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Chapter 6
Public Safety Element

In accordance with Section 65302 of the California Government Code, a safety element shall:

> *Provide "…for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, groundshaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence, liquefaction and other seismic hazards…and other geologic hazards known to legislative body; flooding; and wildland and urban fires. The safety element shall include mapping of known seismic and other geologic hazards."*

The Kern River Valley (Valley) is susceptible to several natural hazards, including wildland fires, flooding, shallow groundwater, steep slopes, and seismic and geologic hazards. These constraints and hazards are factored into the Valley's land use planning through the goals, policies and implementation measures of this Public Safety Element. The following items will be addressed in this chapter:

- *Wildland Fires*
- *Flooding and Dam Inundation*
- *Shallow Groundwater*
- *Seismic and Geologic Hazards*
- *Landslides and Steep Slopes*

Continuously promoting a high level of education and public awareness of public safety issues related to wildland fires is an important responsibility of federal, State and local government public safety agencies.

Physical and Environmental Constraints Map

To identify locations of natural hazards and assist in mitigating the impacts of such hazards on development, the Kern County General Plan (General Plan) identifies five physical and environmental constraints as overlays on the General Plan map. These overlays are identified in Table 6-1.

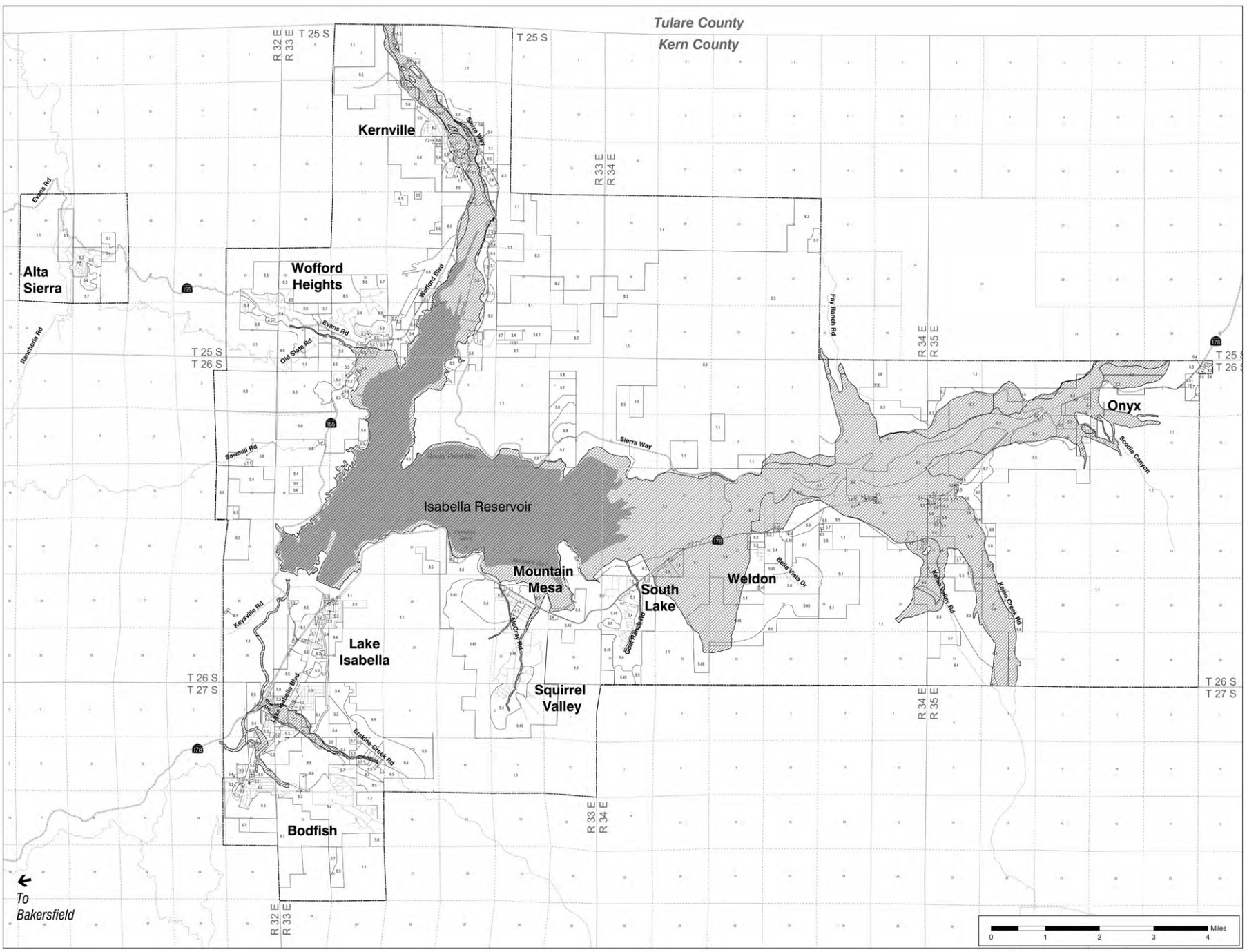
Table 6-1
Kern County General Plan Physical and Environmental Constraints Overlays

Map Code	Constraint	Description
2.1	Seismic Hazard	Alquist-Priolo Special Study Zones and other recently active fault zones. There are no Alquist-Priolo Zones in the Kern River Valley, however Kern County Seismic Hazard zones are located in Bodfish, Lake Isabella, Kernville, and along the western edge of Isabella Reservoir.
2.2	Landslide	Areas of down-slope ground movement identified in the Kern County Seismic Hazard Atlas.
2.3	Shallow Groundwater	Groundwater within 15 feet of the land surface, as delineated in the Kern County Seismic Hazard Atlas. Also called High Water Areas.
2.4	Steep Slope	Land with an average slope of 30 percent or steeper.
2.5	Flood Hazard	Special Flood Hazard Areas (Zone A), as identified on the Flood Insurance Rate Maps (FIRM) of the Federal Emergency Management Agency (FEMA) and supplemented by floodplain delineating maps that have been approved by the Kern County Engineering, Surveying and Permit Services Department.

Figures 6-1, 6-2, 6-3, and 6-4 present the Kern River Valley Specific Plan (Specific Plan) Physical and Environmental Constraints Maps (Flood Hazard; Steep Slope; Shallow Groundwater; and Seismic Hazard respectively). These maps identify the 100-year and 500-year floodplains, areas with steep slopes greater than 30%, landslide areas and areas with high groundwater, and known seismic hazards. Specific policies and implementation are included in this Specific Plan to avoid or mitigate against these known hazards.

Wildland Fires

The entire Valley is susceptible to fires (See Figure 6-5). Fire risk is greatest in areas adjacent to wildlands and National Forest lands. The Valley has experienced many wildland fires in the past, and fire continues to be a major threat to residents and businesses in the Valley, particularly during dry and hot summer weather. Fire hazards will inevitably increase in the Valley, especially as the population grows and the demand for housing increases, particularly in the urban/wildland interface areas.



Kern River Valley Specific Plan Floodplain Constraints Map

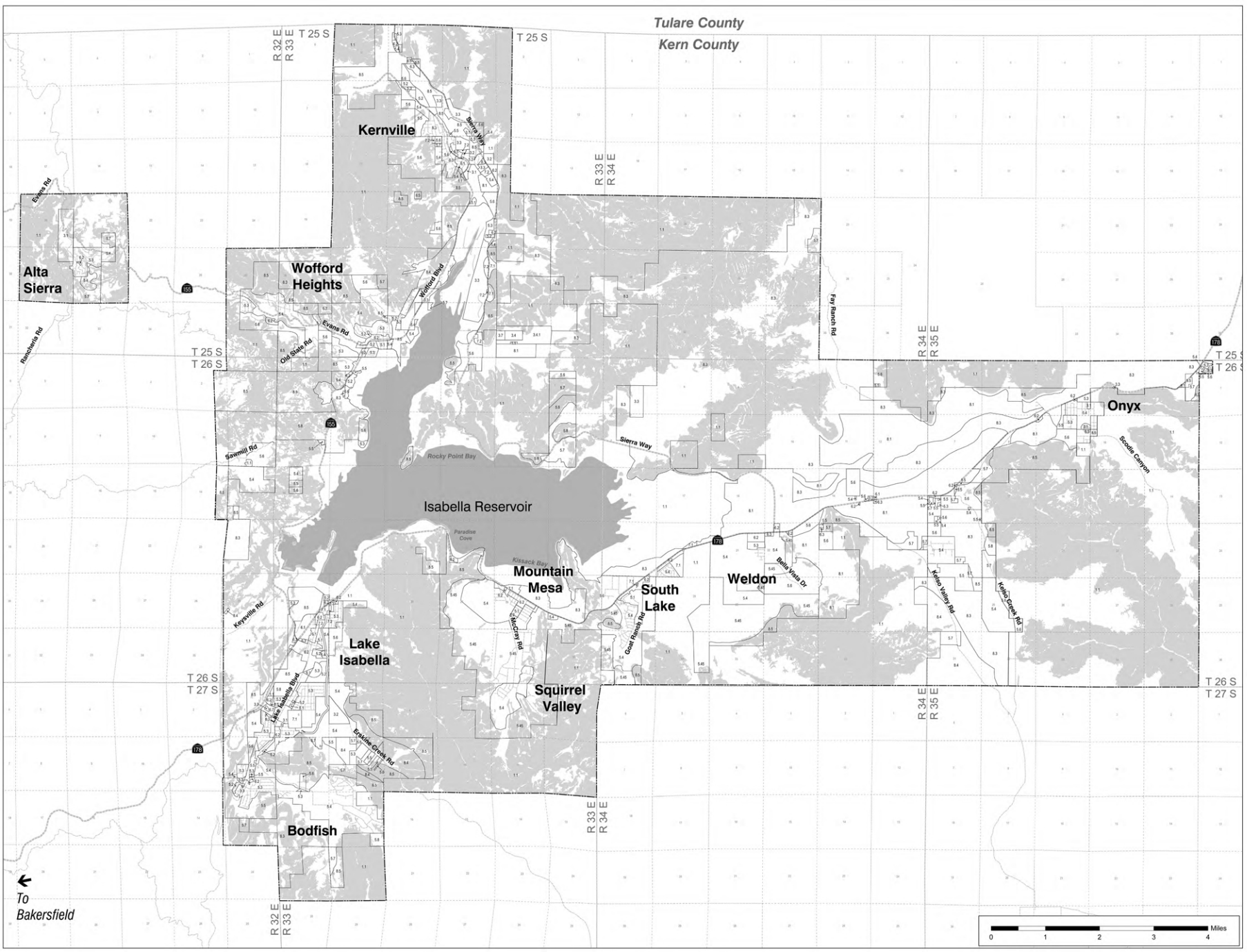
- Specific Plan Boundary
- Townships and Ranges
- Sections
- Isabella Reservoir

Map Codes

2.5	100-Year Floodplain
1.1	State or Federal Land
3.1	Public or Private Recreational Areas
3.2	Educational Facilities
3.3	Other Facilities
3.4	Solid Waste Facility
3.4.1	Solid Waste Facility Buffer
3.7	Other Waste Facility
5.1	Maximum 29 Units/Net Acres
5.2	Maximum 16 Units/Net Acres
5.3	Maximum 10 Units/Net Acres
5.4	Maximum 4 Units/Net Acres
5.45	Maximum 2 Units/Net Acres
5.5	Maximum 1 Units/Net Acres
5.6	Minimum 2.5 Gross Acres/Units
5.7	Minimum 5 Gross Acres/Units
5.8	Minimum 20 Gross Acres/Units
6.1	Major Commercial
6.2	General Commercial
6.3	Highway Commercial
7.1	Light Industrial
7.2	Service Industrial
8.1	Intensive Agriculture
8.3	Extensive Agriculture
8.4	Mineral and Petroleum
8.5	Resource Management

Figure 6-1

North



Kern River Valley Specific Plan Steep Slopes Constraints Map

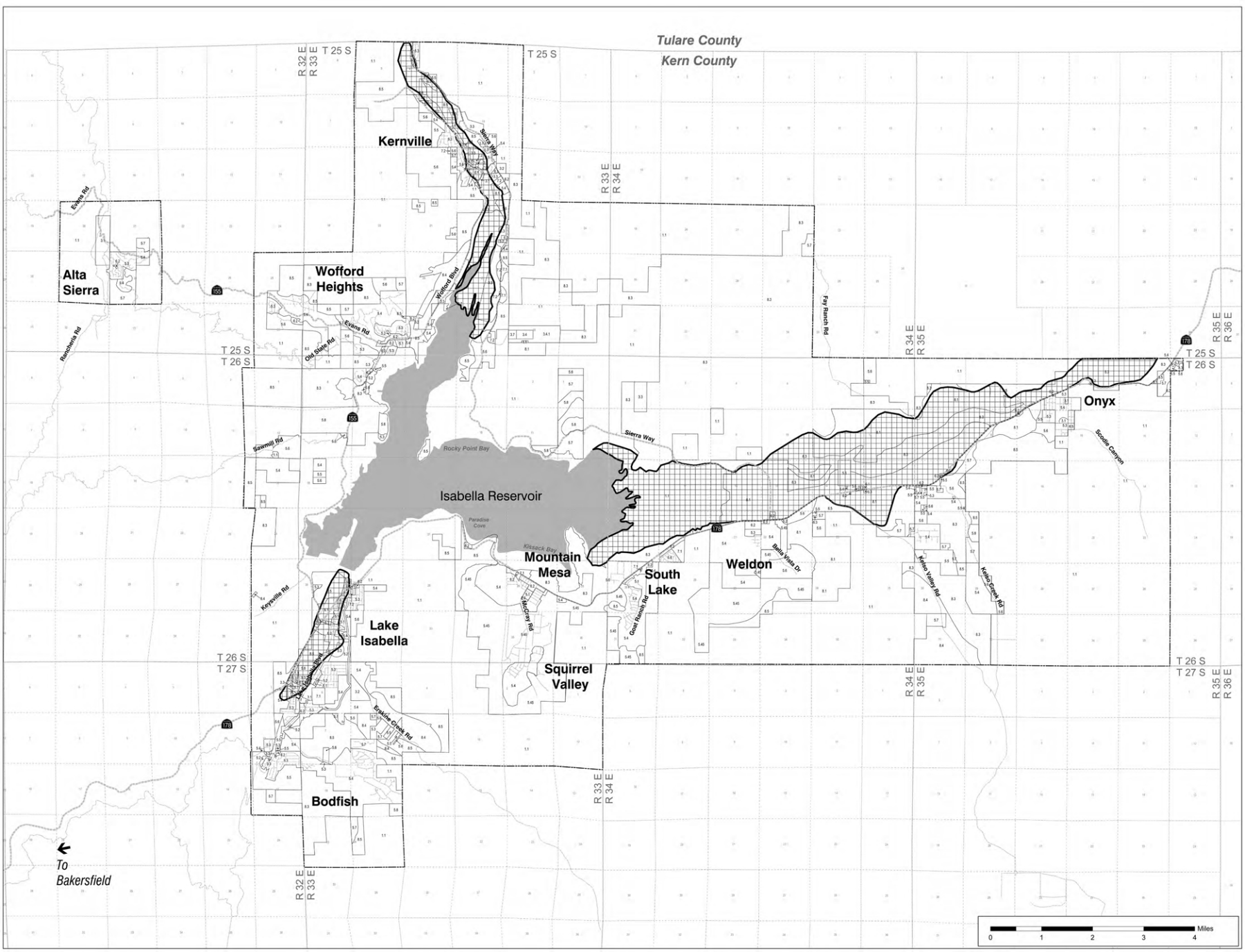
- Specific Plan Boundary
- Townships and Ranges
- Sections
- Isabella Reservoir

