HEALTH AND SAFETY ELEMENT

INTRODUCTION

PURPOSE AND CONTENT

Safety hazards can occur as either a result of the actions of nature or works of man. The intent of the Health and Safety Element is to document potential hazards that must be considered when planning the location, type, and density of development throughout the Planning Area. A major objective is to reduce loss of life, injuries, and property damage which could result from a range of both natural and manmade hazards.

Background data and information for this element are contained within Chapter 10 of the City of Redding *General Plan Background Report*.

Specific topics addressed within the Policy Document include:

- Seismic and Geologic Hazards.
- Flood Hazards.
- Dam Failure Inundation.
- Urban and Wildland Fire Hazards.
- Crime Prevention.
- Airport-Related Hazards.
- Emergency Response.
- Hazardous Materials.
- Critical, Sensitive, and High-Occupancy Facilities.
- Evacuation Routes.

AUTHORITY

Pursuant to Government Code Section 65302(g), a general plan is required to include:

> *A Safety Element for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, 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.*

Assembly Bill 162 (adopted in 2007) amended certain sections of the Government Code pertaining to land use planning. As relates to the Health and Safety Element, Section 65302(I) requires the Element to identify information regarding flood hazards that is available from a variety of sources.

GOALS AND POLICIES

SEISMIC AND GEOLOGIC HAZARDS

Most of the background information concerning seismic safety within the Planning Area has been derived from a detailed report entitled *Seismic Hazards Assessment for the City of Redding, California*, prepared by Woodward-Clyde Federal Services in 1995. That report notes that there are several faults located in the Redding region and suggests that there are no "active" faults within 30 miles of the City. However, since its publication, the Redding area has had numerous earthquake events, with the strongest reported at a magnitude 3.5. Little is known about the fault responsible for these events, except that it is located approximately five miles northwest of Redding at a depth of 15.7 miles.

To date, the largest historical earthquake observed in the Redding region was the 1940 magnitude 5.7 Chico event. However, geologic and geophysical evidence cannot preclude the possibility of a larger earthquake. The Woodward-Clyde study reports that the largest potential earthquake which may affect Redding is a magnitude 7 event.

Of the various seismic hazards that could impact the Planning Area, ground-shaking and liquefaction (transformation of water-saturated granular soils to a liquid state during ground-shaking) are the most significant. Areas with the highest potential for liquefaction are located along the Sacramento River and its tributaries. Sites with low liquefaction potential are generally located in the gently sloping areas between the river and the foothills. Sites within the foothills are considered to have no liquefaction potential. Figures 4-1 and 4-2 identify areas prone to ground-shaking and liquefaction, respectively.

Seismically triggered landslides are possible within the westernmost part of the Planning Area. Other types of ground failure, including expansive soils (those that swell when wet and shrink as they dry) and subsidence (gradual settling or sinking of an area with little or no horizontal motion), are not considered to pose a significant hazard within the Planning Area.

Information contained within Chapter 9 of the City of Redding *General Plan Background Report* indicates that approximately 11,000 acres within the Planning Area contain erosive soils (soils with the greatest potential for erosion, particularly when disturbed by construction or vegetation removal). These soils are typically found on slopes exceeding 15 percent.

Seiches (earthquake-generated waves within a lake, reservoir, or bay) could potentially be generated in both Shasta Lake and Whiskeytown Lake due to very strong ground-shaking. The effects of such seiches would depend on the local conditions at the time. If either reservoir were filled to capacity, there could be some amount of overspill, most likely by way of the dam spillways rather than by overtopping the dams themselves. It would require a seiche of over 65 feet in height to overtop Shasta Dam, even if the reservoir were filled to capacity. In the case of Lake Shasta, it is anticipated that Keswick Dam would regulate the excess flow into the Sacramento River, thereby minimizing any inundation hazard.

Redding is distant enough from the three active Cascade volcanoes in the region (Lassen Peak, Mount Shasta, and Medicine Lake Volcano) that it is unlikely that the Planning Area would be significantly affected by a volcanic eruption. In the case of an eruption of Mount Shasta, volcanic ash may fall into the northern part of the Planning Area, and minor seiches could be generated in Lake Shasta by debris flows into the arms of the lake where its tributaries enter.

GOAL HS1

MINIMIZE THE LOSS OF LIFE, INJURY, AND PROPERTY DAMAGE DUE TO SEISMIC AND GEOLOGIC HAZARDS.

Policies to achieve this goal are to:

HS1A. Continue to require that new structures and alterations to existing structures comply with the seismic safety requirements of the Uniform Building Code (UBC); adopt updated provisions of the UBC related to seismic safety as they become available.

HS1B. Require liquefaction mitigation plans for proposed developments, including necessary infrastructure in areas determined to have a "high" liquefaction potential.

