of the area is characterized as Q1 (Quaternary lake beds) on the Geologic Map of the Chico Quadrangle, California (California Division of Mines and Geology, 1977). Quaternary lake beds are described as pebble conglomerates, sands, and clays.

Landslide Hazard Identification Program

Under the Seismic Hazards Mapping Act of 1990 (AB 3897), regional data must be gathered and zones mapped to identify areas where earthquake geologic hazards may occur. This information is to be used in city and county hazard mitigation plans and incorporated into general plan safety elements. The existing conditions are described in Appendix A.

Alquist Priolo Act

The Alquist-Priolo Special Studies Zone Act of 1972 is directed at areas identified by the State Geologist as likely to experience earthquakes. The Act focuses on surface fault rupture and not shaking. It addresses earthquake safety in building permits and subdivision procedures by requiring project applicants to submit a registered geologist's report describing potential for on-site surface rupture.

There are no active faults in Portola that have been zoned by the State Geologist under the Alquist-Priolo Earthquake Fault Zoning Act. The nearest seismically active faults are the Mohawk Valley Fault located approximately 8.5 miles (13.7 kilometers) to the west of Portola, and the Honey Lake Fault located approximately 21 miles (33.8 kilometers) to the east. The nearest potentially active fault zone is the Sulphur Creek Fault Zone located approximately 8 miles (12.9 kilometers) to the southwest, which has an estimated maximum credible earthquake magnitude of 6.5.

7.1.1 Seismic and Geologic Safety Goals

Goal SG-1. Minimize injury and property damage due to seismic activity and geologic hazards.

Policies: Seismic and Geologic Safety

- SG-P-1.** Mitigate the potential impacts of geologic hazards through building plan review.
- SG-P-2.** Comply with California State seismic and building standards in the design and siting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous material manufacture and storage facilities, bridges, and large public assembly halls.
- SG-P-3.** Create and adopt slope development standards to be used in the planning process for any area identified as having significant slope.
- SG-P-4.** Avoid seismic-induced settlement of uncompacted fills.

Implementation: Seismic and Geologic Safety

- SG-I-1.** Employ the services of a professional Registered Geotechnical Engineer or Certified Engineering Geologist to evaluate proposed development within the Quaternary lacustrine deposits of Pleistocene Lake Mohawk (Q1m).
- SG-I-2.** Employ the services of a professional Registered Geotechnical Engineer or Certified Engineering Geologist for hillside development and to evaluate the potential for landslides (including debris slides and mudslides).
- SG-I-3.** Comply with Uniform Building Code (UBC) requirements for Seismic Zone 3, which stipulate building structural material and reinforcement.
- SG-I-5.** Require contour grading, where feasible, with drainage directed away from the tops of slopes.

- SG-I-6.** Require revegetation to control erosion and mitigate the appearance of engineered slopes.
- SG-I-7.** Implement the Uniform Building Code sections related to Excavation and Grading Ordinance, which requires that hillside lots with substantial cuts and fills have the fills properly compacted by sheepsfoot roller.
- SG-I-8.** Develop a comprehensive plan for septic tanks and water-wells based upon Berry’s Geologic Map and applicable regulations of the Regional Water Quality Control Board.
- SG-I-9.** Comply with California Health and Safety Code 19100 et seq (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by lateral forces caused by earthquakes and wind.

7.2 FLOOD HAZARDS

The primary flood hazard in Portola is the Middle Fork Feather River, a Federally designated Wild and Scenic River, which courses through the City. The creeks and tributaries which drain into the river also pose flood hazards when snow melt or storm runoff exceeds drainage capacity.

Floodplain Area

The boundaries of the 100-year floodplain for the Feather River are delineated by the Federal Emergency Management Agency (FEMA) on the basis of hydrology, topography, and modeling of flow during predicted rainstorms. Areas designated as flood zones are shown on published Flood Insurance Rate Maps (FIRM). FEMA requirements for residential development in a designated ‘A’ Zone include raising the first floor to at or above the base flood elevation (100-year). The National Flood Insurance Program (NFIP) requires owners of property within designated flood zones to purchase flood insurance.

7.2.1 Flood Safety Goals

Goal F-1. Minimize the potential for loss of life and property due to flooding.

Goal F-2. Pursue flood control solutions which minimize environmental impacts.