Map Codes

2.4	Slopes Greater than 30 Percent
1.1	State or Federal Land
3.1	Public or Private Recreational Areas
3.2	Educational Facilities
3.3	Other Facilities
3.4	Solid Waste Facility
3.4.1	Solid Waste Facility Buffer
3.7	Other Waste Facility
5.1	Maximum 29 Units/Net Acres
5.2	Maximum 16 Units/Net Acres
5.3	Maximum 10 Units/Net Acres
5.4	Maximum 4 Units/Net Acres
5.45	Maximum 2 Units/Net Acres
5.5	Maximum 1 Units/Net Acres
5.6	Minimum 2.5 Gross Acres/Units
5.7	Minimum 5 Gross Acres/Units
5.8	Minimum 20 Gross Acres/Units
6.1	Major Commercial
6.2	General Commercial
6.3	Highway Commercial
7.1	Light Industrial
7.2	Service Industrial
8.1	Intensive Agriculture
8.3	Extensive Agriculture
8.4	Mineral and Petroleum
8.5	Resource Management

Figure 6-2

North



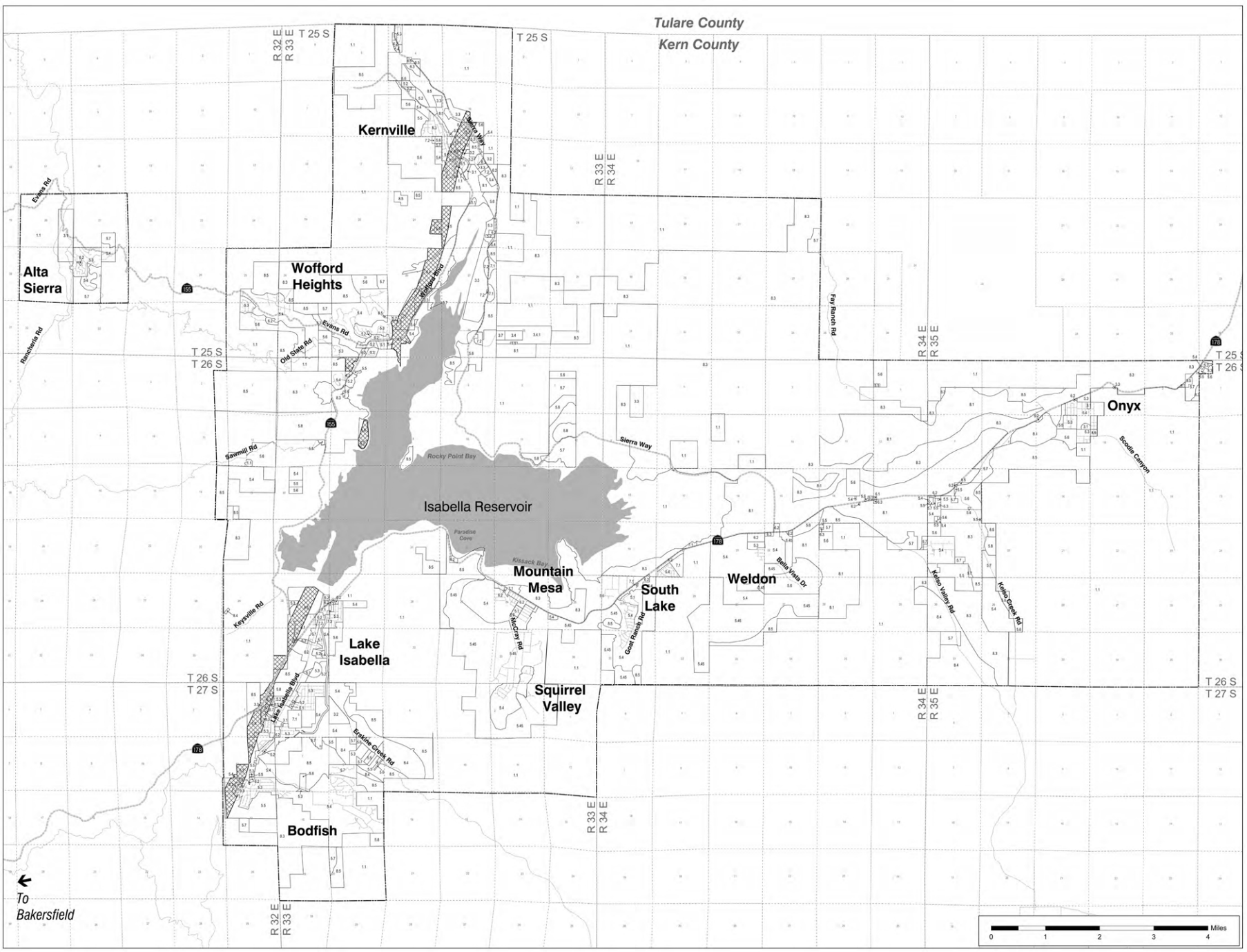
Kern River Valley Specific Plan Shallow Ground Water Constraints Map

- Specific Plan Boundary
- Townships and Ranges
- Sections
- Isabella Reservoir

Map Codes

2.3	Shallow Ground Water
1.1	State or Federal Land
3.1	Public or Private Recreational Areas
3.2	Educational Facilities
3.3	Other Facilities
3.4	Solid Waste Facility
3.4.1	Solid Waste Facility Buffer
3.7	Other Waste Facility
5.1	Maximum 29 Units/Net Acres
5.2	Maximum 16 Units/Net Acres
5.3	Maximum 10 Units/Net Acres
5.4	Maximum 4 Units/Net Acres
5.45	Maximum 2 Units/Net Acres
5.5	Maximum 1 Units/Net Acres
5.6	Minimum 2.5 Gross Acres/Units
5.7	Minimum 5 Gross Acres/Units
5.8	Minimum 20 Gross Acres/Units
6.1	Major Commercial
6.2	General Commercial
6.3	Highway Commercial
7.1	Light Industrial
7.2	Service Industrial
8.1	Intensive Agriculture
8.3	Extensive Agriculture
8.4	Mineral and Petroleum
8.5	Resource Management

Figure 6-3



Kern River Valley Specific Plan Seismic Hazards Constraints Map

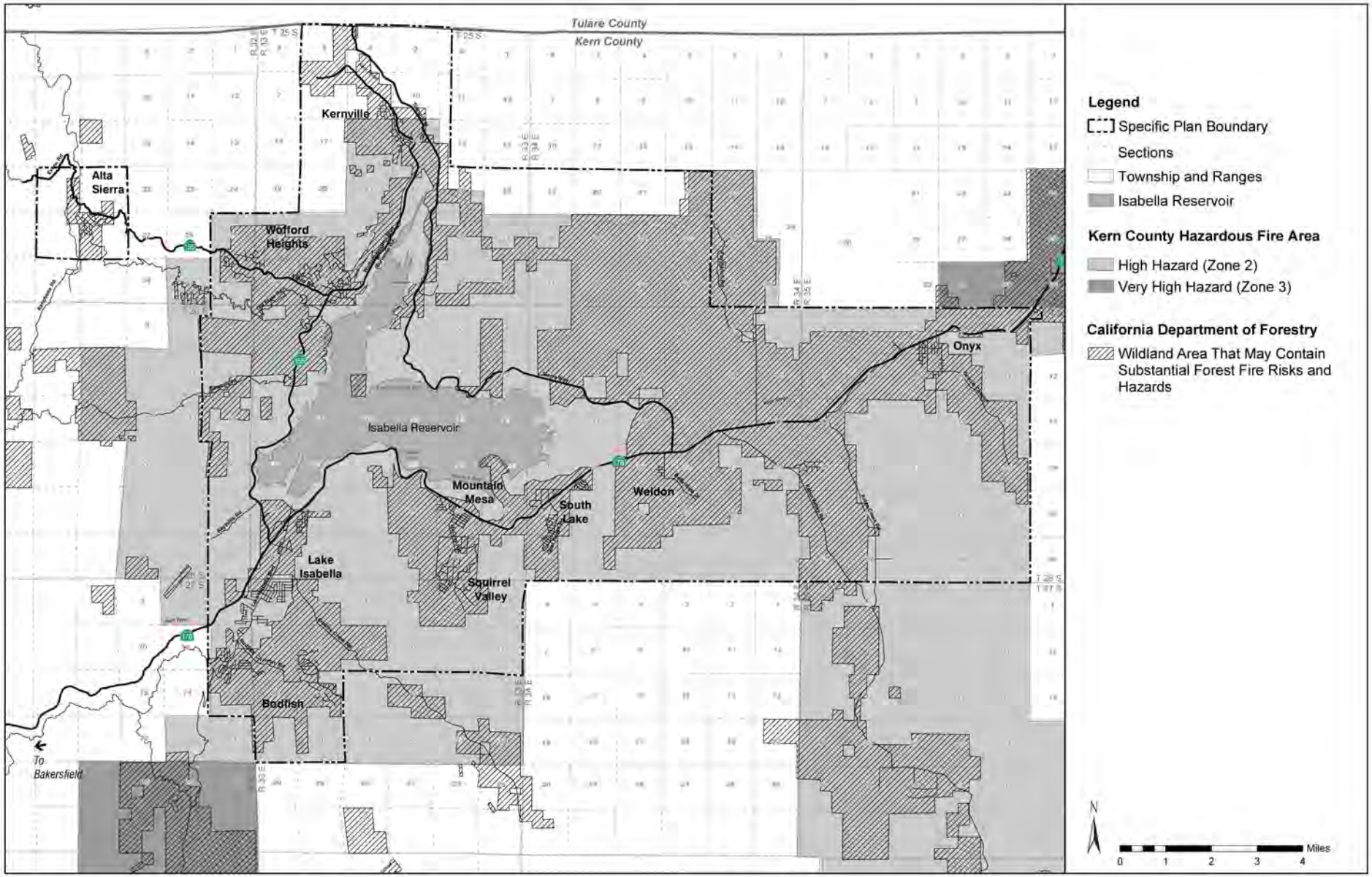
- Specific Plan Boundary
- Townships and Ranges
- Sections
- Isabella Reservoir

Map Codes

- **2.1** Seismic Hazards
- **1.1** State or Federal Land
- **3.1** Public or Private Recreational Areas
- **3.2** Educational Facilities
- **3.3** Other Facilities
- **3.4** Solid Waste Facility
- **3.4.1** Solid Waste Facility Buffer
- **3.7** Other Waste Facility
- **5.1** Maximum 29 Units/Net Acres
- **5.2** Maximum 16 Units/Net Acres
- **5.3** Maximum 10 Units/Net Acres
- **5.4** Maximum 4 Units/Net Acres
- **5.45** Maximum 2 Units/Net Acres
- **5.5** Maximum 1 Units/Net Acres
- **5.6** Minimum 2.5 Gross Acres/Units
- **5.7** Minimum 5 Gross Acres/Units
- **5.8** Minimum 20 Gross Acres/Units
- **6.1** Major Commercial
- **6.2** General Commercial
- **6.3** Highway Commercial
- **7.1** Light Industrial
- **7.2** Service Industrial
- **8.1** Intensive Agriculture
- **8.3** Extensive Agriculture
- **8.4** Mineral and Petroleum
- **8.5** Resource Management

Figure 6-4

North



Sources: California Department of Forestry and Fire Protection, 2004; State of California Stephen P. Teale Data Center; Kern County Hazardous Fire Area, 1988.

Figure 6-5

Wildland Fire Areas

Fire plays an important role in chaparral and closed-cone conifer ecosystems for seed germination, reduction of underbrush, soil nutrition, and water supply.[1] Wildland fires were a common occurrence in the Valley prior to twentieth century suppression efforts. The reduction in fire activity has produced forests which today are denser, but with generally smaller trees that are likely to have increased the levels of fuel. This increase in fuel, coupled with efficient suppression of low- and moderate-intensity fires, has led to an increase in general fire sensitivity. However, an important distinction must be made between low-intensity natural wildfires that are set or controlled by a land manager and wildfires that are out of control and destroy property.