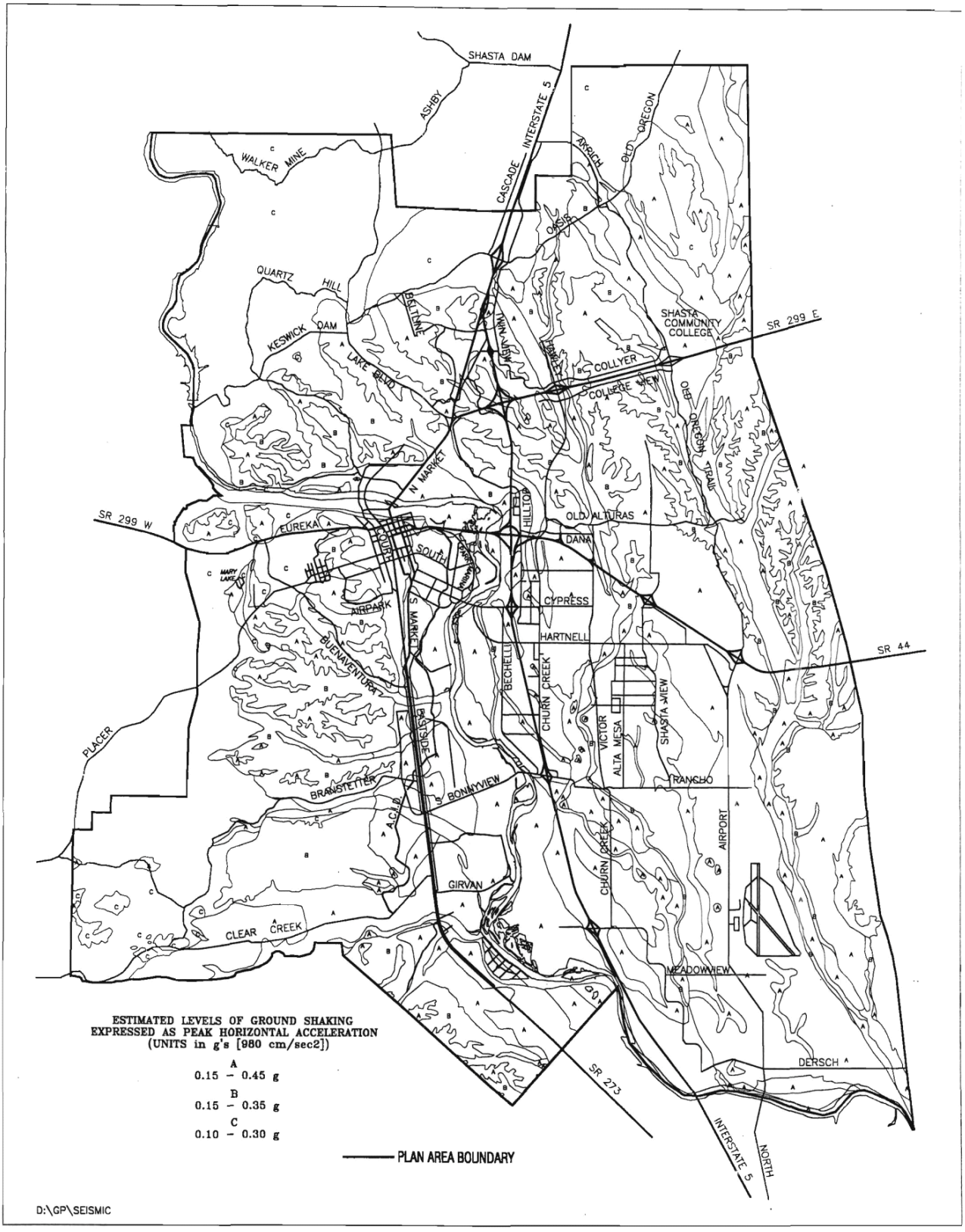

Figure 4-1 Ground Shaking Potential

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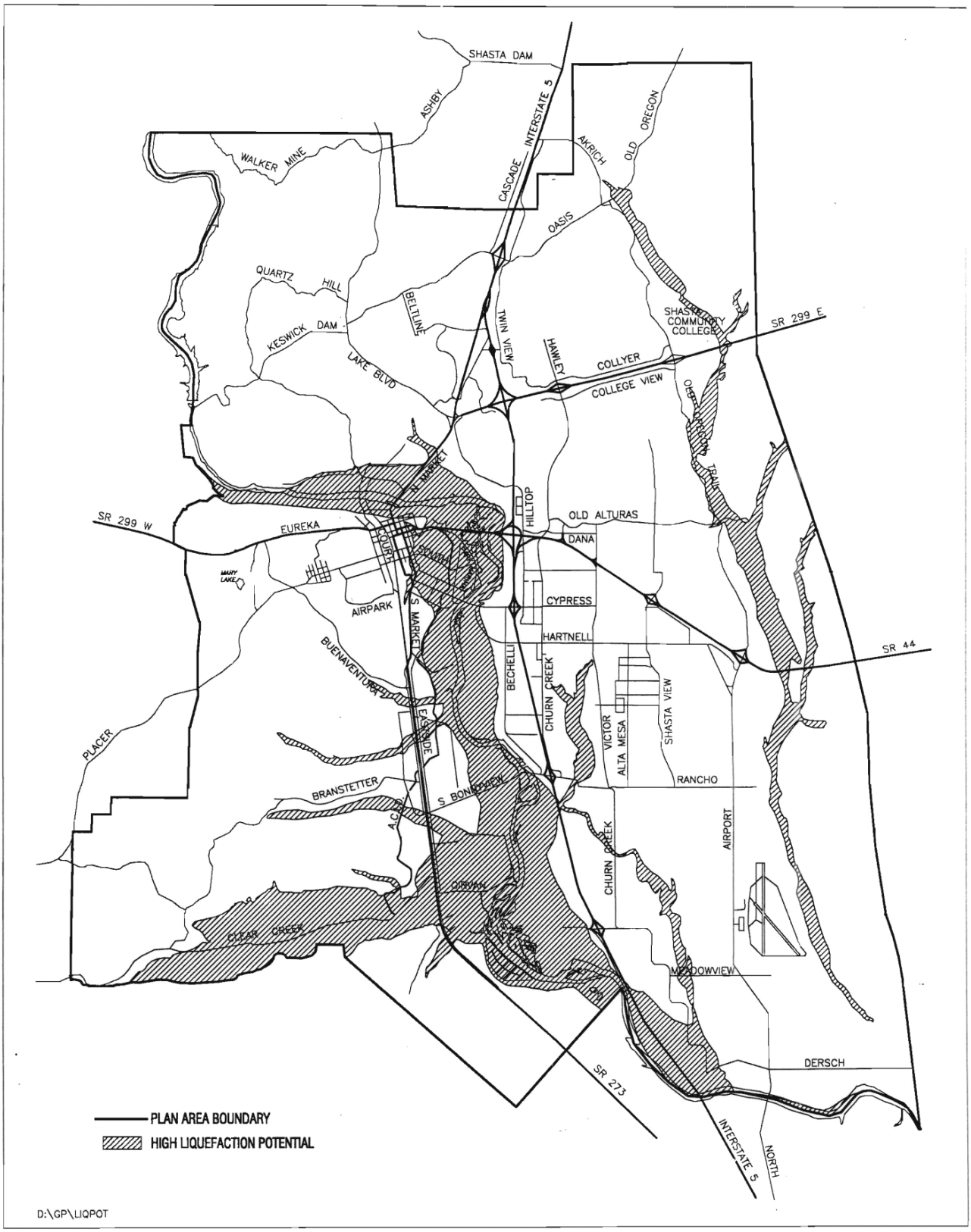

Figure 4-2 Liquefaction Potential

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HS1C. Require determination of the landslide, slope-instability, and erosion potential of proposed development sites located in potential hazard areas. Utilize building setbacks, grading techniques, or appropriate measures when constructing in or near unstable areas.

FLOOD HAZARDS

The Redding Planning Area is traversed by the Sacramento River and a number of streams that are tributary to the river system, each of which has the potential to damage property and/or result in loss of life from flooding. Mapping of areas prone to flooding is critical for a community to protect its citizens and property from disastrous flood events. The Federal Emergency Management Agency (FEMA) is responsible for mapping flood-prone areas under the National Flood Insurance Program (NFIP). FEMA uses a 100-year storm as the basis for its flood determinations and calculates probable inundation profiles for major drainages based on existing land uses in each drainage. These profiles are projected onto existing topography in each basin. Most of the flooding information provided by FEMA through its "Flood Insurance Rate Maps" (FIRM) used 1985 land use data for the majority of the area's drainage basins. Since that time, several updates have been adopted to reflect more detailed studies. This map series is available via large paper copies, as well as in digital format from FEMA.

In 1993, the City undertook a comprehensive study of all major drainage basins in the City. This study, known as the *Citywide Master Storm Drain Study* (prepared by Montgomery-Watson), was done to ascertain the effects that post-1985 development has had on flood levels and was independent of the studies prepared by FEMA. In most instances, it was determined that flood elevations would be higher than those provided by FEMA, due in large measure to increased urbanization in the area's watersheds and what the City considered to be more accurate information on storm duration and intensity used in the Montgomery-Watson study. As with the FIRM maps, Montgomery-Watson mapping is also updated to reflect the best information available. A composite of these two mapping efforts is depicted in Figure 4-3 and the detailed maps are available for review at the City of Redding's Development Services Department. It should be noted that these maps were prepared using best available topographic data. The actual limits of flooding cannot be determined without additional elevation data provided for specific properties.

As discussed in detail below, the City uses a combination of these two maps to establish the "regulatory floodplain" for purposes of complying with NFIP requirements. However, the State of California also provides floodplain mapping. The most recent efforts are intended to implement Senate Bill 5, which requires additional efforts to assist communities and individuals in assessing flooding risks. This additional mapping includes the following products:

- Department of Water Resources (DWR) "Best Available Maps" depict the 100- and 200-year composite floodplains located within the Sacramento-San Joaquin Valley watershed. This mapping includes the Redding area and is based on the best available information available to DWR as required by Senate Bill 5. As pertains to Redding, the maps are not of sufficient scale, detail, or accuracy to be used for regulatory floodplain-delineation purposes but, nevertheless, provide an "order of magnitude" depiction of what the 200-year floodplain may encompass.

- DWR "Awareness Floodplain Maps" depict the 100-year flood hazard areas using approximate assessment procedures. As with the "Best Available Maps," these maps do not have sufficient detail to be used for regulatory purposes. However, as pertains to Redding, the depicted 100-year floodplain appears to be largely consistent with the FIRM maps discussed above.

- Designated floodway maps for Clear Creek and the Sacramento River, which are available from the Central Valley Flood Protection Board.

The state is also undertaking additional mapping efforts in response to Senate Bill 5 and Assembly Bill 162. This includes floodplain areas protected by Central Valley State-Federal Project Levees (Levee Flood Protection Zone (LFPZ) maps), as well as DWR Central Valley Floodplain Evaluation and Delineation (CVFED) maps. The former does not pertain to Redding, since there are no "project" levees located in