Policies: Flood Safety

- F-P-1.** Regulate all uses and development in areas subject to potential flooding through zoning and other land use regulations.
- F-P-2.** Prohibit development that is not raised above the 100-year floodplain level.
- F-P-3.** Pursue a regional approach to flood issues.
- F-P-4.** Combine flood control, recreation, water quality, and open space functions, where feasible.
- F-P-5.** Ensure that any existing structures subject to the 100-year flood provide adequate protection from flood hazards.
- F-P-6.** Ensure that impacts of flooding are adequately analyzed when considering areas for future urban expansion.
- F-P-7.** Protect fisheries and allow for adequate water passage to ensure the survival of downstream riparian ecosystems.
- F-P-8.** Maintain natural stream courses and adjacent habitat, where feasible.

Implementation: Flood Safety

- F-I-1.** Enforce compliance with the City of Portola Master Drainage Plan.
- F-I-2.** Provide flood warning and forecasting information to City residents.
- F-I-3.** Promote the use of open grassy swales to carry runoff from the urban areas to natural drainage ways.
- F-I-4.** Discourage large continuous paved areas.
- F-I-5.** Encourage the use of pervious paving materials.
- F-I-6.** Ensure development design which prevents the diversion of runoff out of natural water courses onto adjacent parcels.
- F-I-7.** Encourage development to discharge runoff into pervious areas within or adjacent to natural water courses.
- F-I-8.** Require that building pads be located a sufficient distance above the 100-year floodplain to minimize the potential for flooding.
- F-I-9.** Require a Drainage Plan as condition of the approval for urban residential subdivisions over ten acres in area. Require the Plan to provide mitigation to insure that the cumulative rate of peak runoff is maintained at pre-development levels.

7.3 DAM FAILURE INUNDATION

The Grizzly Creek Dam at Lake Davis is located on Grizzly Creek which drains into the Middle Fork Feather River in Portola. According to the Grizzly Creek Dam Inundation Map, portions of the 100-year floodplain in Portola would be subject to inundation in the event of dam failure. (See FEMA Flood Zone Map)

Through enforcement of the policies and implementation measures for restricting development within the 100-year floodplain (Subsection 7.2.1 above), the threat to Portola is minimal in the event of failure of the Grizzly Creek Dam.

7.3.1 Dam Failure Safety Goals

Goal DF-1. Minimize injury and property damage due to dam failure inundation.

Policies: Dam Failure Safety

- DF-P-1.** Ensure that all development is above the inundation zone of any potential dam failure at Lake Davis.

Implementation: Dam Failure Safety

- DF-I-1.** Enforce the policies and implementation measures for restricting development within the 100-year floodplain.

7.4 WILDLAND FIRE PROTECTION

The scars of a major wildland fire just to the south of Portola High School is ample evidence that the possibility of wildland fire in the area is substantial. The potential for future fires is inherent in Portola's natural setting. Expansion of the City into the forest areas will increase this potential hazard. Consequently, all planning for new development must incorporate fundamental fire safety design criteria that addresses access for emergency vehicles, evacuation of residents, the location and type of construction, and the clearing of vegetation to provide fire safe zones around all

development.

Development in the forest areas around the City are regulated by interlinked statutes and local standards and guidelines.

Uniform Fire Code

The Uniform Fire Code addresses suppression and control of hazardous fire areas. Safeguards are presented which are intended to prevent the occurrence of fires, and to provide adequate fire protection facilities to control the spread of fire which might be caused by recreational, residential, commercial, industrial, or other activities conducted in hazardous fire areas.

California Board of Forestry: SRA Fire Safe Regulations

Subchapter 2 (State Responsibility Areas -SRA- Fire Safe Regulations), Title 14 of the Public Resources Code Section 4290, constitutes the basic wildland fire protection standards of the California Board of Forestry. On May 30, 1991, the Office of Administrative Law (OAL) approved and filed with the Secretary of State the language for the SRA Fire Safe Regulations (and subsequently updated). These standards apply to development projects in state responsibility areas or in local jurisdictions which have adopted SRA Fire Safe Regulations.

California Department of Forestry and Fire Protection

The SRA Fire Safe Regulations are administered by the California Department of Forestry and Fire Protection (CDFFP) Ranger Unit Headquarters in each county. The CDFFP Ranger Unit Headquarters for Plumas County is located in Quincy. Local requirements implementing SRA Fire Safe Regulations are reviewed and approved by the CDFFP.