In addition to the threat to human safety and personal property, fire hazards can impact the environment (including water supply), infrastructure, and local economy, as exemplified by the Manter Fire of July 2000. By the time the fire, which started in the Dome Land Wilderness northeast of the Specific Plan Area, was fully contained, it had burned over 74,000 acres, including the majority of 17 watersheds, all of which drain into the South Fork of the Kern River. Wildlife such as California Golden Trout and beaver populations were threatened, and erosion and flooding became problematic.[2]

The Kern River Valley Community Fire Safe Plan and the Alta Sierra Fire Safe Plan developed by the Kern River Valley Fire Safe Council contain recommended actions to reduce the threat of future fires, some of which have been incorporated into this Specific Plan. These recommendations include educational programs aimed at students; address posting for residences and businesses; community neighborhood structure protection plans; the creation of fuelbreaks around communities; and prescribed fires. Additionally, because hillside development is especially vulnerable to wildland fires, careful planning must take place to reduce the loss of life and property when a fire does break out. Hillside development may need to be limited, and it may be determined that additional emergency response teams should be stationed in the Valley as population grows in the future.

Within the Valley, several agencies are responsible for direct wildland fire protection, including the Bureau of Land Management (BLM), California Department of Forestry and Fire Protection, and the United States Forest Service.

The entire Specific Plan Area is considered a high fire hazard severity zone. Figure 6-5 shows areas identified by California Department of Forestry and the Kern County Surveyor as containing substantial forest fire risk.

Wildland Fire Issues

- The majority of the Valley is considered to be in a High Fire Hazard area. The urban/wildland interface is especially vulnerable and susceptible to fire risks.
- A large portion of the Valley residents are older than age 65. For these residents, maintaining a defensible space around their home may be difficult.

[1] *Learning to Live with Fire.* CDF. August 1999.
[2] Manter Fire Burned Area Emergency Rehabilitation Report. USDI, USDA. August 2000.

Wildland Fire Goals

Goal 6.1.1: Protect structures from wildland fires through vegetation management.

Goal 6.1.2: Ensure that infrastructure such as emergency water sources, road access, address displays, and other support systems are sufficient to protect residents against wildland fires.

Goal 6.1.3: Ensure that new development does not create a burden on adequate levels of fire services.

Goal 6.1.4: Ensure that residential, commercial, and industrial structures incorporate fire resistant building materials within the building design.

Wildland Fire Policies

Policy 6.1.1: Continue to educate residents about wildfire risks and the steps needed to mitigate them.

Policy 6.1.2: The Kern County Fire Department should continue to coordinate with the Kern River Valley Fire Safe Council, Bureau of Land Management, and the U.S. Forest Service in fire prevention education programs for the Kern River Valley and Alta Sierra.

Policy 6.1.3: Support fuel reduction projects by the U.S. Forest Service or the Kern County Fire Department within the urban/wildland interface of all Kern River Valley communities.

Policy 6.1.4: To the fullest extent deemed feasible by the Kern County Fire Department, implement the Alta Sierra Fire Safe Plan and the Kern River Valley Fire Safe Plan.

Policy 6.1.5: New residential tracts, commercial and industrial developments shall provide an accessible supply of water for fire suppression activity.

Policy 6.1.6: New commercial and industrial structures shall be spaced in a manner to retard the spread of fire.

Policy 6.1.7: Education programs shall be promoted that encourage property owners to ensure weed abatement and vegetation clearing around residences to enhance fire safety.

Policy 6.1.8: Property owners shall maintain minimum weed abatement or vegetation clearing around and within individual lots as specified by the Kern County Building Code addressing weeds (Chapter 8.46), which is administered by the Kern County Fire Department.

Policy 6.1.9: Encourage the use of defensible space principles, including revegetation with less flammable species and the use of mulch to prevent erosion on bare soil.

Policy 6.1.10: Where feasible and appropriate, new residential subdivisions of five lots or more shall be encouraged to provide more than one access route for emergency response and evacuation, unless adequate protection can be identified and approved by the Kern County Fire Department.

Policy 6.1.11: Work with the Kern County Fire Department to ensure sufficient services can adequately protect and serve the community.

Policy 6.1.12: Encourage the promotion of public education about fire safety at home and in the work place, particularly focusing on fire prevention methods that reduce service protection costs and other costs to taxpayers.

Policy 6.1.13: Efforts should be undertaken by County departments to foster cooperation and coordination among agencies involved in the mitigation of risks associated with fire hazards.

Wildland Fire Implementation

Implementation 6.1.1: Maintain a high level of inter-jurisdictional cooperation and coordination, including appropriate automatic aid agreements with fire protection/suppression agencies in surrounding Counties and with the U.S. Forest Service and the Bureau of Land Management.

Implementation 6.1.2: Require all existing and future development to be in compliance with Public Resources Code 4291 and Government Code 51182. Copies of these codes and the California Department of Forestry (CDF) Homeowners Checklist can be found in Appendix C of this Plan.

Implementation 6.1.3: The Kern County Fire Department - Office of Emergency Services (OES) will continue to require special building design materials and features for all structures within the High Fire Hazard areas.

Implementation 6.1.4:	Monitor, and improve when necessary, water fire-flow capability throughout the Kern River Valley and Alta Sierra.
Implementation 6.1.5:	The County will continue to require subdivision and zoning regulations to include street widths and clearance areas sufficient to accommodate fire protection equipment and emergency vehicles.
Implementation 6.1.6:	Require that all roads in wildland fire areas are well marked and that homes have addresses prominently displayed (See Figure 6.5).
Implementation 6.1.7:	Properly manage controlled burns and pile burning to reduce smoke production and negative impacts to residents. It is recognized that wood chipping is also an effective way to reduce fire fuel.
Implementation 6.1.8:	Include fire resistant design features for the Architectural Design criteria which will be applied to commercial and industrial land uses. The applicable design features shall be consistent with the Kern County Fire Department – OES special building design materials and features.
Implementation 6.1.9:	Require that review of residential discretionary projects include an assessment of impacts on emergency services and facilities, and require that all projects comply with the adopted Fire Code, Building Codes and development standards of the Kern County Fire Department.
Implementation 6.1.10:	Provide a telephone emergency notification system and siren warning system to warn homeowners of the need to evacuate.
Implementation 6.1.11:	The Kern County Fire Department shall continue to work with property owners to maintain minimum weed abatement or vegetation clearing around and within individual lots as specified by the Kern County Building Code addressing weeds (Chapter 8.46).

Flooding and Dam Inundation

Flooding

The communities of Weldon, Kelso Valley, and Onyx, areas in Lake Isabella along Erskine Creek, and portions of Mountain Mesa are all subject to flooding in the event of a severe rainstorm. Several factors create conditions where flooding could pose a safety

risk to residents and structures within these areas. Among them are the Kern River and its tributaries, downstream siltation, and fluctuations in water levels in Isabella Reservoir. In December 1966, a storm resulted in a streamflow of ~~27,800~~ 28,700 cubic feet per second (cfs) which flooded and severely damaged the town of Onyx[3]. Other significant flooding events have occurred in 1969, 1980, 1997, and 1998. During severe rainstorms, several roads historically have flooded, including Sierra Way, State Route (SR) 178, and Lake Isabella Boulevard. In addition, the Sierra Way Bridge located in South Fork is periodically flooded and thus temporarily hinders area circulation.

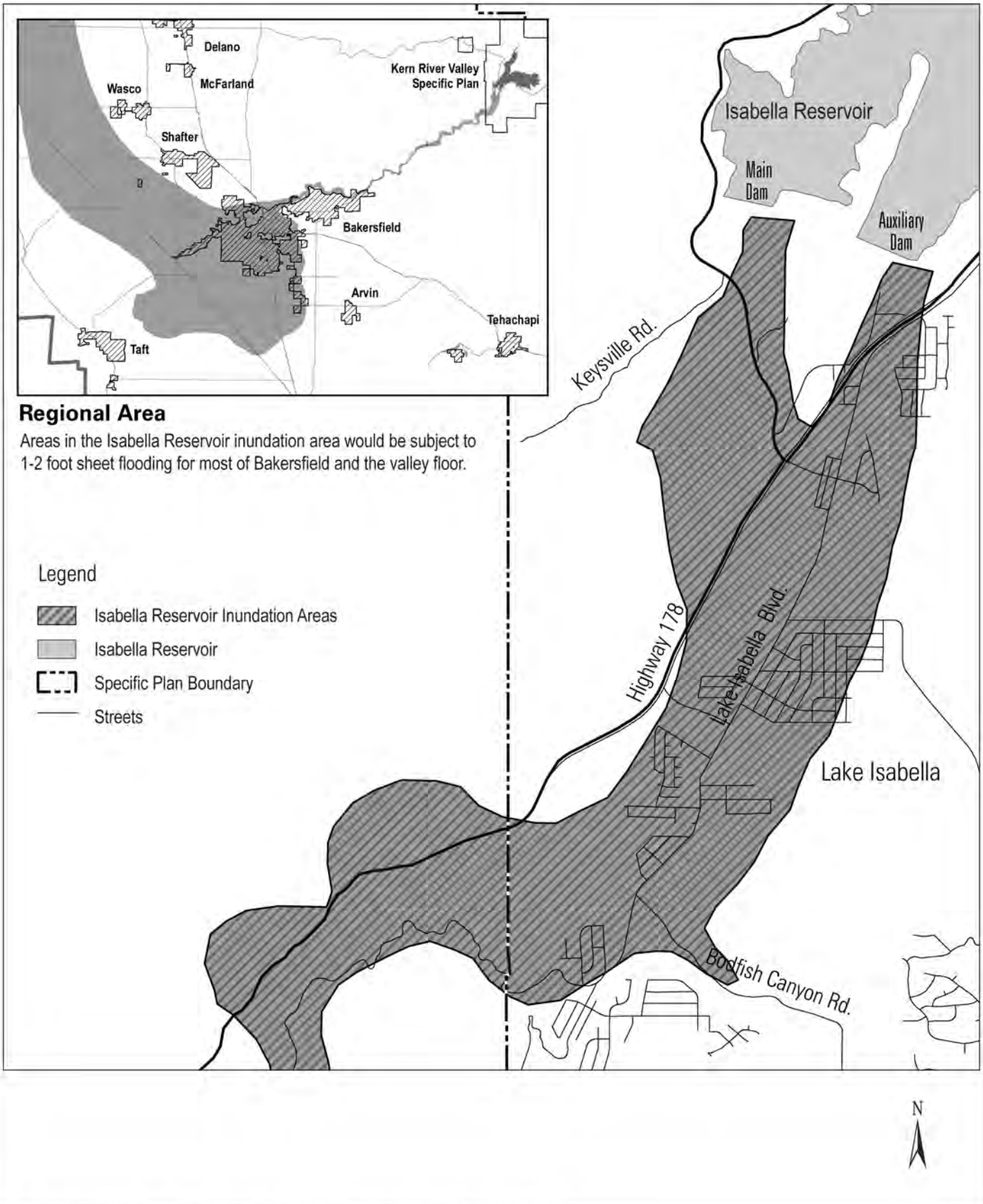
According Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), certain areas of these communities lie within 100-year or 500-year floodplains (see Figure 6-1). These designations refer to flood events that are anticipated to occur, respectively, every 100 or 500 years, although such an event could occur at any time. Kern County utilizes these maps by applying the Kern County Floodplain Management Ordinance to all properties within the Zone A areas and the majority of the Zone B areas. No encroachment is allowed in Floodway areas.

The Kelso Creek area also presents a flood hazard. A levy approximately 13,000 feet long parallel to Kelso Creek has its top only five feet above natural ground and does not have the capacity to contain a 10-year flood. The levee has been breached several times since it was first built to protect a tract of 129 homes built in 1960. These floods have caused extensive damage to the levee itself, private property, and public roads, but no loss of life. This levee diverts stream flow from its natural course, depositing silt onto downstream lands. The Kern County Water Agency determined that levee improvements offering increased levels of protection would be very expensive, with costs of levee construction exceeding the value of properties the improvements would protect.

Dam Inundation

As shown in Figure 6-6**,** most of the communities of Lake Isabella and Bodfish lie within the Isabella Dam inundation area. Inundation is considered a remotely possible event, given that the dam has been constructed to meet State and federal standards and requirements and is subject to periodic inspection, but residents must recognize that the possibility of dam failure does exist. The U.S. Army Corps of Engineers is presently studying the structural integrity of the Dam and intends to implement appropriate measures to enhance stability.

[3] For purposes of comparison, the average annual flow of the Kern River at South Fork was 700 cfs prior to the 2000 Manter Fire.



Source: Kern COG, Kern Master Environmental Assessment Resource, 2004.

Figure 6-6
Isabella Reservoir Dam Inundation Areas

Flooding and Dam Inundation Issues

- The communities of Weldon, Kelso Valley, and Onyx, areas in Lake Isabella along Erskine Creek, and portions of Mountain Mesa are all subject to flooding in the event of a severe rainstorm.

- A levee approximately 13,000 feet long, parallel to Kelso Creek, does not have the capacity to contain a 10-year flood. The levee has been breached several times since it was first built to protect a tract of 129 homes built in 1960.

- If the Isabella Reservoir dam were to fail, portions of Lake Isabella and Bodfish would almost immediately be flooded, which may cause catastrophic damage and endanger many human lives in these areas. In addition, SR 178 could be damaged, temporarily eliminating a major access point for the Valley residents. Repairs by Caltrans would take time and could be costly.

Flooding and Dam Inundation Goal

Goal 6.2.1: Prevent loss of life, reduce personal injuries and property damage, and minimize economic loss resulting from flood hazard, and dam inundation conditions.

Flooding and Dam Inundation Policies

Policy 6.2.1: Facilitate public education regarding inundation hazards associated with Isabella Dam shown in Figure 6-6, and work with the U.S. Army Corps of Engineers and the Kern County Fire Department to develop evacuation and disaster plans.

Policy 6.2.2: Prohibit incompatible uses in primary floodway areas.

Policy 6.2.3: Minimize the alteration of primary floodways, stream channels, and natural protective barriers that accommodate or channel floodwaters.

Policy 6.2.4: Maintain primary floodway's flow conveyance capacities by preserving open space and recreation areas within the floodways.