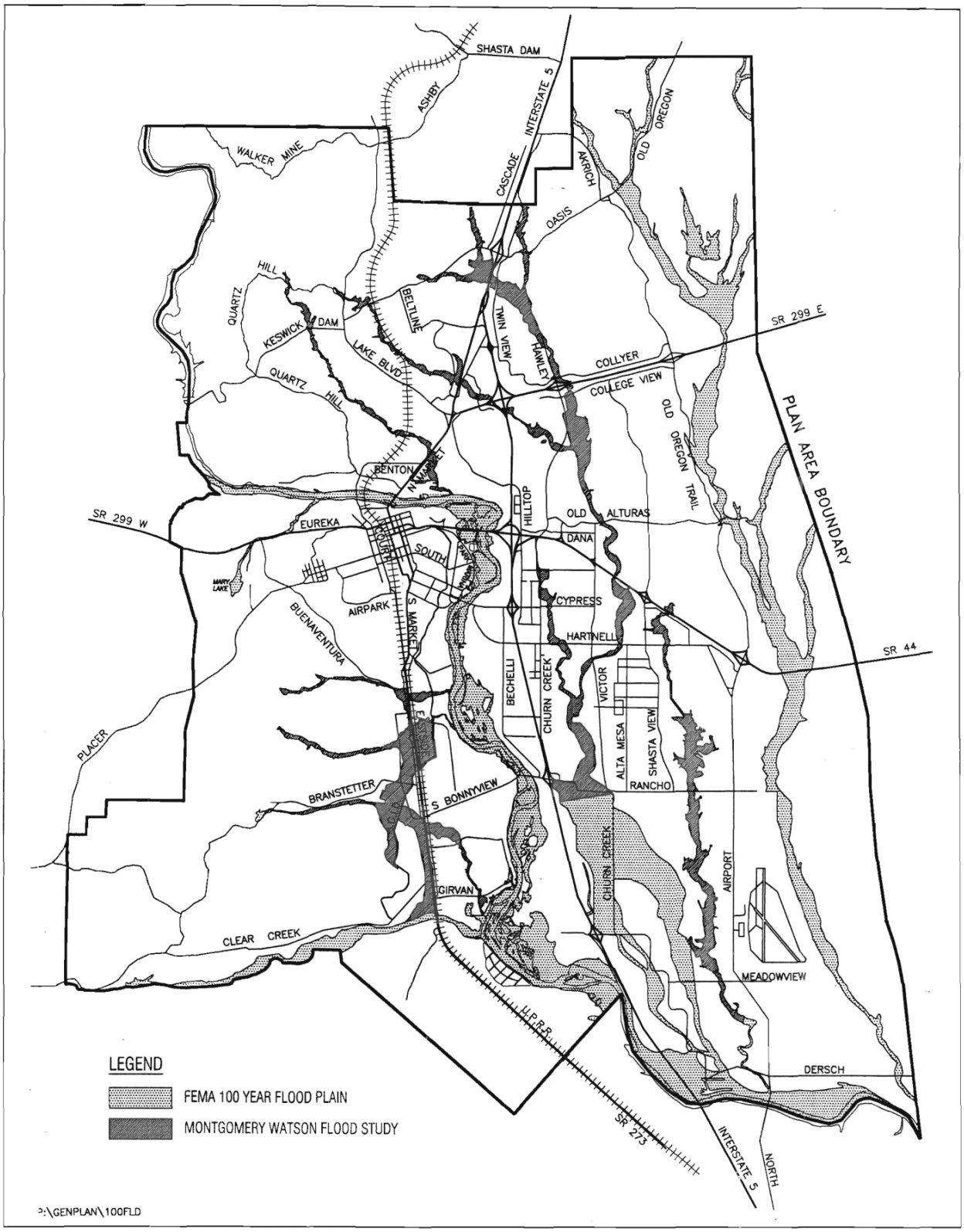

Figure 4-3

100-year Floodplain

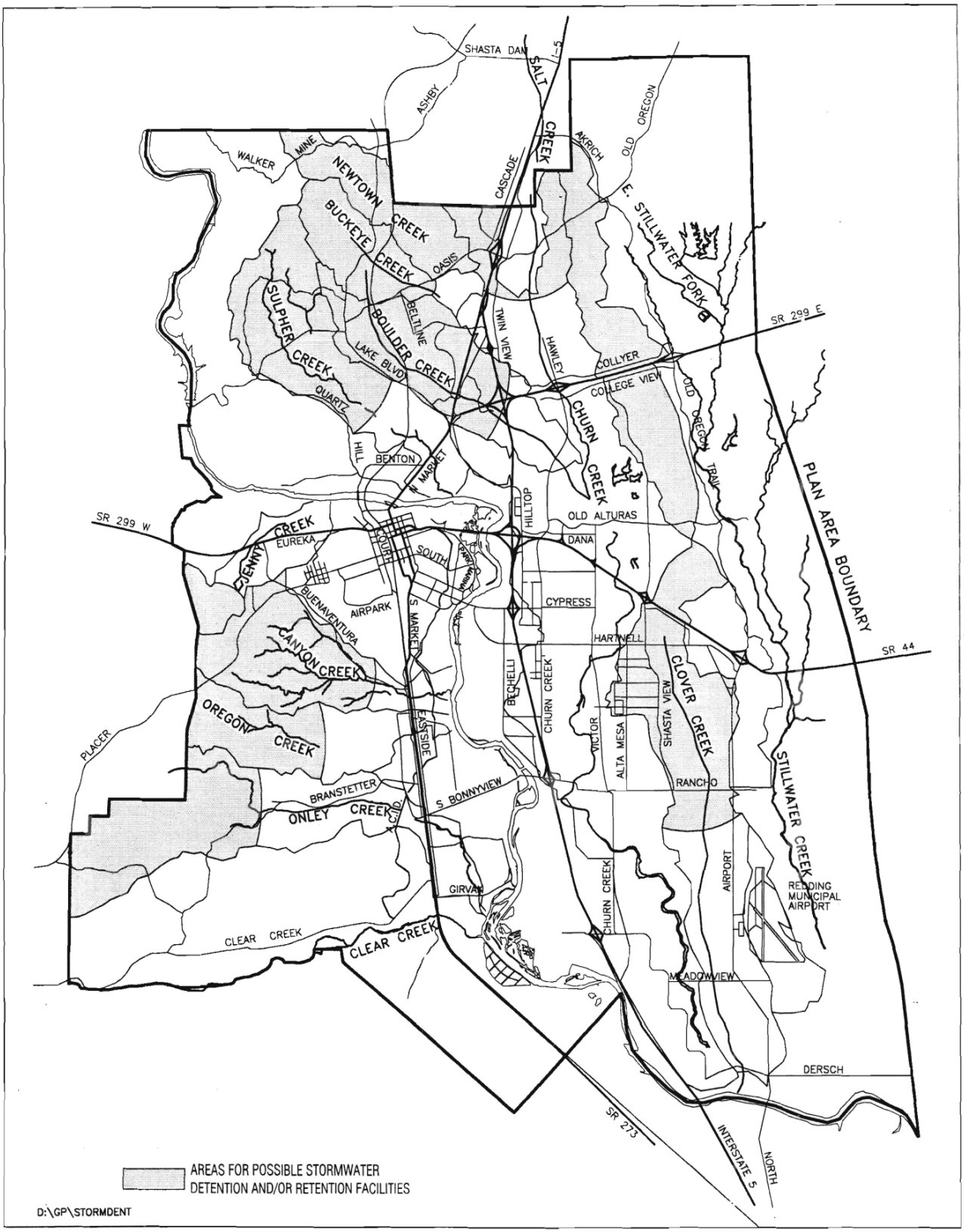

Figure 4-4 Storm Water Detention / Retention Feasibility Areas

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Redding. As of January 1, 2009, the CVED maps had yet to be produced by the state.

The discussion of "Dam Failure Inundation" that follows under Goal HS2 also includes maps that depict flood-prone areas in the unlikely event that these structures fail (Figures 4-5 and 4-6).

The City has adopted regulations in Chapter 18.51 (Floodplain Overlay District) governing development within, and adjacent to, the numerous floodplains in the City. They have been approved by FEMA and are incorporated herein by reference. These regulations define the 100-year floodplain as the most restrictive of either the aforementioned Montgomery-Watson Study or the FIRM. The regulations apply to all new development, both public and private. As a result, not only are residential and commercial/industrial developments protected, but essential public facilities, such as fire stations, emergency shelters, hospitals, emergency command centers, and communication facilities are similarly protected.

Various levels of protection within and along waterways are established by the Floodplain Overlay District. These include:

1. Generally prohibiting development within the floodway.
2. Allowing only limited use and development within the flood fringe.
3. Requiring proposed development projects to provide an appropriate hydrologic analysis demonstrating that the project will not result in impacts to upstream and downstream properties and that structures will either be elevated above the base flood elevation or be flood-proofed in accordance with federal regulations.
4. Regulating uses and development on properties contiguous to the flood fringe and outside the floodplain which do not meet minimum protection standards.
5. Reviewing proposed development located in designated scenic corridors.
6. Reviewing all development permits to determine that the requirements of the Overlay District are satisfied.
7. Reviewing all development permits to determine if the site is reasonably safe from flooding.