Plumas County Fire Safe Council

The Plumas County Fire Safe Council is an association of fire fighting and protection agencies in Plumas County. The Council is currently developing a Memorandum of Understanding (MOU) between the member agencies. Primary goals of the Council include education of Plumas County residents regarding fire behavior and protection.

County of Plumas

Plumas County has adopted SRA Fire Safe Regulations. The County has included these regulations in its "New Building Permit Requirements" and "New Subdivision Requirements" publications. These regulations are applicable to development projects within the County's jurisdiction.

7.4.1 Wildland Fire Safety Goals

Goal WF-1. Protect against injury, loss of life, and damage to property and the environment due to wildland fire.

Policies: Wildland Fire Safety

WF-P-1. Work with the Plumas National Forest, the California Department of Forestry, and Plumas County Fire Departments to establish a cooperative fire fighting agreement in areas prone to wildland fires, and to enhance the benefit to the City of tools such as air tankers and helicopters.

WF-P-2. Work with the Plumas National Forest, the California Department of Forestry, and Plumas County Fire Departments to establish cooperative participation in establishing fuel breaks and prescribed burns.

WF-P-3. Require a Fire Safe Plan for new development.

Implementation: **Wildland Fire Safety (Plumas Fire Safe Council recommendations are incorporated by reference to the General Plan as may be amended from time-to-time)**
RPC 1 (a)

time)

- WF-I-1.** Adopt the SRA Fire Safe Council Regulations for existing and new development in the areas adjacent to open forest.
- WF-I-2.** As a condition of approval for all residential development over ten acres with ten or more dwelling units, a Fire Safe Plan prepared by a Registered Professional Forester shall be submitted to the City. The Fire Safe Plan shall be consistent with the City adopted SRA Fire Safe Council Regulations. The current regulations and future revisions will be adopted by the City of Portola and are incorporated to the General Plan.

7.5 HAZARDOUS MATERIALS

The City of Portola is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. However, the handling of hazardous materials is a daily activity in truck traffic and trains that pass through the City. The Federal Government, under Title 49 of the Code of Federal Regulations, lists thousands of hazardous materials, ranging from radioactive waste and explosives to gasoline, insecticides, and household cleaning products.

Storage

Safe and proper storage of hazardous materials incorporates a variety of techniques, depending upon the type of material being stored. Underground storage tanks are commonly used for the storage of hazardous materials, especially petroleum products. These storage devices are found most often at gas stations and businesses operating vehicle fleets. There are two (2) gas stations within the City of Portola. The Union Pacific Railroad operation facilities are another potential location of hazardous materials storage. Leaking underground storage tanks contaminates the surrounding soil and possibly the water table.

Transportation

Hazardous materials are routinely transported by truck over state and federal highways as well as local roads (e.g., gasoline tankers). The California Vehicle Code Section 31303 requires that hazardous materials be transported via routes with the least overall travel time, and prohibits the transportation of hazardous materials through residential neighborhoods.

The Union Pacific Railroad through the City must be considered a possible source of hazardous materials spills. In the event of a derailling or other railroad accident, the residents could be exposed to any hazardous materials being transported by the railroad.

Disposal

Hazardous materials, used in many household products (e.g., drain cleaners, waste oil, cleaning fluids, insecticides and car batteries), are often improperly disposed of as a part of normal household trash. Furthermore, there is risk to the community from exposure or explosion caused by adding hazardous waste to landfills that are not equipped to handle them.

Emergency Response

Response to a hazardous waste spill varies according to the circumstances under which it is released. Union Pacific Railroad has primary responsibility for hazardous materials spills on its premises. Hazardous materials spills on state and federal highways are the responsibility of Caltrans and the California Highway Patrol (CHP), which provide on-scene management of the spill site and coordinate with the Environmental Health Department, Office of Emergency Services, and the local fire department. Primary responsibility for handling of these events within the City is assigned to the Portola Fire Department.

7.5.1 *Hazardous Materials Safety Goals*

Goal HM-1. Protect health, safety, natural resources, and property through regulation of use, storage, transport, and disposal of hazardous materials.

Policies: Hazardous Materials Safety

HM-P-1. Maintain an awareness of hazardous materials in the Portola area.

HM-P-2. Develop an Interagency Hazardous Materials Emergency Plan.

Implementation: Hazardous Materials Safety

HM-I-1. Require the submittal of lists of hazardous materials used in existing and proposed industrial and commercial businesses within the City of Portola. The list shall be maintained by the Portola Fire Department (PFD), and updated through periodic review.