Policy 6.2.5: Consider development of a master drainage plan for those areas of the Valley that will support future development.

Policy 6.2.6: Minimize the potential for damage from floods by protecting and restoring the natural water storage and conveyance functions of primary floodways giving preference wherever possible to non-structural surface water management methods.

Policy 6.2.7: Construction of structures in the primary floodway that obstruct the natural flow of water is prohibited.

Policy 6.2.8: On existing lots of record, all structures along with all attendant utilities shall be located outside the primary ~~floodplain~~floodway. If no site is available outside the primary ~~floodplain~~floodway, construction shall be consistent with Federal Emergency Management Agency and Kern County Engineering, Surveying and Permit Services Department requirements and will require a Conditional Use Permit in the Floodplain Primary (FPP) District.

Flooding and Dam Inundation Implementation

Implementation 6.2.1: Require flood studies as part of discretionary permit application and site plan review within areas designated as Map Code 2.5 (Flood Hazard) on the Physical and Environmental Constraints Map (Figure 6-1), and as required by the Kern County Engineering, Surveying and Permit Services Department.

Implementation 6.2.2: The Kern County Engineering, Surveying Permit Services Department may require a flood study for discretionary projects located within a flood hazard area. Proposed projects will be subject to Floodplain Management Ordinance and may require additional ~~M~~mitigation measures which may be considered include but are not limited to:

~~a.~~ ~~Raising the lowest floor elevations to be at least one-foot above the primary floodplain level.~~

~~b.~~a. Minimize or prohibit man-made levees or other channelization improvements that alter the natural flow within the ~~primary~~ floodplain.

~~c.~~b. Reduction of impervious surfaces.

Implementation 6.2.3: Plan and build drainage facilities following applicable Kern County standards and California Environmental Quality Act (CEQA) procedures, to avoid impact on natural habitat areas.

Implementation 6.2.4: The Kern County Fire Department Office of Emergency Services shall work with the Army Corps of Engineers to develop appropriate emergency plans for the safe evacuation of occupants of areas subject to possible inundation from failure of Isabella Dam and natural flooding.

Implementation 6.2.5 Undertake analysis of floodplain management practices on the South Fork of the Kern River and devise programs that promote cooperative efforts by private and

public property owners to protect the flood carrying capacity and minimize siltation.

Shallow Groundwater

Shallow groundwater, which has been identified in several Valley communities, presents development constraints and creates occasional problems for existing homes. Shallow groundwater has caused deterioration of roads and buildings, increased soil instability, and caused septic system failure. As reported in a sewage study for the Lake Isabella community, the shallow groundwater levels generally coincide with periods of high precipitation, and a significant portion of the shallow groundwater area is located under commercially zoned property.[4] Figure 6-3 identifies locations known to have shallow groundwater.

Future development in these areas must take into consideration the fluctuating water table and the potential need to provide a community sewage collection and treatment system in lieu of individual private disposal methods.

Shallow Groundwater Issues

- Shallow groundwater has caused deterioration of roads and buildings, increased soil instability, and caused septic system failures.
- Evidence provided by Audubon California identifies the possibility of shallow groundwater in the South Fork area.

Shallow Groundwater Goal

Goal 6.3.1: Ensure public health and safety risks associated with shallow groundwater have been minimized to the greatest extent possible as well as protect the groundwater quality.

Shallow Groundwater Policy

Policy 6.3.2: This Plan's Physical and Environmental Constraints Map shall provide the most up to date information on the location of shallow groundwater areas. Subsequent shallow groundwater studies performed by a qualified hydrologist shall be incorporated within this map.

Shallow Groundwater Implementation

Implementation 6.3.1: Require preparation of groundwater studies for all discretionary development within areas designated as

[4] *Alternatives to Collect, Treat, and Dispose of Sewage: Lake Isabella Community.* Prepared by Quad Knopf for Kern County Engineering and Surveying Services. February 2003.

Map Code 2.3 (Shallow Groundwater) on the Physical and Environmental Constraints Map (Figure 6-3), and impose conditions, as needed, to guard against potential public safety and health risks.

Implementation 6.3.2: Seek funding to further study and define the potential for shallow groundwater in a portion of the South Fork area, and amend this Specific Plan as needed to incorporate the new information.

Seismic and Geologic Hazards

The Valley and surrounding areas feature many geological formations. The Valley includes portions of America's longest mountain range, the Sierra Nevada. The local Greenhorn Mountains, Piute Mountains, and Scodie Mountains geographically shape the Valley. Between these mountains also lie deep canyons such as Kern Canyon, formed by the Kern River, which is greater than 5,000 feet deep for over 30 miles. The Valley contains many steep slopes and other geologic hazards which may pose threats to both existing and potential new development.

Earthquakes

The Valley is located more than 50 miles from the San Andreas Fault, and several other known faults are within proximity of the Specific Plan Area. The White Wolf Fault, trending from southwest to northeast between Mettler and Caliente southwest of the Specific Plan Area, was responsible for the devastating 1952 7.3 magnitude Kern County quake. North of Caliente, the Breckenridge Fault, which has had no major earthquakes, forms the western boundary of Walker Basin, trending northward toward Havilah, just south of the Valley. From there, the Kern Canyon Fault, which does not show any visible surface rupturing, runs in a north-south direction through Lake Isabella, Isabella Dam, and Isabella Reservoir to Kernville and the North Kern River Canyon beyond. Also, a small zone of faulting also exists in the mountains west of the Valley. Outside of the Specific Plan Area, the Sierra Nevada Frontal Fault runs along the eastern base of the Sierra Nevada, and the Garlock Fault runs along the southeast base of the Tehachapi Mountains, southeast of the Valley. These regional fault locations are illustrated in Figure 6-7. Only one fault, the Kern Canyon Fault, is located within the Plan boundaries.

The Kern County 7.3 magnitude earthquake in 1952 ruptured along the White Wolf fault, claiming 12 lives and causing at least 18 injuries and $50 million in property damage. This quake and its aftershocks were responsible for damaging hundreds of buildings in the Kern County area, at least 100 of which had to be torn down.[5] The 1946 Walker Pass 6.3 magnitude earthquake occurred in the Scodie Mountains just east of the Specific Plan Area, near the Sierra Nevada Frontal Fault.[6] The quake was felt as far away as San Diego

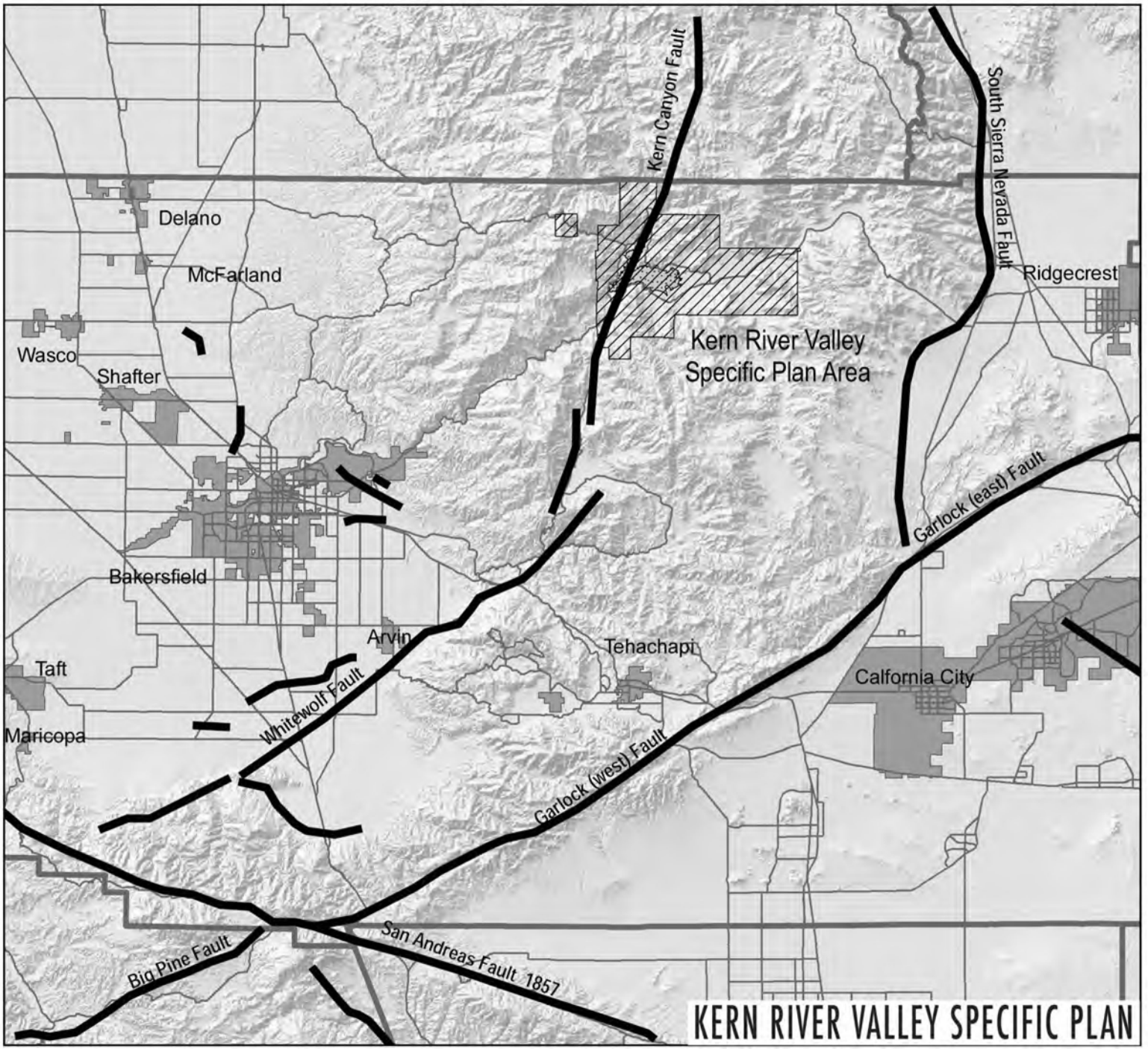
[5] Andrew Alden. *Birth of a Fault. An embryonic fault is found in southern California.* http://geology.about.com/library/weekly/aa071199.htm.

[6] Gerald W. Bawden, Andrew J. Michael and Louise H. Kellogg *Birth of a fault: Connecting the Kern County and Walker Pass, California, earthquakes*. U.S. Geological Survey, M.S. 977, Menlo Park, California 94025 and Geology Department, University of California, Davis, California 95616.

and San Luis Obispo Counties and caused considerable damage to the sparse developments in the area. Cracks formed in the ground and the concrete along the Los Angeles Aqueduct.[7]

The Kern Canyon Fault runs directly underneath Isabella Dam (see Figure 6-6). While an unlikely occurrence, a large local earthquake could potentially cause damage and result in dam failure at Isabella Lake. The U.S. Army Corps of Engineers is presently studying the integrity of the dam and the need for remediation work.

[7] *Notable Earthquake of the Week.* http://www.seismo-watch.com/EQSERVICES/NotableEQ/Mar/0315.1946.WalkerPass.html.



Regional Faults

Specific Plan Boundary

Faults

Figure 6-7

Source: Bawden, Gerald W. and Michael, Andrew J. USGS, Kellogg, Louise H., UC Davis.

North

0 4 8 12 16 Miles

Liquefaction

Although the California Department of Conservation has not studied or mapped any liquefaction areas in the Valley, liquefaction tends to be an issue along historic rivers and streambeds or where soil is saturated with water. Liquefaction is a phenomenon in which the strength and stiffness of a soil is reduced by earthquake shaking. Liquefaction and related phenomena have been responsible for tremendous amounts of damage as a result of historical earthquakes. Liquefaction can occur within the South Fork and North Fork riverbeds of the Kern River, Lake Isabella, and possibly portions of Bodfish.

Landslides and Steep Slopes

Seismic activity and rainstorms can induce landslides and rockslides, which have been known to cause damage to State Route 178 or other major access routes, or homes and buildings located near or beneath slopes susceptible to landslides. Landslides are especially likely in steep slope areas, as identified on Figure 6-2.

Seismic and Geologic Hazard Issues

- The Kern River Valley is part of a seismically sensitive region and therefore is subject to hazards such as landslides/rockslides, land subsidence, liquefaction, and erosion.
- The potential for liquefaction within the Specific Plan Area is unknown.

Seismic and Geologic Hazards Goal

Goal 6.4.1: Minimize the potential damage to structures and loss of life that could result from geologic hazards.

Seismic and Geologic Hazards Policies

Policy 6.4.1: Consider the presence of geologic hazard areas in development regulations and land use decisions.

Policy 6.4.2: Residential density shall be limited in areas designated as Map Code 2.4 (Steep Slope) on the Physical and Environmental Constraints Map (Figure 6-2). To the extent practical within these locations, development should be clustered in the more level portions of a property, away from steep slope areas, or follow recommendations identified in geotechnical studies.

Policy 6.4.3: All development in areas designated as Map Code 2.4 (Steep Slope) on the Physical and Environmental Constraints Map (Figure 6-2) shall comply with steep slope requirements in Kern County Code Chapter 19.88 (Hillside Development).

Policy 6.4.4: Site approval requirements and construction standards shall incorporate practices and techniques to reduce potential damage from seismic events.

Policy 6.4.5: The County shall require development for human occupancy to be placed in a location away from an active earthquake fault in order to minimize safety concerns.

Policy 6.4.6: Encourage the California Department of Conservation to analyze and develop a map identifying liquefaction hazardous areas in the Kern River Valley. The County shall incorporate the liquefaction information into this Plan.

Policy 6.4.7: The County shall continue to participate in State-sponsored emergency preparedness programs.

Policy 6.4.8: Regardless of percentage of slope, development on hillsides shall be sited in the least obtrusive fashion, thereby minimizing the extent of topographic alteration required and reducing soil erosion while maintaining soil stability.

Policy 6.4.9: Ensure effective slope stability, wastewater drainage, and sewage treatments in areas with steep slopes are adequate for development.