The level of the City's commitment to flood protection is evidenced by its participation in both the NFIP and the Community Rating System (CRS). In acknowledgment of Redding's regulatory efforts to protect citizens and property from flooding, Redding enjoys a "Class 6" rating, which has been achieved by only the top 8 percent of communities that participate in the program. This program allows the City to work closely with public agencies with responsibility for flood protection, such as the DWR and FEMA. A local "flood protection district," or similar entity, has not been formed within the Redding urban area.

In summary, City Council policies and the regulations of the City's Floodplain Overlay District (which are incorporated herein by reference) require that:

- Stormwater detention/retention facilities be incorporated into projects where necessary to ensure that flood elevations do not increase as a result of development.
- Uses in floodway and flood-fringe areas that will result in an increase in the floodplain elevation sufficient to impact other properties be restricted.
- Residential construction (including substantial improvements to existing structures) be elevated at least one foot above the base flood elevation.
- Nonresidential construction (including substantial improvements to existing structures) be elevated a minimum of one foot above the base flood elevation or be floodproofed in accordance with federal regulations and guidelines.
- New and replacement water supply and sanitary sewage systems be designed to minimize or eliminate infiltration of floodwaters.

Given the above policies and regulations, new development will be restricted within the 100-year floodplain. New development adjacent to the floodplain will be elevated/floodproofed as appropriate. While limited encroachments into the floodplain may be approved, this will only be done where there is no risk to the developing or abutting properties.

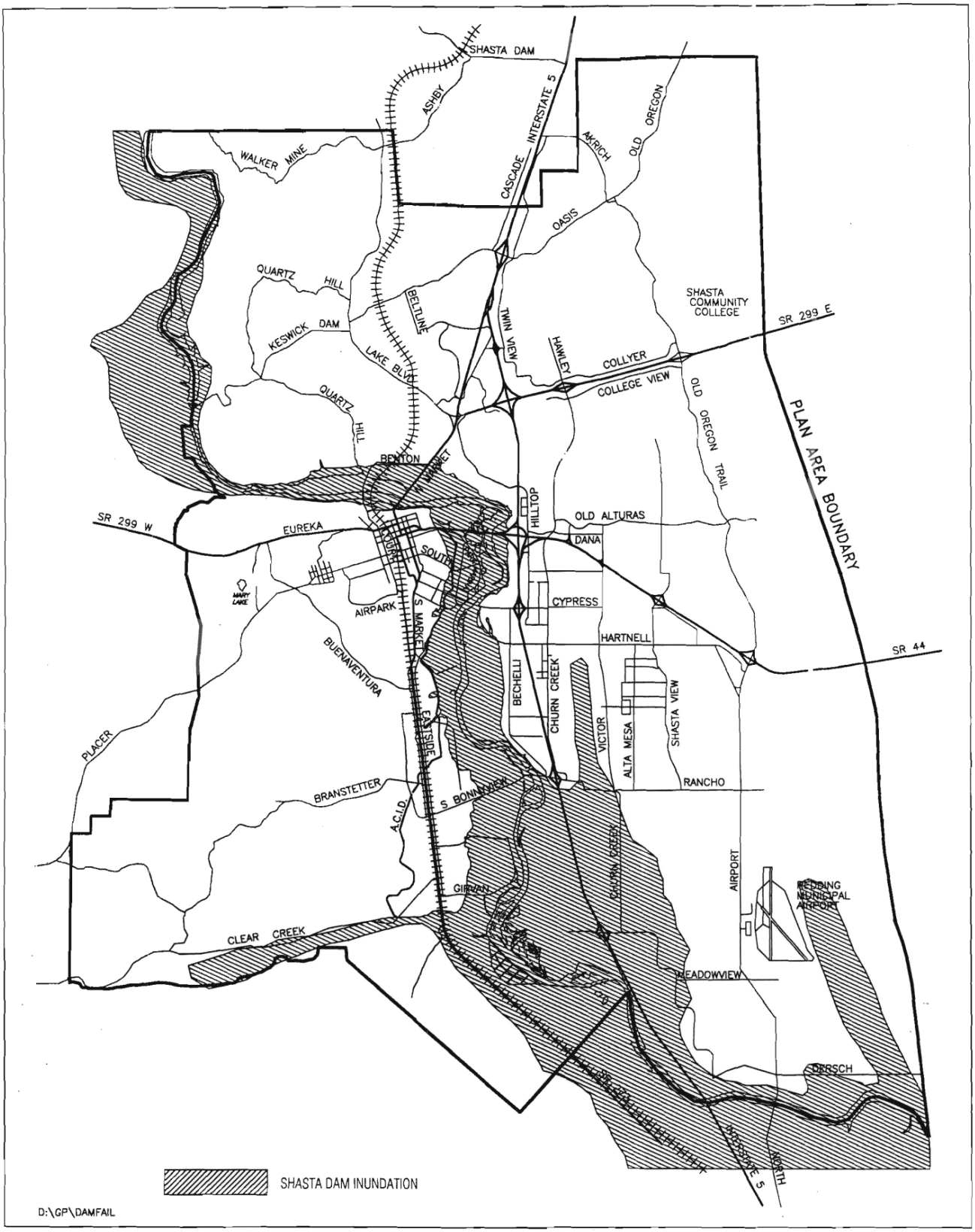

Figure 4-5 Inundation Area For Shasta Dam Failure

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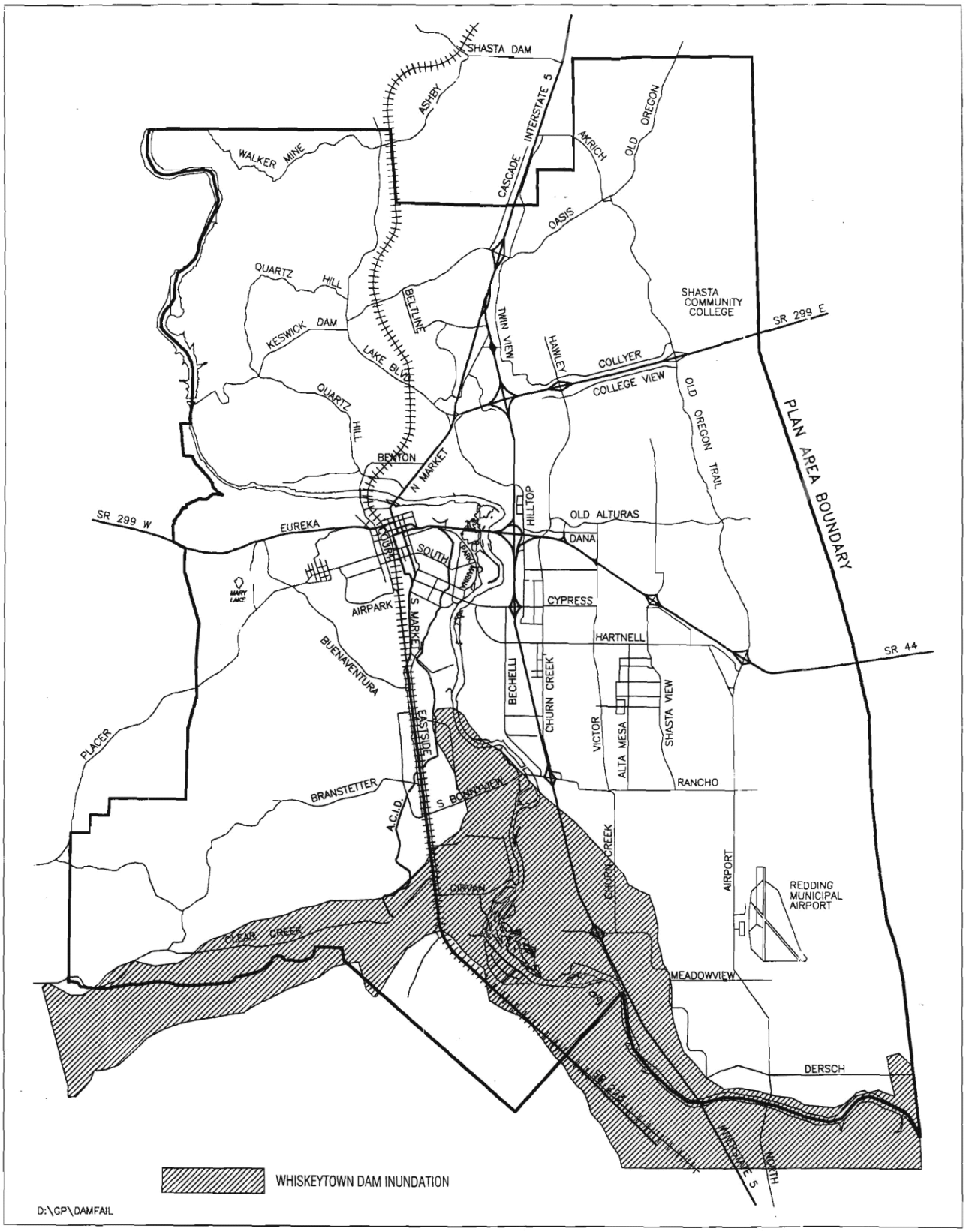