HM-I-2. Work with Plumas County and other public agencies to inform consumers about household use and disposal of hazardous materials.

HM-I-3. Cooperate fully with Union Pacific Railroad and other agencies, such as the CHP, in the event of a hazardous material emergency.

HM-I-4. Continue operation of a City hazardous waste pick-up program for household hazardous materials.

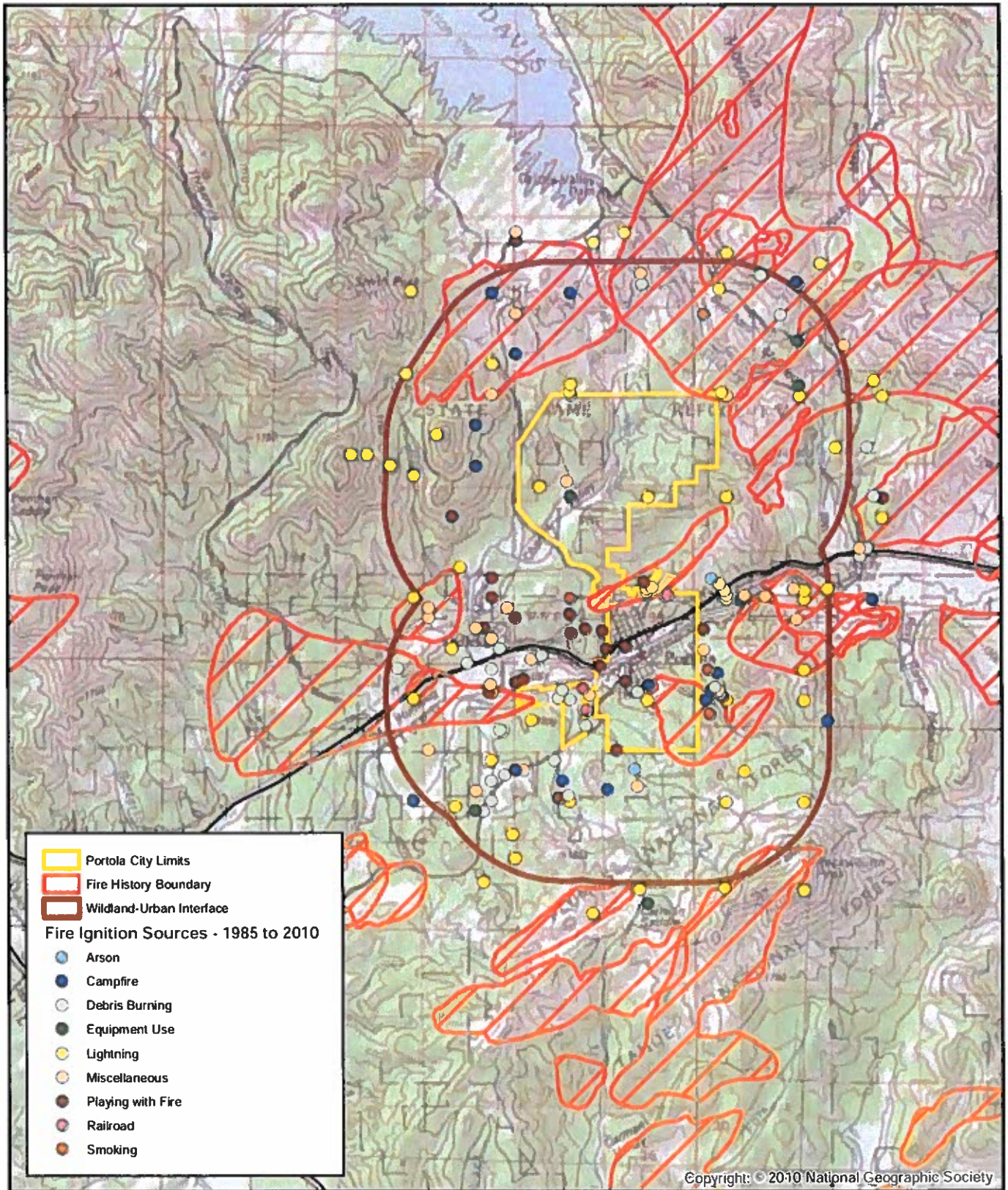


Figure 15 - Fire and Ignition History

NOTES