Seismic and Geologic Hazards Implementation

Implementation 6.4.1: A geotechnical study shall be required for all discretionary permits including Specific Plan Amendments, Zone Changes, Conditional Use Permits and Land Division actions, where the project site is near an active fault.

Implementation 6.4.2: Review all development proposals in areas designated as Map Code 2.1 (Seismic Hazard) or Map Code 2.4 (Steep Slope) on the Physical and Environmental Constraints Maps (Figure 6-4 and 6-2) to consider the design and intensity of the proposed use in relation to potential seismic risk.

Implementation 6.4.3: Follow all County codes to ensure seismically resistant structures.

Implementation 6.4.4: Work with property owners to implement seismic safety improvements in older buildings.

Implementation 6.4.5: Assemble and distribute information concerning emergency management procedures relating to high

magnitude, low frequency geologic events such as earthquakes.

Chapter 7
Noise Element

Noise generally is defined as unwanted sound. Noise can result in speech interference and disrupt activities at home and work, including sleep patterns and recreational pursuits. The long-term effects of excess noise exposure can be both physical and psychological. The Noise Element addresses these effects by providing strategies to reduce excessive noise in the Kern River Valley Specific Plan (Specific Plan) area and limit community exposure to loud noise sources. In particular, minimizing noise is essential to maintaining the rural character of the Kern River Valley (Valley).

The major sources of noise in the Valley are automobile traffic and the Kern Valley Airport. Other possible sources of noise include motorized recreational vehicles and limited fixed-point sources located throughout the area. Addressing noise problems can be accomplished by reducing noise conflicts where they presently exist, and minimizing future noise conflicts through adoption of policies set forth in this element.

How Sound is Measured

Sound levels are expressed on a logarithmic scale of decibels (abbreviated as dB), in which a change of ten units on the decibel scale reflects a ten-fold increase in sound energy. A ten-fold increase in sound energy roughly translates to a doubling of perceived loudness.

In evaluating human response to noise, acousticians compensate for the response of people to varying frequency or pitch components of sound. The human ear is most sensitive to sounds in the middle frequency range used for human speech and is less sensitive to lower and higher-pitched sounds. The "A" weighting scale is used to account for this sensitivity. Thus, most community noise standards are expressed in decibels on the "A"-weighted scale, abbreviated dB(A). Zero on the decibel scale is set roughly at the threshold of human hearing. Sound levels of common sounds in the environment include office background noise at about 50 dB(A); human speech at 10 feet at about 60 to 70 dB(A); cars driving by at 50 feet at 65 to 70 dB(A); trucks at 50 feet at 75 to 80 dB(A); and aircraft overflights directly overhead a mile from the runway at about 95 to 100 dB(A).

A complete description of the noise environment requires additional information, such as the time of the occurrence (day or night) and its duration. To deal with these additional considerations, the following measurements may be utilized in this element:

1. L_{10} Statistical A-Weighted Noise Level – The noise level in decibels on the A-weighted scale (dB(A)) which is exceeded 10 percent of the time during which the noise is measured. This measurement scale is commonly utilized for the assessment of traffic noise.

2. Community Noise Equivalent Level (CNEL) – A measure of the cumulative noise exposure in the community, with greater weights applied to evening and nighttime periods. For CNEL calculations, day is defined as 7 A.M. to 7 P.M., and this period has a weighting factor of 1; evening is 7 P.M. to 10 P.M. and has a weighting factor of 3; and night is from 10 P.M. to 7 A.M. and has a weighting factor of 10. Noises occurring at night are given substantially heavier weight, since for most people, this is the time when noise is most disturbing.

3. Day-Night Average Sound Level, L_{dn} – The same as CNEL except that the evening time period is not considered separately, but instead it is included as part of the daytime period. Noise contours developed using CNEL and L_{dn} procedures will normally agree within one dB(A).

4. Average Sound Level, L_{eq} – Also called the equivalent continuous noise level. L_{eq} is the continuous sound level that is equivalent, in terms of noise energy content, to the actual fluctuating noise existing at the location over a given period, usually one hour.

Noise Standards and Land Use Compatibility

The community noise environment consists of a wide variety of sounds, some near and some far away, which vary over the 24-hour day. This Specific Plan uses L_{dn} as its measure of acceptable noise standards. The Kern County noise standard is 65 dB L_{dn} outside and 45 dB L_{dn} inside.

For areas within the Kern Valley Airport influence area, noise compatibility standards of the Kern County Airport Land Use Compatibility Plan are applied to determine the suitability of various land uses in proximity to the airport.

Sensitive land uses include, but are not limited to, residential development, schools, hospitals, day cares, churches, senior activity centers, and convalescent homes.

Noise Issues

- High-decibel noise levels resulting from commercial and industrial land uses may be are incompatible with sensitive uses, such as residential areas, schools, and churches.

- Temporary noise situations may occur such as construction/demolition, fire or hospital helicopters, or special event noise. Some residents may feel that these noise situations should not occur.

- Increased development will result in traffic noise increases for certain roadway segments and intersections.

Noise Goals

Goal 7.1.1: Minimize the effects of noise on sensitive land uses.

Goal 7.1.2: Reduce temporary noise disturbances.

Goal 7.1.3: Preserve the rural, small-town atmosphere by controlling noise levels.

Noise Policies

Policy 7.1.1: Require noise compatibility between existing and future development. Effective mitigation measures may be incorporated into project design. Such mitigation shall be designed to reduce noise to the following levels:

a. 65 dB L_{dn} or less in outdoor activity areas

b. 45 dB L_{dn} or less within interior living spaces or other noise sensitive interior spaces

Policy 7.1.2: The burden of providing acoustical compatibility shall not be placed upon existing development, but rather the proposed discretionary project.

Policy 7.1.3: Commercial and industrial uses sited adjacent to sensitive land uses shall minimize potential noise and health hazards.

Policy 7.1.4: Noise attenuation measures as defined by the Kern County Noise Element, Development Standards (such as setbacks, clustering, berming, and sound walls) and any pertinent noise studies shall serve as a guide for future planning and development decisions.

Policy 7.1.5: Require that existing noise impacts be have been reduced to 45 dB L_{eq} (Interior) and 65 dB L_{eq} (Exterior) by employing the best available noise control methods.

Noise Implementation

Implementation 7.1.1: During future discretionary projects, identify noise-impact areas exposed to existing or projected noise levels exceeding 65 dB L_{eq} (exterior).

Implementation 7.1.2: An acoustical study shall be required for discretionary projects as determined by the Director of Planning and Community Development.

Implementation 7.1.3: Noise attenuation measures (such as setbacks, clustering, berming, and sound walls) shall be required as conditions of project approval prior to, or as part of, construction in areas subject to excessive noise.

Implementation 7.1.4: A condition of approval for developments subject to discretionary review shall require that grading and building plans contain the following note: "During grading and construction, all activities shall be limited to 7:00 A.M. to 7:00 P.M. Monday through Friday. Construction will not be allowed on weekends or federal holidays." Verification of compliance with this statement will be the responsibility of the Kern County Building Inspection Department.

Implementation 7.1.5: All discretionary development proposals shall be reviewed for compatibility with the adopted Airport Land Use Compatibility Plan. Appropriate limitations and conditions shall be incorporated to address compatibility with the Kern Valley Airport. Incompatible uses shall not be permitted unless appropriate findings regarding public health and safety can be made.

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Chapter 8
Economic Development Element

A healthy local economy in the Kern River Valley (Valley) will consist of diverse businesses, year-round tourism, an adequate employment pool, an increase in above minimum wage employment opportunities, and successful marketing of the image and identity of the area. This will ensure the Valley's fiscal and financial health, allowing for a high level of public services and programs. Economic development goals can set the tone and direction for the business community in the Valley.

Local Economy and Labor Force

Lack of economic diversity is a common problem for rural communities nationwide. Much of the Valley's economy depends on its tourist/recreation base, which fluctuates seasonally, creating an unreliable source of income for those who depend on it, in addition to lower-paying employment opportunities. The spring and summer seasons see an influx of recreational uses, while activity drops in the fall and winter. The limited type and number of jobs are also indicated by the age gap among Valley residents. The weighted median age is approximately 51.2 years of age, compared to the County median age of 33.3 years. It is a common perception in the Valley that upon graduation, high school students will leave the area in search of employment and higher education opportunities.

The Kern River Valley Specific Plan (Specific Plan) notes that a large share of the resident population is employed in the services (primarily tourism related), retail, construction, and government sectors. To retain its younger population and facilitate a steady economy year round, Valley may be required to diversify its economy, expand on the existing employment opportunities, or increase higher educational prospects through Cerro Coso College or other educational institutions.

A comprehensive tourist center could provide resources for visitors seeking recreational or educational pursuits, and give Valley businesses an outlet for advertising their goods and services. The creation of a tourist center could unify a promotional theme in the Valley and serve as a clearinghouse of information for visitors. Additionally, the Kern River Valley does not have a large central meeting place such as a convention center that could be used for commercial purposes and as a community gathering place. A convention center could serve as a destination point for company conferences, retreats, or training seminars, as well as provide a venue for events attended by local residents and businesses.

Small Business – Tourism Support

Small business support for commercial tourism includes amenities, accommodations, and experiences for tourists who come to Valley to participate in recreational activities. Amenities include visitor centers, banks, cafes and coffee shops, restaurants, and shopping and retail opportunities. For the business traveler, amenities may include a conference center to provide a meeting space and access to information technology services such as high-speed internet. Accommodations include motels, hotels, lodges, inns, cabins, and campground sites adequate to support the influx of tourists during peak periods and for special events.

To capture a larger tourism market, the Valley must provide for diversified tourist needs and stimulate interest in the local economy. There is an opportunity to expand existing goods and services, as identified in the Valley tourism marketing plan developed in 2003. Visitors surveyed for the marketing plan stated that they would have liked additional early-morning and late-night dining opportunities, and miscellaneous supplies and gifts. The report lists tourism trends that could certainly be capitalized upon in the Valley, including nature-oriented tourism, environmentally sustainable services and products, and interest in the Valley's culture and history. It is also important to recognize the various needs and interests of different kinds of tourists, whether they are day trippers, weekenders, business travelers, or longer-term vacationers.

Local Economy and Labor Force Issues

- Indirect effects of enhancing the local economy may include development of new commercial buildings and housing, increases in traffic, trash, and other undesirable occurrences.
- Valley youth seek employment and higher education opportunities outside of the Valley.
- Few opportunities exist which would attract business travelers, longer-term vacationers, or major entertainment venues.

Local Economy and Labor Force Goals

Goal 8.1.1: Encourage and facilitate a wide range of business activities that enhance the local economy while maintaining the rural atmosphere of the Kern River Valley.

Goal 8.1.2: Maintain and expand employment and higher education opportunities in the Kern River Valley.

Goal 8.1.3: Ensure the Kern County governmental framework supports and promotes economic vitality in the Kern River Valley.

Local Economy and Labor Force Policies

Policy 8.1.1: Provide support and assistance for small local businesses.

Policy 8.1.2: Encourage local trading and cooperatives among businesses to strengthen community ties and maximize financial resources.

Policy 8.1.3: Support provision of additional services such as early morning and late-night dining and activities.

Policy 8.1.4: Encourage the development of off-season services and activities to attract customers throughout the year.

Policy 8.1.5: Encourage the development of small, family run businesses in the Valley.

Policy 8.1.6: Encourage the development of vocational training opportunities and support small business courses at Cerro Coso Community College.

Policy 8.1.7: Promote key environmental and scenic values of the Kern River Valley to the film and movie industry.

Policy 8.1.8: Support strategies which encourage a diverse and sustainable agricultural economy and utilization of agricultural resources.

Policy 8.1.9: Provide for mixed land uses that offer a variety of employment opportunities and enhance the area's economy.

Policy 8.1.10: Encourage the development of year-round employment opportunities by expanding current business services and creating new forms of employment.

Local Economy and Labor Force Implementation

Implementation 8.1.1: Work with the Kern River Valley Chamber of Commerce, Kern County Board of Trade, Kernville Chamber of Commerce, Kern River Valley Revitalization, Inc., and other such organizations to develop and implement business attraction and retention programs, as well as provide assistance to small businesses.

Implementation 8.1.2: Residents should continue to implement the marketing goals, strategies, and tasks of the Community Inspired Tourism Marketing Plan for the Kern River Valley.

Implementation 8.1.3: If funding, residential demand, and classrooms are available, Cerro Coso College shall provide job training

classes that relate to small businesses and the recreational tourism industry.

Implementation 8.1.4: Publicize picturesque quality and film locations of the Kern River Valley. Promote simplicity of obtaining various film permits with the Kern County Film Commission.

Implementation 8.1.5: Utilize the SP (Special Planning) Zone District of the Kern County Zoning Ordinance to allow for mixed use developments or for any other unique development that proposes a creative and innovative use of land.

Community Image and Identity

A community image and identity based upon the Valley's cultural, ecological, recreational, and historical influences can help promote and define the communities of the Valley. The Valley's character is that of a collection of rural small-town communities with large areas of open space under federal ownership that offer outdoor recreational activities and tourism as well as commercial agricultural activities. The features and amenities that comprise the Valley's rural character should be preserved and enhanced.

Architectural Design Criteria

The Architectural Design Criteria is intended to provide a consistent architectural theme throughout the Valley. Under provisions of the Precise Development (PD) Combining District, design criteria will be applied to new commercial and industrial development. The criteria includes standards addressing architectural style, signs, building façades, construction material, building and parking lot orientation, pedestrian elements, and Dark Sky friendly lighting. The criteria will focus on a consistent architecture design that resembles Victorian, Country/Old West, Rustic, or Southwestern design themes. The purpose of the criteria is to ensure that proposed buildings, structures, and modifications within the Valley harmonize with the surrounding environment, and to promote economic development and an attractive character in such areas.

Gateway Concept

The concept of the Valley as a gateway to the Giant Sequoia National Monument and nearby wilderness areas presents opportunities for economic development. The Valley can attract tourists who participate in recreational activities in the region, accessing via the roads through the Valley. The primary driver in getting tourists to stay will be the availability of lodging and related services.