Figure 4-6 Inundation Area For Whiskeytown Dam Failure

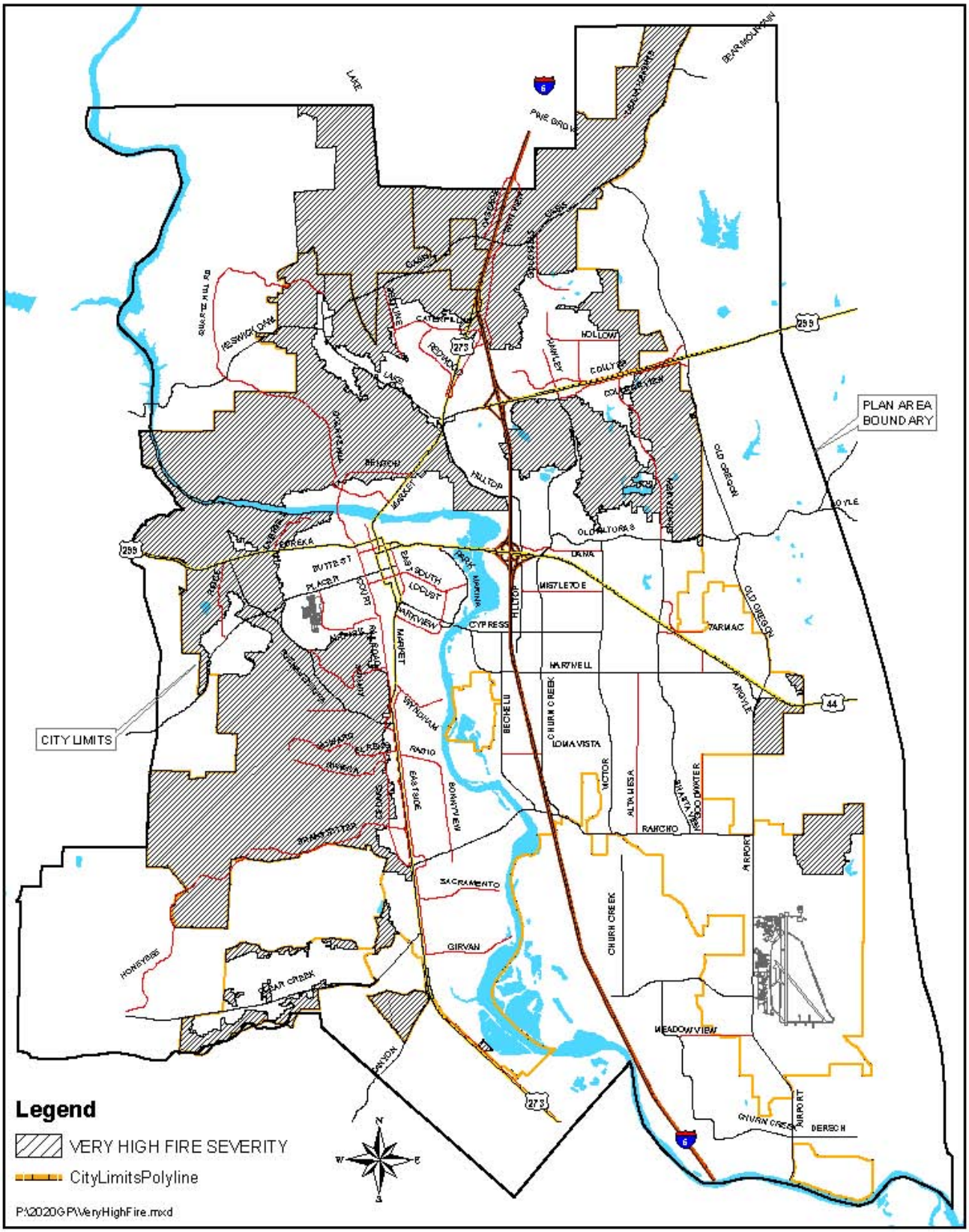

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Figure 4-7 Very High Fire Severity Zone

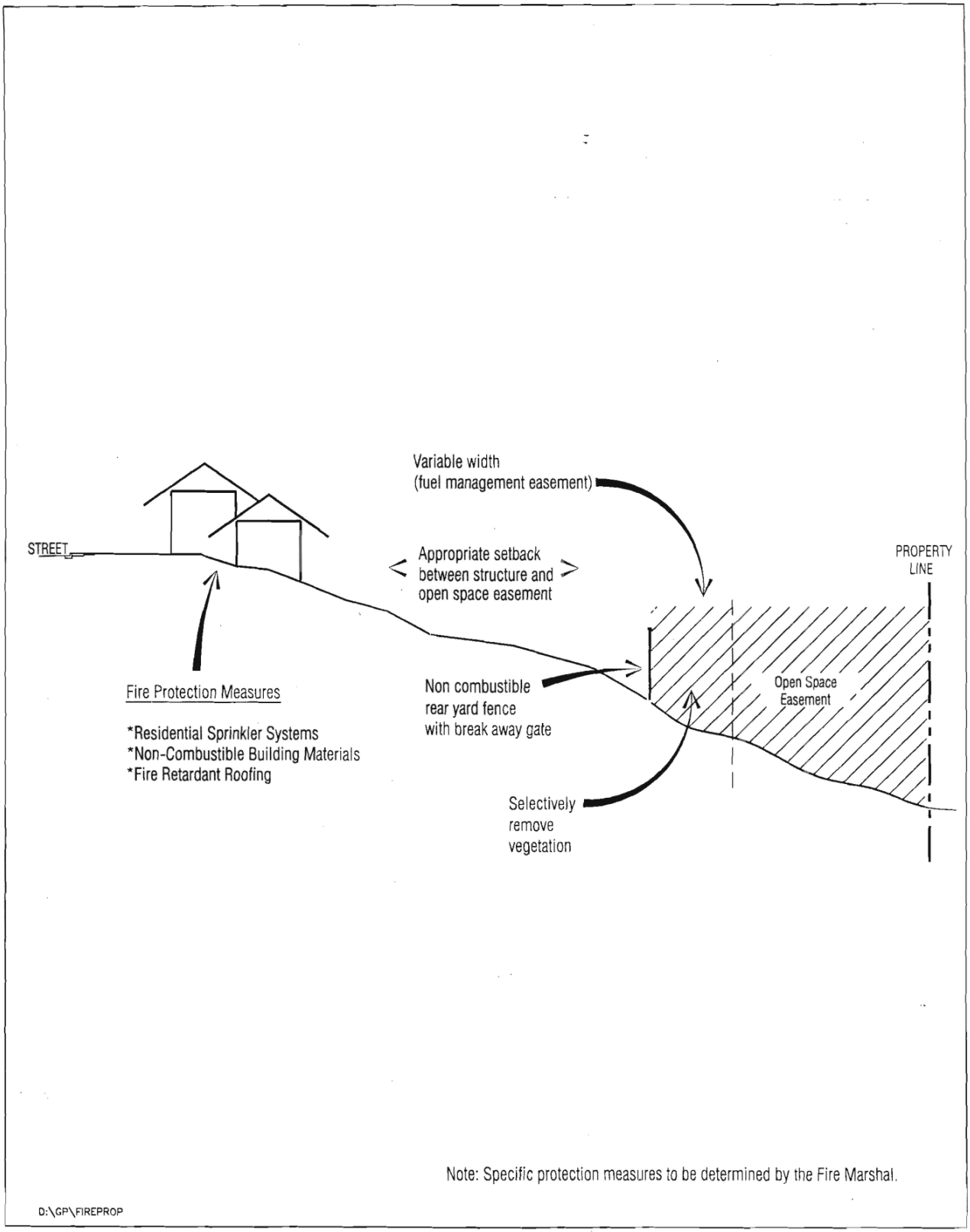

Figure 4-8 Fire Protection Measures

GOAL HS2
PROTECT THE LIVES AND PROPERTY OF RESIDENTS AND VISITORS FROM FLOOD HAZARDS.

Policies to achieve this goal are to:

HS2A. Continue to participate in the National Flood Insurance Program to ensure the availability of federally sponsored floodplain insurance for City residents.

HS2B. Continue efforts to reduce flood insurance premiums for City residents by restricting floodplain development and participating in the Community Rating Service Program.

HS2C. Make maps available showing updated flood projections from a 100-year storm event.

HS2D. Design both new development and redevelopment projects to minimize hazards associated with flooding.

HS2E. Strictly limit development in areas subject to flooding from a 100-year storm event. Allow minor encroachments into floodplains only if it can be demonstrated that such encroachments will not impact other properties or significantly contribute to a cumulative effect of other encroachments.

HS2F. Continue to utilize the Storm Drain Utility and Storm Drainage Construction Tax, or similar measures, as funding mechanisms for necessary drainage improvements throughout the City.

HS2G. Establish a regional stormwater detention system at appropriate locations in area watersheds in cooperation with adjacent jurisdictions. Stormwater basins should be designed to allow passive or active recreational uses. Consider establishing basins within those areas depicted in Figure 4-4.

HS2H. Require new development to demonstrate that existing and/or planned (on- or off-site) drainage facilities are sized to accommodate project storm runoff and to prevent off-site increase in peak runoff rates and flood elevations.

HS2I. Locate essential public facilities, such as hospitals, emergency shelters, emergency command centers, fire stations, and similar facilities outside of flood-hazard areas.

DAM FAILURE INUNDATION

The Planning Area's position downstream from two major dams (Shasta and Whiskeytown) places it in an unusual category of flood risk. According to 1994 modeling studies conducted by the United States Bureau of Reclamation, significant failure of Shasta Dam would have a catastrophic effect on low-lying areas within the southern half of the Planning Area. Significant failure of Whiskeytown Dam would also be extremely damaging to low-lying areas within the southern third of the Planning Area. The anticipated inundation resulting from the unlikely failure of Shasta Dam is shown on Figure 4-5. Similar information relating to Whiskeytown Dam is shown on Figure 4-6.

GOAL HS3
MINIMIZE THE POTENTIAL FOR CATASTROPHIC IMPACTS AS A RESULT OF REGIONAL DAM FAILURES.

Policy to achieve this goal is to:

HS3A. Ensure that the City's *Emergency Operations Plan* includes procedures to address potential flooding created by uncontrolled releases from Shasta and Whiskeytown Dams and procedures for the efficient and orderly notification and evacuation of potential dam inundation areas.

URBAN AND WILDLAND FIRE HAZARDS

The Redding area is subject to both urban and wildland fire hazards.

Many residential, commercial, and industrial structures within the City are subject to fire hazards related to electrical shorts, industrial accidents, arson, or simple

carelessness. These risks are generally greatest in older structures constructed before strong building, zoning, and fire codes were enacted.

Wildland fire hazards also exist within the numerous gulches and heavily wooded slopes found in the Planning Area. Areas of particular concern are those where wildland features and urban development interface. The presence of urban uses adjacent to wildlands increases the potential for wildland fires and property damage or injury. These interfaces also allow fires to spread more rapidly to other urban and rural areas. Portions of the Planning Area designated by the State of California with the highest wildland fire potential are shown on Figure 4-7.

GOAL HS4

MINIMIZE THE POTENTIAL FOR LOSS OF LIFE, INJURY, AND PROPERTY DAMAGE RESULTING FROM URBAN AND WILDLAND FIRES.

Policies to achieve this goal are to:

HS4A. Maintain an Insurance Service Office (ISO) rating of 3 or better.

HS4B. Require that all new development and redevelopment meet state and local standards for fire protection; encourage the upgrade of existing structures to current standards.

HS4C. Work with local water districts to ensure that district systems are developed, maintained, and monitored to provide minimum fire-flow, rates, and peak-load capacity for fire suppression.

HS4D. Require remote hillside developments to maintain sufficient water supplies on-site, when appropriate, to provide wildland fire protection. Water supplies may be stored in the form of ponds, storage tanks, or other features acceptable to the Fire Marshal.

HS4E. Utilize appropriate techniques, such as those illustrated in Figure 4-8, to reduce fire damage in those areas with a high wildland fire potential. The actual combination of these and/or other techniques required for a particular project will be determined by the Fire Marshal based on the level of hazard involved.

HS4F. Construct emergency-vehicle access routes to open-space areas at optimal locations within developments.

HS4G. Develop a comprehensive vegetation-management and weed-abatement program for open-space areas, including those that are located in existing subdivisions and in new development areas.

HS4H. Consider establishing a program to construct and maintain fire-access roads in ravine areas considered to have a very high fire danger to enhance the ability to suppress wildland fires. These roads need not be surfaced and may also function as part of the City's trail system. Erosion and impacts to native vegetation and natural features shall be minimized.

HS4I. Amend subdivision regulations to ensure that cul-de-sac lengths are generally no greater than 600 feet and that sufficient emergency-vehicle turnaround areas are provided. Longer cul-de-sacs may be considered if fire-protection measures, such as residential fire sprinkler systems, are incorporated to ensure the safety of residents and emergency-response personnel.

HS4J. Generally require each residential development having 50 or more dwelling units and each commercial development employing 150 or more people to have at least two connected points of public access as may be determined necessary by the Fire Marshal.

HS4K. Maintain and augment mutual and automatic aid agreements with the California Department of Forestry & Fire Protection (CAL FIRE) and Shasta County.

HS4L. Continue to promote fire prevention through education and public-awareness programs.

CRIME PREVENTION

Police officers are among the most visible representatives of City government and largely influence the public's attitude toward the quality of

City services. They are responsible for maintaining the quality of life by protecting people and property, promoting community order through crime prevention and broad-based outreach and educational programs geared to both children and adults, apprehending and participating in the prosecution of criminals, and regulating noncriminal activities such as traffic control.

As the needs and dynamics within Redding change over time, the Police Department must find innovative ways to involve all sectors of the community in its crime-prevention efforts. Community-oriented policing, which emphasizes strong citizen involvement, is the preferred approach for providing law enforcement services. Ongoing development and maintenance of partnerships between the Redding Police Department and individual neighborhoods; Neighborhood Watch groups; businesses; school districts; churches; other City Departments; and various local, state, and federal agencies will be utilized to implement that approach. Opportunities to improve efficiencies and the quality of service through the use of improved technology and automation should also be pursued.

This section focuses on the prevention of crime through the use of proven programs, improved technology, proper site planning, and project design.

GOAL HS5
PROVIDE A SAFE AND SECURE ENVIRONMENT FOR PEOPLE AND PROPERTY IN THE COMMUNITY.

Policies to achieve this goal are to:

HS5A. Maintain public confidence in the ability of the Police Department to provide quality police services by ensuring a customer-based approach in providing services to the community.

HS5B. Continue a departmentwide expansion of community-oriented policing services and activities that are responsive to citizens' needs.

HS5C. Continue to facilitate broad community involvement in reducing crime-producing factors within the City by:

- Actively working with other City Departments to cooperatively address code enforcement issues.
- Assisting neighborhoods in the civil abatement process.
- Developing new Neighborhood Watch groups and encouraging those groups to participate in community revitalization efforts.
- Expanding the Neighborhood Police Unit Program.
- Expanding educational programs designed to reinforce positive juvenile behavior.
- Establishing low-cost or no-cost clean-up programs throughout the City.

HS5D. Coordinate law enforcement planning with local, regional, state, and federal plans.

HS5E. Continue to maintain, train, and equip special-response teams for extraordinary emergency incidents.

GOAL HS6
REDUCE THE POTENTIAL FOR CRIMINAL ACTIVITY AND VANDALISM THROUGH PROPER SITE DESIGN AND LAND USE PLANNING.

Policies to achieve this goal are to:

HS6A. Encourage innovative site planning and design to deter criminal activity in new development.

HS6B. Balance the need to provide safety features with other community goals such as developing a citywide trail system.