The creation of the Giant Sequoia National Monument in 2000 provided instant visibility for the forest itself, as well as the surrounding area. The Valley is the primary entryway to the southern groves of the Giant Sequoias. The Valley tourism marketing plan discusses several ways to gain recognition as "The Gateway to the Sequoia National

Monument", including developing a website, a promotional tactic plan and creating a gateway communities facility/infrastructure task force to work with decision-makers to create visitor facilities.

Signs can be used to welcome visitors to the National Monument and let them know of visitor services available within the Valley. Welcome signs should be located near townsites and should accentuate an exceptional view or scenic vista. Signage should reflect the area's rural character and historic heritage using, for example, characteristic post and cross-beam construction that resembles rustic ranch entryways. Signs designating recreational opportunities, with clear icons identifying the activity could also be strategically placed to welcome visitors.

In addition to signage, travel rest stops and information kiosks are welcoming and can add to the Valley's unified design theme. Maps of the area can be posted alongside a local events calendar and a listing of recreational opportunities.

As with all future development in the Valley, standards should be established to ensure that any new signs and identifying markers are consistent with the existing style and rural culture of the area. Limits on the size, content, and number of signs should be determined by community residents and County planners.

Community Image and Identity Issue

- The Valley supports individual community images, but would also like to incorporate an element of unity. Promotion of an architectural theme, which allows enough flexibility for individualization, could be challenging.

Community Image and Identity Goals

Goal 8.2.1: Establish and implement a consistent architectural style that resembles the rural, cultural, and historical aspects of the Kern River Valley.

Goal 8.2.2: Create and market an identity that reflects the cultural, ecological, recreational, and historical aspects of the Kern River Valley.

Goal 8.2.3: Establish and promote the Kern River Valley as a year-round destination.

Community Image and Identity Policies

Policy 8.2.1: Support the Precise Development (PD) Combining District to achieve a complementary and consistent appearance while allowing flexibility for community individuality. The PD Combining District shall incorporate guidelines for the following items:

a. Architectural design/building façade guidance for Victorian, Country/Old West, Rustic, and Southwestern themes.

b. Signage

c. Building materials

d. Building and parking orientation

e. Pedestrian elements

f. Dark sky lighting elements

Policy 8.2.2: Create entrances into the Valley that establish a positive impression and awareness. Special focus shall be given to Valley gateways along State Route (SR) 178 and SR 155.

Policy 8.2.3: Promote the Kern River Valley as the premier southern gateway to the Giant Sequoia National Monument.

Policy 8.2.4: Support initiatives to develop private/public sector partnerships to enhance the aesthetic quality of the communities.

Policy 8.2.5: Recognize the importance of the rural character, historic heritage, forests, recreation opportunities, and scenic wilderness areas to the economic viability of the Kern River Valley.

Community Image and Identity Implementation

Implementation 8.2.1: Apply the Precise Development (PD) Combining District to the Office Commercial (CO), Neighborhood Commercial (C-1), General Commercial (C-2), Highway Commercial (CH), Light Industrial (M-1), and Medium Industrial (M-2) Districts in the Kern River Valley. The use of the SC (Scenic Corridor) Combining District may also be used for areas designated as scenic corridors.

Implementation 8.2.2: The Kern River Valley Chamber of Commerce, Kern County Board of Trade, Kernville Chamber of Commerce, Kern River Valley Revitalization, Inc., and other such organizations shall strive to obtain funding for tourism marketing plan implementation, development, staffing, and initial high project priority.

Implementation 8.2.3: Residents should continue to implement the Community-Inspired Tourism Marketing – Kern River Valley's Three-year Plan to promote the Kern River Valley as a

year-round destination and as a gateway into the Giant Sequoias.

Home-Based Business Support

Due to the Valley's isolation from major metropolitan areas, home-based businesses can play an important role in the Specific Plan Area's economy. However, home-based businesses require advanced communication infrastructure to remain competitive and supportive.

Home-Based Business Support Issue

- Technological infrastructure would be a necessity for certain types of home-based businesses and such infrastructure may require substantial funding for installation and required equipment.

Home-Based Business Support Goal

Goal 8.3.1: Encourage and provide expanded opportunities for home-based businesses.

Home Based Business Support Policies

Policy 8.3.1: Encourage businesses that can support a home-office environment or utilize telecommunications.

Policy 8.3.2: Facilitate expansion of technological infrastructure, such as high-speed internet, wireless internet, cell phone access, and teleconferencing that supports home-based businesses.

Home Based Business Support Implementation

Implementation 8.3.1: Follow the minimum standards required regarding Home Occupations (Chapter 19.94) of the Kern County Zoning Ordinance.

Implementation 8.3.2: Identify programs that can provide home-based businesses tools and expertise to strategically plan their business direction.

Implementation 8.3.3: Work with cable and phone companies to facilitate telecommunication infrastructure system that can support home-based businesses.

Chapter 9
Public Facilities and Services Element

The Kern River Valley's (Valley) water, septic/sewer, and utility infrastructure represent the hidden support network for land uses in the Valley. These systems must be maintained to ensure that existing residents and businesses can reliably turn on a tap, run the washing machine, or use a cash register knowing that the infrastructure systems will not fail. To preserve adequate service levels in the Valley, water infrastructure will need to be expanded and replaced to maximize efficiency and increase capacity. In the more developed areas, individual septic and community sewer systems will be used to support economic growth. Where new development is proposed, infrastructure must be able to support new needs and demands without burdening current users.

The Valley is isolated from metropolitan areas, and no area-wide sewer system exists to provide wastewater collection, disposal, and treatment. Providing adequate infrastructure is a priority for the Valley. Water storage and delivery systems and wastewater collection lines are critical, even in a rural environment. Electric power, natural gas, and telecommunications facilities help residents live in comfort. These systems all support the quality of life in the.

The Public Facilities and Services Element addresses the following items:

- *Sewage and Septic Systems*
- *Water Supply and Distribution*
- *Water Quality*
- *Law Enforcement and Emergency Response*
- *Schools and Libraries*
- *Solid Waste Disposal*
- *Medical Services*
- *Kern Valley Airport*

Sewage and Septic Systems

The majority of housing units and commercial buildings in the Valley are serviced by individual septic systems. Although septic tanks are often suitable for rural environments, if they are not sited, designed, or maintained properly, they can pose threats to the environment and human health, specifically if clean groundwater supplies are contaminated. A 2003 study conducted for the Lake Isabella community indicates that several old and improperly designed septic systems are still in operation, and that the potential for groundwater contamination is high in some areas. Alternatives to septic system use require substantial funding sources.

Where suitable and in conformance with The Kern County Environmental Health Services Department and Building Code requirements, the continued use of individual septic systems is recognized as an appropriate means of sewage disposal in the Specific Plan Area.

Sewage and Septic System Issues

- Older septic systems that may predate current environmental health standards may pose health concerns.
- Substantial growth of urban residential densities will on smaller lots require community sewer systems.

Sewage and Septic System Goal

Goal 9.1.1: Ensure that wastewater disposal systems adequately protect the health and safety of all Kern River Valley residents and businesses, and groundwater is protected.

Sewage and Septic System Policies

Policy 9.1.1: Community sewage treatment and disposal facilities with collection systems will be required for all new developments of 25 or more lots proposed as one development or cumulatively with other new developments in a community area, unless soils engineering studies performed at the time of any land division project, and approved by the Kern County Environmental Health Services Department, indicate that alternative septic systems, either individual or community design, are equal to or better than a community collection, treatment, and disposal system.

Policy 9.1.2: Explore feasible financing (Community Development and Economic Assistance Grants) in areas experiencing repeated septic system failures.

Policy 9.1.3: New development projects (residential, commercial, and industrial) shall be serviced by appropriate wastewater disposal and water systems as approved by the Kern County Environmental Health Services Department.

Policy 9.1.4 To reduce water consumption and groundwater pollution, encourage the use of alternative septic systems (aerobic, waterless and greywater-separation systems) as permitted by the Building Code and approved by the Kern County Environmental Health Services Department

Sewage and Septic System Implementation

Implementation 9.1.1: The County should explore the feasibility of developing sewer master plans and funding programs for areas of urban density which continually experience septic system failures.

Implementation 9.1.2: Within areas of existing urban density that are experiencing repeated septic system failures, residents should explore methods (assessment districts) for financing the installation of public sewage systems.

Implementation 9.1.3: All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply and Preservation of Environmental Health Rules and Regulations administered by the Kern County Environmental Health Services Department. Projects having percolation rates of less than five minutes per inch shall provide a preliminary soils study and site specific documentation that characterizes the quality of upper groundwater in the project vicinity, and an evaluation of the extent to which, if any, the proposed use of alternative septic systems will adversely impact groundwater quality. If the evaluation indicates that the uppermost groundwater at the proposed site already exceeds groundwater quality objectives of the Regional Water Quality Control Board, or would if the alternative septic system is installed, the applicant shall be required to supply sewage collection, treatment and disposal facilities.

Implementation 9.1.4: Future discretionary projects proposing septic systems for sewage disposal shall be required to provide a feasibility study unless waived by the Kern County Environmental Health Services Department.

Water Supply and Distribution

The State Department of Health Services has jurisdiction over all public water systems, including those regulated by the California Public Utility Commission, that regularly serve at least 15 service connections or 25 individuals daily at least 60 days of the year. California Water Service Company (Cal Water), the only publicly traded water company serving the Valley, is regulated by the California Public Utilities Commission (PUC), and serves the majority of the population. Long Canyon Water Company Corporation, Mountain Mesa Water Company, and Erskine Creek Water Company are private companies and are also regulated by the PUC. The remaining companies that are not regulated by the PUC typically serve fewer than 100 customers or only provide water during the summer months for specific establishments such as campgrounds, hotels, motels, trailer parks, lodges, and schools. These systems are regulated by the Kern County Environmental Health Services Department.

Water Supply and Distribution Issues

- Erskine Creek Water Company, Mountain Mesa Water Company, and California Water Service Company (PUC regulated companies) are large water companies that represent the most reliable purveyors of quality water in the area. Residents are concerned that these PUC-regulated companies randomly increase water rates without considering impacts of the increases to rate payers.

- Residents are concerned that tank-truck hauling of domestic water out of the Kern River Valley will severely impact water supplies.

Water Supply and Distribution Goal

Goal 9.2.1: Support affordable coordinated, comprehensive, and reliable water supply systems and facilities capable of meeting both normal and dry year water demands.

Goal 9.2.2: Reduce tank-truck hauling of domestic water.

Water Supply and Distribution Policies

Policy 9.2.1: Ensure that water purveyors provide sufficient water storage, treatment, and transmission facilities to meet the existing and projected water needs of the Kern River Valley, while emphasizing conservation goals.

Policy 9.2.2: Encourage cooperation and coordination among the various water purveyors in the Kern River Valley to ensure affordable and adequate water supply and quality.

Policy 9.2.3: Encourage the combining of small water systems, including coordination of groundwater resource usage, to provide adequate community, domestic, and agricultural water needs.

Policy 9.2.4: In accordance with the Kern County Development Standards, tank-truck hauling of domestic water for land developments or lots within new land developments shall not be permitted.

Policy 9.2.5: Water-related infrastructure shall be provided in an efficient and cost-effective manner that ensures maintenance and repair of existing water systems.

Policy 9.2.6: Water municipalities or companies which service more than 3,000 customers or deliver more than 3,000 acre-feet annually should develop an Urban Water Management Plan. In accordance with Water Code Section 10617, "urban water suppliers" include those entities which are suppliers or contractors of water.

Policy 9.2.7: In accordance with the California Water Code, water purveyors whose supply depends on the groundwater in the Kern River Valley are encouraged to develop a Groundwater Management Plan, either individually or collectively.

Water Supply and Distribution Implementation

Implementation 9.2.1: Specific Plan Amendments subject to environmental review and not otherwise subject to California Water Code Section 10910 shall demonstrate through a water supply assessment that a long-term water supply for 20-year timeframe is available. The water assessment shall include, but not be limited to, the following:

a. Source and quantity of historical water use on the site.

b. Estimated water consumption of the proposed development.

c. Estimated storage, if any, required to meet the projected need. "Projected need" includes water for fire fighting.

d. Recommendations for additional sources of water to address demand shortage. Such measures may include, but are not limited to, development of future sources of additional surface water and groundwater, including water transfers, conjunctive use, recycled water, conservation, additional storage of surface water, and groundwater.

Written acknowledgement that water will be provided by a community or public water system with an adopted Urban Water Management Plan shall constitute compliance with this requirement. As of 2005/2006, no water entities in the Kern River Valley, other than the California Water Services Company, have developed an Urban Water Management Plan.

Water Quality

Domestic water supplies are required to meet water quality standards established by the State of California Department of Health Services. Some domestic water wells in the Valley have failed to meet the maximum contaminant levels and public health goals for gross alpha particles, uranium, aluminum, antimony, arsenic, fluoride, haloacetic acids, total and fecal coliforms, iron, and manganese. Boron, chromium, and nitrates are also identified as chemicals of concern.

Water Quality Issues

- Small water systems may not be able to financially maintain required water quality standards.
- Local residents on fixed, seasonal, or minimum wage incomes may not be able to endure the rate increases necessary for water purveyors to attain State and federal water quality standards.
- Continued use of septic systems may contribute to degradation of the groundwater quality.

Water Quality Goal

Goal 9.3.1: Protect and improve local groundwater quality.

Water Quality Policies

Policy 9.3.1: Ensure that water quality standards are met for existing and future users.

Policy 9.3.2: Support the efforts of water purveyors to cost-effectively expand and provide adequate water treatment facilities and achieve federal and State water quality standards.

Policy 9.3.3: Establish a coordinated effort to protect water quality by preventing further degradation of existing water resources and supply.