AIRPORT-RELATED HAZARDS

There are two airports located within the Planning Area. The Redding Municipal Airport, located in the southeast portion of the City, is designated as a certified airport for commercial airline operations. Benton Airpark, located close to Downtown Redding at Placer Street and Airpark Drive, is a general aviation airport which provides commercial reliever support to the Redding Municipal Airport. Safety issues associated with airports are primarily concerned with hazards related to flight and hazards related to

those on the ground within the vicinity of flight operations.

Flight hazards may be:

- Physical (tall structures that could obstruct airspace).
- Visual (glare caused by lights or other bright objects).
- Electronic (uses that interfere with aircraft instruments or communication systems).

Airport operations tend to increase with urban growth. These circumstances elevate the potential for aircraft accidents because a greater number of operations begin to occur in the presence of increased development within the Airport environs. However, the increased risks and flight hazards listed above can be reduced through a variety of planning methods, including height restrictions, density restrictions, and the avoidance of incompatible land uses.

GOAL HS7

MINIMIZE THE POTENTIAL FOR, AND DAMAGE RESULTING FROM, AIRCRAFT ACCIDENTS.

Policy to achieve this goal is to:

HS7A. Prevent development that could endanger the safety of air travelers and persons residing or working in the Airport environs by adhering to the land use policies contained in the Comprehensive Land Use Plans, Airport Approach Zone provisions of the Municipal Code, and applicable Shasta County Airport Land Use Commission (ALUC) resolutions.

EMERGENCY RESPONSE

The City's Local Hazard Mitigation Plan (LHMP) was originally adopted in 2005 in response to the federal requirement for States to comply with the Federal Disaster Mitigation Act (DMA) of 2000 in order to receive any mitigation monies and post disaster-relief funding. In order to remain eligible for funding, the DMA requires that mitigation plans be periodically reviewed and updated. The 2012 LHMP Update was adopted in November 2012. The plan provides a list of actions that may assist the City of Redding in reducing risk and preventing loss from future hazard events. The actions address hazard issues, as well as specific activities for wildland fire, flood, hazardous material, severe winter weather, earthquakes, utility disruption, aviation disaster, chemical, biological, radiological, nuclear, explosives (CBRNE), dam overflow or failure, and volcanic events.

While the LHMP lists measures to reduce risks and prevent loss, it is the City's Emergency Operations Plan, adopted in January 2006, that addresses the City's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and nuclear defense operations. It provides operational checks relating to various emergency situations and identifies the overall responsibilities of the organization and individual departments for protecting life and property and ensuring the well-being of the population.

Matrices within the plan identify the local agencies and private organizations responsible for accomplishing the activities assigned to each functional branch and state and federal agencies that have capabilities to support local operations. The document also identifies circumstances that necessitate activation of the City's Emergency Operations Center (EOC). The Incident Command System is utilized for on-scene management of field operations. This system provides a standardized organizational structure and terminology/procedures which can be applied in a variety of emergency situations.

Event Specific Plans are included to address:

- Imminent/Actual Flooding in the City of Redding.
- Hazardous Materials Response.
- Major Fire Emergency Response.
- Earthquake Emergency Response.

The Shasta County Office of Emergency Services (OES) developed a similar document, the Standard Emergency System Multi-Hazard Function Plan (SEMS MHFP) in June 2003. Local agencies, such as the Cities of Redding, Anderson, and Shasta Lake and various special districts, are identified as participants within the system. The County's plan addresses necessary coordination among the agencies and establishes standard operating procedures.

GOAL HS8

MAINTAIN AND ENHANCE THE CITY'S EMERGENCY-RESPONSE CAPABILITIES AND PREPAREDNESS.

Policies to achieve this goal are to:

HS8A. Maintain and periodically update the City's *Emergency Response Plan* and *Local Hazard Mitigation Plan*..

HS8B. Encourage the involvement of local hospitals, schools, major businesses, utilities, the Red Cross, churches, and other service providers in emergency-preparedness planning and training.

HS8C. Review periodically, but not less than annually, emergency-service equipment and shelters to ensure that they are ready for immediate operation in the event of an emergency.

HS8D. Require that residences and businesses maintain visible and clearly legible street address numbers to shorten the response time of emergency personnel.

HAZARDOUS MATERIAL

Hazardous materials management includes the identification of and proper transport, use, storage, and disposal of hazardous materials. Hazardous materials include liquids, solids, and gases which, by themselves or when placed in contact with other materials, can result in a threat to life, the environment, and/or property.

The Shasta County Environmental Health Division is the primary agency responsible for overseeing the commercial use and storage of hazardous materials within the Planning Area. In addition to use and storage, hazardous materials are also transported through the Planning Area by both rail and truck. County roads and City streets are used to transport locally generated wastes from the source to the regional highway system.

The City's 2006 Emergency Operations Plan contains a *Hazardous Materials Emergency Response Plan* which is expected to replace the *Hazardous Materials Incident Plan* that was adopted by the City in 1993. The purpose of the plan is to minimize damage to human health, natural systems, and property caused by the release of hazardous materials. Local responsibilities are principally focused on discovery, notification, evaluation, initiation of immediate protective actions, and monitoring of recovery operations. The Fire Department is designated as the Incident Command (IC) authority for all hazardous materials spills and emergencies occurring within the jurisdictional limits of the City, excluding state and federal lands or property.

GOAL HS9

REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, AND ENVIRONMENTAL DEGRADATION RESULTING FROM THE USE, TRANSPORT, DISPOSAL, AND RELEASE/DISCHARGE OF HAZARDOUS MATERIALS.

Policies to achieve this goal are to:

HS9A. Require new developments that produce, store, utilize, or dispose of significant amounts of hazardous materials or waste to incorporate appropriate state-of-the-art project designs and building materials to protect employees and adjacent land uses.

HS9B. Continue operation of the City's Household Hazardous Waste Collection Program.

HS9C. Require that soils containing toxic or hazardous substances be remediated to the satisfaction of the agency having jurisdiction prior to the granting of any permits for new development.

HS9D. Promote the routing of vehicles carrying potentially hazardous materials along transportation corridors that reduce the risk of exposure to the public and sensitive environmental areas.

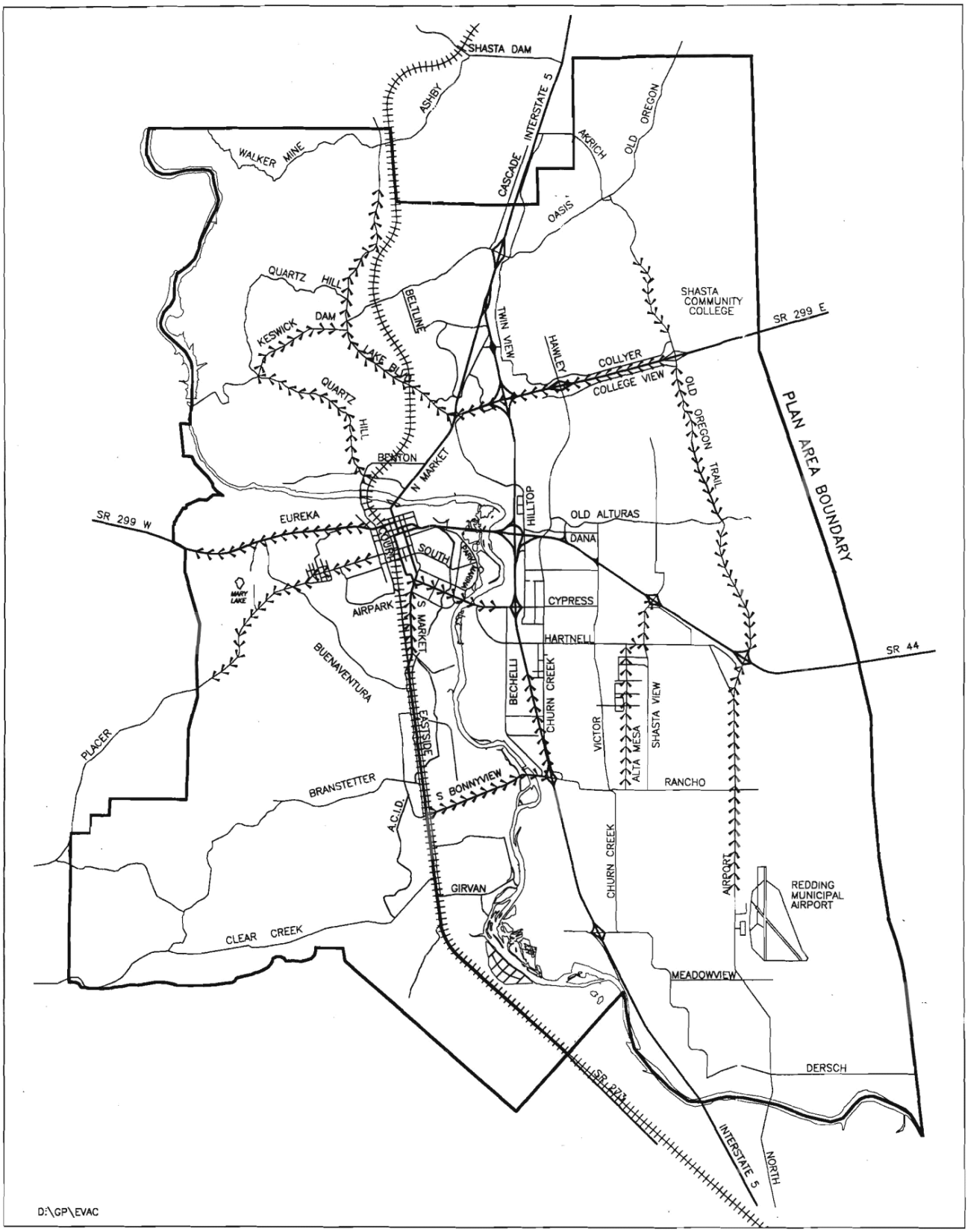

Figure 4-9 Evacuation Routes, Flooding

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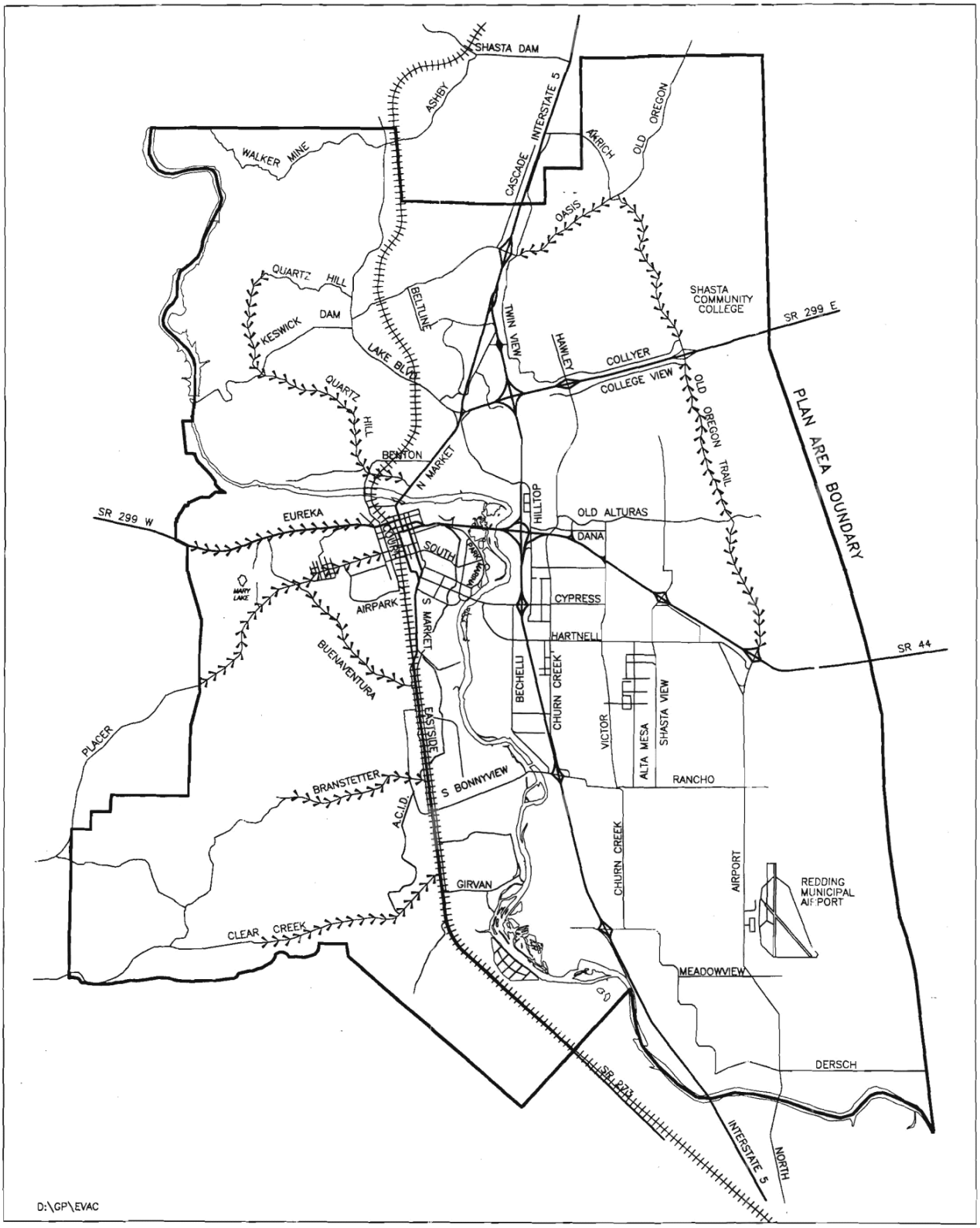

Figure 4-10 Evacuation Routes, Wildland Fires

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Health And Safety Element

HS9E. Implement the *Hazardous Materials Emergency Response* component of the City's *Emergency Operations Plan* in the event of a hazardous material spill, accident, or release within Redding's corporate limits.

HS9F. Encourage the state to regularly monitor and report on the types and amounts of hazardous materials being transported through the Planning Area on state highways and Interstate 5.

HS9G. Encourage the State Department of Health Services and the California Highway Patrol to review permits for radioactive materials on a regular basis and enforce public-safety standards for the use of these materials, including the placarding of transport vehicles.

CRITICAL, SENSITIVE, AND HIGH-OCCUPANCY FACILITIES

"Critical facilities" are those whose continued functioning is necessary to maintain public health and safety following a disaster and those whose damage or failure could pose hazards to life and property well beyond their immediate vicinity. Examples include police/fire command and equipment centers, hospitals, emergency shelters, and utilities, including electricity, natural gas, water, and sewage treatment.

"Sensitive facilities" include those used for the manufacture, storage, or sale of hazardous materials, as well as socially significant facilities, such as schools; nursing homes; and housing for the elderly, disabled, or mentally ill.

"High-occupancy facilities" are public or private structures used for housing or the assembly of large groups. Local examples would be the Redding Convention Center and convention facilities associated with hotel development.

GOAL HS10

ENSURE THE CONTINUED FUNCTIONING OF ESSENTIAL CRITICAL, SENSITIVE, AND HIGH-OCCUPANCY FACILITIES FOLLOWING A DISASTER.

Policies to achieve this goal are to:

HS10A. Prevent the placement of new critical, sensitive, or high-occupancy facilities within high hazard areas; ensure adequate street access.

HS10B. Encourage owners of existing critical, sensitive, and high-occupancy facilities with significant seismic vulnerabilities to upgrade, relocate, or phase out the facilities as appropriate.

EVACUATION ROUTES

As described within the preceding sections of this element, the Planning Area is subject to a variety of potential hazards. Evacuations may be necessary from time to time, and the routes utilized will often be dependent upon the type, location, and extent of the emergency. Although it is impossible to identify a set of evacuation routes which will apply to all situations, Figures 4-9 and 4-10 identify those routes in, through, and out of the City considered most suitable for mass evacuations. This information should be used only as a guide. Specific routes will be determined and publicized on a case-by-case basis during actual emergencies.

The City's *Emergency Operations Plan* contains several proposed evacuation routes correlated to specific events, including regional dam failures, slow-rise flooding, earthquakes, and wildland fire. This document and its referenced evacuation routes should be used for both disaster-preparedness training and public-awareness programs.

GOAL HS11

PLAN FOR THE ORDERLY EVACUATION OF PEOPLE AND THEIR POSSESSIONS DURING EMERGENCY AND/OR DISASTER SITUATIONS.

Policies to achieve this goal are to:

HS11A. Ensure that emergency personnel receive

adequate training in traffic-control and evacuation procedures as required by the City's *Emergency Operations Plan*.

HS11B. Publicize evacuation routes contained within the City's *Emergency Operations Plan* as a general guide for improving the awareness and preparedness of residents located in high-hazard areas.