Water Quality Implementation

Implementation 9.3.1: Prior to approval of any Specific Plan Amendment or subdivision approval, applicants shall provide information for review and approval by the Kern County Environmental Health Services Department regarding the sources, quality, and quantity of water to be supplied.

Implementation 9.3.2: In accordance with the Kern County Environmental Health Services Department standards, all development within 300 feet of a public water system shall be required to hook up to that water system. If the water system is not willing to service the proposed development then a water-well may be drilled. Nondomestic wells are allowed only in the Exclusive Agriculture (A) District.

Implementation 9.3.3: Water purveyors should develop long-term water master plans in areas where water resources are deficient in quality or quantity.

Law Enforcement, Fire Protection and Emergency Response

The Kern County Sheriff's Department polices the Valley with 10 law enforcement officers out of the Kern Valley Substation, located in Lake Isabella. The California Highway Patrol patrols State Route (SR) 155 and SR 178 from the Bakersfield station.

The Kern River Valley Specific Plan (Specific Plan) area is within the jurisdiction of the Kern County Fire Department. The County has three fire stations in the Specific Plan Area, Station 76 (Kernville), Station 71 (Southlake) and Station 72 (Lake Isabella). Station 78 in Piute, the Walker Basin area) is also available as backup to this area if needed.

In 2003, the Kern County Office of Emergency Services developed the Kern River Valley Community Response Plan. This Specific Plan describes the emergency procedures that will be taken in the event of any major emergency or disaster that occurs in the Valley area. In addition, the Kern County Office of Emergency Services is in the process of developing a "Multi-Jurisdictional Hazard Mitigation Plan" to address fires, floods, mudslides, freezes, and drought risks. This plan provides the County and other jurisdictions with the tools to identify these risks and prioritize future actions for reducing them.

The State Department of Health Services requires public water systems under its jurisdiction to prepare their own emergency response plans defining how water system(s) would respond to emergencies and disasters that are likely to affect their operation.

Law Enforcement, Fire Protection and Emergency Response Issues

- The Kern County Sheriff's Department and the Fire Department area constrained by funding, proper vehicular equipment, and manpower to continually provide the services requested by the Valley residents.

- During an emergency, communication between public officials, radio stations, and television stations is reduced and therefore public announcements may not be effectively communicated to residents.

Law Enforcement, Fire Protection and Emergency Response Goals

Goal 9.4.1: Provide adequate emergency and fire protection and law enforcement for the residents of Kern River Valley residents.

Law Enforcement, Fire Protection and Emergency Response Policies

Policy 9.4.1: Ensure that new development does not create a burden on adequate levels of law enforcement and fire protection services.

Policy 9.4.2: The County will ensure adequate police and fire protection to all Kern River Valley residents. (See also Wildland Fire for additional fire protection policies).

Policy 9.4.3: Utilize the Kern River Valley Community Response Plan and, once adopted, the Multi-Jurisdictional Hazard Mitigation Plan during an emergency.

Policy 9.4.4: Water system operators need to prepare an emergency response plan which will include all disasters and emergencies that are likely to occur in the water system's service area, designation of responsible personnel, inventory of system resources used for normal operations and available for emergencies, a communication network describing a designated location for an emergency operations center, emergency procedures to quickly assess damage to water system facilities and steps that will be taken to resume normal operations.

Law Enforcement, Fire Protection and Emergency Response Implementation

Implementation 9.4.1: The Kern County Planning Department will coordinate with the Kern County Sheriff's and Fire Departments on discretionary projects to maintain adequate levels of service. (see also Wildland Fire for additional fire protection Implementation)

Implementation 9.4.2: If funding and equipment is available, the Kern County Sheriffs Department shall strive to station a permanent officer in the Kern River Valley to address Off Highway Vehicle (OHV) trespassing and nuisance issues. County Sheriff can research the use of OHV State of California Greensticker money to fund enforcement.

Schools and Libraries

Schools

Six public schools and one community college serve students in the Valley, including one high school, two middle schools, three elementary schools, and Cerro Coso College. The following school districts operate within the Valley:

- Kernville Union School District
- South Fork Union School District
- Kern High School District
- Kern Community College District

Libraries

The Kern County Library Department operates three branch libraries in the Valley: the Kern River Branch, Kernville Branch, and Wofford Heights Branch.

Schools and Libraries Issues

- Kern County's Library Facilities Master Plan indicates the need to replace the Kernville Branch Library with a larger facility.
- Residents have indicated the need for additional preschools in the Valley.
- School safety is of concern due to lack of adequate pedestrian facilities for safe travel near school sites.

Schools and Libraries Goals

Goal 9.5.1: Provide safe, high-quality school and library services to Kern River Valley residents.

Schools and Libraries Policies

Policy 9.5.1: Coordinate with the various school districts serving the Kern River Valley to ensure that school facilities are maintained and expanded as needed.

Policy 9.5.2: Coordinate with the Kern County Library for new development to ensure sufficient library services are provided to community residents and businesses.

Policy 9.5.3: Encourage the development of a permanent campus for Cerro Coso College within the Specific Plan Area.

Policy 9.5.4: Encourage joint use of educational and recreational facilities.

Policy 9.5.5: Identify areas near school sites where additional pedestrian facilities are needed.

Schools and Libraries Implementation

Implementation 9.5.1: Continue to collect school impact fees to ensure that sufficient school facilities exist to serve the public education needs associates with future development in the Specific Plan Area.

Implementation 9.5.2: Work with the South Fork Union, Kernville Union, and Kern High School Districts to provide adequate education facilities for Kern River Valley students.

Implementation 9.5.3: Work with the Kern County Library to provide adequate library services and resources to the Kern River Valley, including a potential new library facility in Kernville through implementation of the Libraries Master Plan.

Implementation 9.5.4: To address school safety, look to improve major roadways leading students to schools with sidewalks, bike lanes, and safety signs, especially along Kelso Valley Road.

Solid Waste Disposal

The Kern Valley Sanitary Landfill, located 2.5 miles south of Kernville, ceased operations in July 1997 but continues to operate as the Kern Valley transfer station. This Transfer Station takes hauler waste as well as self haul and transfers to the Ridgecrest Sanitary Landfill for disposal. This facility currently provides recycling for plastics, newspapers, cardboard, glass, aluminum, appliances, oil, green waste, wood and tires.

Solid Waste Disposal Issue

- All of the Valley's trash is transferred to the Ridgecrest Sanitary Landfill. Capacity limitations of the landfill and its distance from the Valley indicate a need for increased recycling and waste reduction efforts.

Solid Waste Disposal Goals

Goal 9.6.1: Provide adequate waste disposal systems within the Specific Plan Area.

Goal 9.6.2: Encourage reuse and recycling throughout Kern River Valley communities.

Solid Waste Disposal Policies

Policy 9.6.1: Continue to operate and maintain the Kern Valley Transfer Station.

Policy 9.6.2: Protect the Kern Valley Transfer Station from incompatible land uses.

Policy 9.6.3: Utilize source reduction, recycling, and other appropriate measures to reduce the amount of solid waste sent to the Kern Valley Transfer Station and disposed of in landfills.

Policy 9.6.4: Encourage trash and litter cleanup after large community events, along the Kern River and in the campgrounds.

Policy 9.6.5: All future waste facilities shall be consistent with the applicable policies and implementation measures of the Kern County General Plan.

Policy 9.6.6: Development, which is located adjacent to a burn dump site and requires a discretionary permit, shall be reviewed for land use compatibility and possible soil contamination.

Solid Waste Disposal Implementation

Implementation 9.6.1: The Kern Valley Transfer Station shall be protected from encroachment of incompatible land uses and intensive development. Procedures shall be established which provide for adequate buffering of solid waste facilities in accordance with requirements of the Kern County Waste Management Department.

Implementation 9.6.2: Develop and implement a recycling program that targets reduction of solid waste and littering associated with tourist-oriented recreational events.

Implementation 9.6.3: Encourage residents to continue to participate in the County Hazardous Waste Collection Days.

Implementation 9.6.4: Future community projects which may promote responsible litter control and recycling activities include the following:

- Volunteer trash pickup activities after each Kern Valley special event.
- Expanding "Kern Valley Pride Day" to include trash pick-up along areas of the Kern River.
- Recycling programs associated with special events in Kernville.
- Signage that promotes responsible litter control to residents and visitors alike.

Implementation 9.6.5: The State Water Resources Control Board and the Local Enforcement Agency (Environmental Health Services Department) shall be consulted when discretionary development has been proposed near a known burn dump.

Medical Services

The median age of the combined population within the Valley is estimated to be 51.2 years. Nearly 32 percent of the total population are aged 65 years or above. In comparison, only 9.8 percent of the total population in Kern County are aged 65 years or above. The Kern Valley Hospital and Rural Health Clinics are located in the Valley. The variety of medical specialists and doctors available to residents is limited.

Medical Services Issues

- The Valley has a limited number of health care specialists.
- The Kern Valley Medical Center is prone to flooding during heavy rainstorms.

Medical Services Goal

Goal 9.7.1: Provide adequate health care services for all residents of the Kern River Valley.

Medical Services Policies

Policy 9.7.1: Provide for long-term operation of the Kern Valley Medical Center, and address expansion or retrofit needs of the Medical Center as they arise.

Policy 9.7.2: As deemed necessary, encourage medial professionals to locate their practice in the Kern River Valley.

Medical Services Implementation

Implementation 9.7.1: Work with the Kern Valley Healthcare District and Kern Medical Services in providing high quality patient care, services and facilities that respond to consumer, physician, and community needs.

Kern Valley Airport

In accordance with Section 65302.3 of the California Government Code, consistency with airport land use plans shall include:

(a) The general plan, and any applicable specific plan prepared pursuant to Article 8 (commencing with Section 65450), shall be consistent with the plan adopted or amended pursuant to Section 21675 of the Public Utilities Code.

(b) The general plan, and any applicable specific plan, shall be amended, as necessary, within 180 days of any amendment to the plan required under Section 21675 of the Public Utilities Code.

The Kern Valley Airport, located east of the northern portion of Isabella Reservoir, is part of the County's airport system and operates under the auspices of the Kern Valley Airport Master Plan and the County's Airport Land Use Compatibility Plan (ALUCP). The ALUCP establishes four Airport Compatibility Zones surrounding the Kern Valley Airport which correspond to various noise and safety levels.

Additional discussion and a current map of the Kern Valley Airport noise contours can be found in Appendix B of this Plan.

Kern Valley Airport Goal

Goal 9.8.1: Minimize airport-related safety hazards.

Kern Valley Airport Policy

Policy 9.8.1: Ensure that new development in the vicinity of the Kern Valley Airport is compatible with Federal Aviation Administration (FAA) restrictions against hazards to flight, as set forth in the Kern County Airport Land Use Compatibility Plan.

Kern Valley Airport Implementation

Implementation 9.8.1: All discretionary development proposals shall be reviewed for compatibility with the adopted Airport Land Use Compatibility Plan. Appropriate limitations and conditions shall be incorporated to address compatibility with the Kern Valley Airport. Incompatible uses shall not be permitted unless appropriate findings regarding public health and safety can be made.

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Chapter 10
Housing Element

Promoting housing and community development as any ongoing community priority is necessary for ensuring socioeconomic diversity in the Kern River Valley (Valley), building a strong local economy, and providing for safe, decent housing for all who wish to live in and enjoy life in the Valley. To accomplish these goals, any new housing constructed should include housing available to persons of all economic strata. Also, existing housing must be conserved and improved to protect the health and safety of residents. The Housing Element addresses the need to provide adequate and affordable housing for a diverse demographic.

Kern County Housing Element

In 2000, the majority of residential units in the Valley consisted of mobile homes, accounting for over half of all residential uses. Detached single-family housing units accounted for approximately 39 percent of total units, while all other types of residential units (multiple-family apartments, condominiums, recreational vehicles, etc.) represented the remaining five percent.

Nearly 20 percent of the housing units in Valley were identified within the 2000 Census as solely for seasonal or occasional use. The average vacancy rate among the Valley communities is approximately 31 percent. These characteristics are indicative of the large number of residents with vacation homes and the large influx of tourists that come to the Valley to participate in outdoor recreational activities during the summer peak period.

The County has prepared a comprehensive countywide housing plan with the Kern County Housing Element which includes both the Metropolitan Bakersfield General Plan and the County General Plan areas. This Element was updated in 2002 and requires a comprehensive review by the County and approval by the State Department of Housing and Community Development in 2008. This Element plays a special role in the continued development of Kern County and affordable housing. Due to State mandates, this Element is kept separate from all other mandatory elements due to the 5 year comprehensive update and review time period. This Element is maintained with information provided by the Kern County Community and Economic Development Department.

The goals, policies, and implementation programs in the Housing Element address all types of housing needs, from rehabilitation of aging units to new construction to meeting the housing needs of lower-income residents. These goals, policies, and programs are incorporated into this Specific Plan in their entirety by reference. Development review measures set forth in the Land Use Element and Community Facilities and Services Element pertaining to the availability of necessary public services will also ensure that new housing is supported with adequate infrastructure and community facilities.

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Chapter 11
Sustainability Element

The purpose of the Sustainability Element is to reinforce the goal to promote sustainable and strategic growth which utilizes energy and other resource-efficient practices. The Sustainability Element, together with the other elements of the Kern River Valley Specific Plan (Specific Plan), will enable the Kern River Valley (Valley) to flourish and be preserved for current and future generations. The Specific Plan recognizes the need to support a sustainable way of life that ensures a safe and healthy environment. The Sustainability Element is closely related to the Land Use Element because sustainability is directly achieved by the distribution, location, pattern, character, and extent of land uses as well as population density and building intensity. The Sustainability Element utilizes a combination of sustainability measurements and tools to promote sustainability in the Valley.

The County's greatest role in sustainability is leadership. The County can influence sustainability by refining and evolving existing land uses and shaping the character of new development toward sustainability. The County's role also includes the development of sustainable development policies, emergency response and public safety policies, community programs, and County operations. In the Specific Plan, the County has developed policies and implementation measures that conserve natural resources over the long-term while enhancing the economic vitality and quality of life and place. The Specific Plan emphasizes building within existing communities in the Valley and maximize existing infrastructure systems.

The Sustainability Element builds upon the Kern County General Plan's (General Plan) strategic growth strategy by using the following strategies:

- Anticipating and planning for rural and urban economic development in an orderly and predictable manner;

- Establishing a long-term comprehensive land use plan that recognizes continued resource uses in a conservative manner;

- Managing open space and environmentally sensitive areas in accordance with the requirements of local, State, and federal laws; and

- Promoting innovative land use planning concepts that maximize efficient land use, assure compatibility between land uses, and reduce vehicle trips.

When discrepancies exist between the General Plan and the Specific Plan, the more restrictive requirement shall apply. The Kern County Planning and Community Development Director shall determine which policy is more restrictive should conflicts arise.

Strategic Growth

Strategic growth addresses growth-related uses by focusing on key issues relating to sustainability and livability. These issues include:

- Preservation of open space, agricultural land, and recreational opportunities.
- Infrastructure efficiency – clustering development to avoid the costs and environmental impacts of extensive roadway systems and other infrastructure.
- Transportation options – the placement of development in locations and at densities that would permit the growth of transportation alternatives to the single-occupant automobile, such as walking, bicycling, or carpooling.
- Reduction in air pollution and greenhouse gas production.

The Valley is not an urban/suburban area but an assemblage of low-density, dispersed rural communities. Many residents of the Valley have generally made a conscious decision to have a lifestyle that is different from residents of urban and metropolitan areas. Nevertheless, several strategic growth goals are still applicable to the Valley, including an emphasis on continued sustainability; goals of achieving a unique sense of community and place; expansion of employment and housing choices; preservation and enhancement of natural and cultural resources; and a promotion of public health.

Additionally, State mandates for sustainability have been and will increasingly play an important role in guiding future local planning and development policies. Regulations approved in recent years include Senate Bill (SB) 610; Assembly Bill (AB) 901; AB 32 (Global Warming Solutions Act of 2006); SB 375 (2008), AB 1358 (California Complete Streets Act of 2008); and AB 1881. Compliance with these provisions of State law requires that action be taken to enhance the sustainability of new development. The impacts of these regulations and discussions of actions that may be taken to implement them are provided below.

SB 610

SB 610 requires the preparation of a water assessment (as defined in Water Code 10912{a}) for specified type and size of projects.

AB 901 (2001)

Prior laws required urban water suppliers (those providing municipal water to more than 3,000 customers or which supply more than 3,000 acre-feet of water annually) to prepare and adopt an Urban Water Management Plan (UWMP). UWMPs must be updated every five years.

AB 901 adds the additional requirement that Urban Water Management Plans include information relating to the quality of existing water supplies and the manner in which water quality affects water management strategies and supply reliability.

AB 32 (Global Warming Solutions Act of 2006)

AB 32 requires California to reduce its total greenhouse gas emissions to 1990 levels by 2020. AB 32 was preceded by Executive Order S-3-05 of 2005, which required an 80 percent reduction in greenhouse gas emissions from 1990 levels by 2050. Both of these State requirements will be partially implemented through new goals, policies, programs, and implementation measures at the local level. Various elements of the KRVSP, including the Sustainability Element, encourage a range of actions to reduce greenhouse gas emissions and comply with State requirements.

SB 375 (2008)

SB 375 requires each federally-designated Metropolitan Planning Organization (MPO) in California to develop a "sustainable communities strategy" to reduce greenhouse gas emissions from automobiles and light trucks. SB 375 is related to and helps achieve the goals of the previously-approved AB 32. In September 2009, the California Air Resources Board's (CARB's) Regional Targets Advisory Committee completed a report presenting their final recommendations to CARB for factors to be considered and methodologies to be used in the emissions reduction target setting process. At the time this Sustainability Element was written, the Kern Council of Governments (KernCOG) (the MPO serving the Kern River Valley) was working with CARB to develop greenhouse gas reduction targets for automobiles and light trucks. Future planning actions taken by Kern County will take into consideration the need to minimize motor vehicle use in order to meet these targets.

While the greenhouse gas reduction targets for the region have not yet been established, elements of the Specific Plan establish guidelines for land uses that promote sustainability, which will aid in the achievement of emissions reduction targets.

AB 1358 (California Complete Streets Act of 2008)

AB 1358 requires that, upon any substantive revision of the General Plan Circulation Element, the community's circulation plan be modified to plan for a balanced, multimodal circulation system. The circulation plan must be designed to meet the needs of all users of area roadways, defined to include motorists, bicyclists, pedestrians, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation.

AB 1881

AB 1881 requires local agencies to adopt a water efficient landscape ordinance to promote the conservation and efficient use of water and to prevent the waste of the limited statewide resource. The ordinance can either be written by the individual city or county, or the municipality can adopt the model ordinance created by the California

Department of Water Resources. It must address the design, installation, maintenance, and management of landscaping systems installed as a requirement for development of multi-family, institutional, commercial, and industrial projects. AB 1881 is not directly applicable to the Specific Plan, but the goal of water conservation can be addressed through the encouragement of development that utilizes the natural terrain and existing vegetation, and attempts to balance increased demand of water supplies by development against increasing efficiency and decreased waste.

Of key importance will be the County's implementation of State sustainability legislation, including the regulations listed above (AB 32, SB 375, AB 1358, and AB 1881), and the other legislation, including:

Other Applicable Legislation and Standards:

California Code of Regulations (CCR) Title 24, the California Building Standards Code:

- Part 6 (1978, as revised) – The Building Energy Efficiency Standards portion of Title 24 establish energy efficiency standards for residential and nonresidential buildings in response to a legislative mandate to reduce California's energy consumption.

- Part 11 (2007) – The California Green Building Standards Code establishes environmentally-friendly building standards relating to planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental air quality. Mandatory provisions of this Code took effect in 2010.

- AB 1493 (2002) – Requires CARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks that apply to 2009 and later model year vehicles.

- AB 170 (2003) – Requires cities and counties to amend appropriate elements of general plans to include data, analysis, comprehensive goals, policies, and feasible implementation strategies to improve air quality no later than one year after the first revision of their housing elements that occurs after January 1, 2004.

Sustainability Issues

- New development will need to be consistent with the goals, policies, and implementation measures found in each element of this plan. Although the resulting development may differ from the existing patterns, the new development will be more sustainable by consuming fewer valuable resources. It is important to note, however, that low-density development within the established communities represents the preferred pattern of development for the existing residents of the Valley, as expressed through the public outreach process.

- The rural low-density nature of existing development patterns within the Valley limit the ability to implement those strategic growth principles which predominantly rely on concentrating growth in higher-density configurations. Higher-density configurations may be difficult to achieve in some areas of the Valley due to the lack of adequate infrastructure, including, but not limited to roads, water/sewer systems, and public services. The low population density of existing development patterns in some areas of the Valley also limits the economic viability of neighborhood commercial development. However, neighborhood commercial uses should be encouraged where feasible because it can enhance the walkability of a community and provide opportunities for the expansion of public transit.

- The implementation of effective energy efficiency improvements in existing structures is a challenge within the Valley because the high cost of these improvements makes them infeasible for many households. Additionally, steps to improve energy efficiency geared to individual homes and businesses will have a limited impact on reducing air pollution and greenhouse gas emissions, as these steps rarely impact the overall pattern of land uses. The Specific Plan helps achieve increased energy efficiency by encouraging new development to meet a higher level of energy efficiency than previous residential and non-residential construction.

- It is also difficult to achieve reductions in water use in existing areas. Significant reductions in water use would require modifications to landscaping and upgrades to fixtures in existing homes and businesses, which is a difficult and expensive task. The Specific Plan helps achieve increased water efficiency by encouraging new development to use more efficient landscaping types and additional water-saving fixtures than previous residential and non-residential construction.

- The Specific Plan sustainability strategy recognizes that not all of these principles can be easily implemented in the Valley, and that much of the future development in the Valley will be driven by many of the same factors that resulted in the existing development patterns. Therefore, there will need to be a balanced approach to increasing the awareness of, and implementing sustainability on, a broader level throughout the Valley. The approach will vary in terms of where it is being implemented and how sustainability is being implemented (e.g., regulation on water usage or land use restriction versus educational programs or incentives to promote energy efficiency) and to what the sustainability measures are being applied (e.g., existing buildings versus vacant land). A successful approach will employ as many measures as possible with the cooperation of regulators, property owners, business owners and other stakeholders.

- Buildout of existing communities with approved lots and development rights will likely occur on a lot-by-lot basis rather than the more typical new planned communities and subdivision of tract homes, implementation of sustainable principles will likely be relatively slow and incremental within the Valley.

General Sustainability Goals

Goal 11.1.1: Encourage alternatives to use of gas-powered vehicles.

Goal 11.1.2: Encourage development to use alternative renewable energy sources and energy conservation and efficient measures.

Goal 11.1.3: Encourage landscape design and maintenance and agricultural practices that reduce or eliminate the use of pesticides and herbicides, as well as conserving water.

Goal 11.1.4: Encourage forms of development, residential, business and agriculture that reduce water use, and employ innovative wastewater treatment processes that eliminate the use of chemicals (e.g., biofiltration).

Goal 11.1.5: Encourage the development of renewable energy facilities, such as solar, which reduce the Kern River Valley's dependence on natural gases and hydrocarbons.

General Sustainability Policies

Policy 11.1.1: Provide for alternative modes of transportation such as walking, biking, carpools, vanpools, and public transportation to reduce emissions associated with automobile use.

Policy 11.1.2: Facilitate broader community understanding of energy conservation issues, including the County's energy conservation policies.

Policy 11.1.3: Encourage the use of drought-tolerant, low-water-consuming landscaping as a means of reducing overall and per capita water demand.

Policy 11.1.4: Encourage the use of agricultural management practices that result in the efficient use of water resources.

Policy 11.1.5: Promote organic agriculture in order to minimize use of chemical pesticides and herbicides and to encourage agri-tourism.

Policy 11.1.6: Encourage the use of the innovative design features as a means of preserving open space.

Policy 11.1.7: Encourage infill development to maximize the efficient use of land and infrastructure.

Policy 11.1.8: Encourage agricultural practices that require reduced water demand and utilize the most efficient irrigation practices.

Policy 11.1.9 Support funding opportunities that assist in the replacement of outdated household and commercial appliances with energy efficient appliances.

General Sustainability Implementation

Implementation 11.1.1: Utilize County implementing tools including, but not limited to, Combining Zone districts Cluster (CL) and Special Planning (SP), to facilitate development that incorporates bicycle trails and pedestrian paths.

Implementation 11.1.2: In its review of new development, the County will seek to encourage use of sustainable energy sources and technologies while promoting the economic benefits of conservation.

Implementation 11.1.3: Encourage all new development to implement green building practices which reduce the environmental impact of renovations and new construction by reducing energy and water use, reducing the release of harmful emissions, incorporating sustainable materials in construction, reducing heat island impacts, reducing stormwater quality and quantity impacts, as well as other improvements.

Implementation 11.1.5: The County shall encourage building designs that incorporate natural lighting and energy-efficient fixtures into architectural designs to reduce energy use.

Implementation 11.1.6: The County shall encourage all residents to use of native or adapted vegetation as a part of drought-tolerant landscape materials to reduce water requirements.

Implementation 11.1.7: The County shall proceed with development of a Greenhouse Gas/Climate Change Action Plan to identify methods to mitigate future greenhouse gas emissions. Upon adoption of the Greenhouse Gas/Climate Change Action Plan, all new development shall comply with the Plan and adhere to the Plan's requirements.

Implementation 11.1.8: The County shall implement the following policies for achieving its 2030 sustainability strategy:

- Develop a set of policies and a program of incentives that will encourage developers to build in a more energy- and resource-efficient

manner, including the reduction of total water consumption (potable and non-potable) by requiring features such as low-flow fixtures and drought-tolerant landscaping.

- Reduce the use of non-renewable energy by incorporating elements such as photovoltaic panels.

- Reduce energy consumption by designing buildings that take advantage of features such as better insulation (e.g., green roofs), natural ventilation, natural day lighting, efficient lighting fixtures, and solar rather than gas water heaters.

- Incorporate Leadership in Energy and Environmental Design (LEED) for Neighborhood Development program requirements into development plans of greater than ten homes if feasible.

- Reduce stormwater runoff by implementing features that promote groundwater infiltration (e.g., bioswales) and reuse of stormwater (e.g., rainwater harvesting) for non-potable uses such as irrigation and toilet flushing.

Implementation 11.1.9: The County shall implement the following State sustainability legislation:

- Assembly Bill (AB) 32 (Global Warming Solutions Act of 2006): AB 32 requires California to reduce its total greenhouse gas emissions to 1990 levels by 2020. AB 32 was preceded by Executive Order S-3-05 of 2005, which required an 80 percent reduction in greenhouse gas emissions from 1990 levels by 2050.

- Senate Bill (SB) 375 (2008): SB 375 requires each federally-designated Metropolitan Planning Organization (MPO) in California to develop a "sustainable communities strategy" to reduce greenhouse gas emissions from automobiles and light trucks. SB 375 is related to and helps achieve the goals of the previously-approved Assembly Bill (AB) 32.

- Assembly Bill (AB) 1358 (California Complete Streets Act of 2008): AB 1358 requires that, upon any substantive revision of the General Plan Circulation Element, the community's circulation plan be modified to plan for a balanced, multimodal circulation system. The circulation plan must be designed to meet the needs of all users of area roadways, defined to include motorists, bicyclists, pedestrians, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation.

- Assembly Bill (AB) 170 (2003): Requires the County to amend appropriate elements of its General Plan to include data, analysis, comprehensive goals, policies, and feasible implementation strategies to improve air quality no later than one year after the first revision of its Housing Element that occurs after January 1, 2004.

- Assembly Bill (AB) 1881: Requires the County to adopt a water efficiency landscape ordinance to meet or exceed standards established by the California Department of Water Resources.