

12. SAFETY ELEMENT



This Safety Element addresses a range of natural and human-caused hazards that may pose a risk to life and property in Colusa County. The inclusion of this Safety Element in the General Plan is required by State law. This Element includes goals, objectives, policies and action items to protect County residents and land uses from hazards, and includes the following topics:

- Emergency Response and Disaster Preparedness
- Seismic and Geologic Hazards
- Flooding Hazards and Flood Protection
- Dam Inundation
- Fire Hazards
- Hazardous Materials
- Airport Hazards

Additional background information related to these topics is located in the Colusa County General Plan Background Report.

Goal SA-1: Ensure the safety of County residents, businesses, and visitors from hazardous conditions, including natural catastrophes and human-caused emergencies.

Objective SA 1-A: Ensure that Colusa County is Prepared to Provide an Organized Response to Natural and Human-Caused Emergencies.

Policy SA 1-1: Ensure that during natural catastrophes and emergency situations, the County can continue to provide essential emergency services.

Policy SA 1-2: Update emergency management and response plans regularly to improve emergency response for all areas of the County.

Policy SA 1-3: Keep emergency access routes free of traffic impediments.

Policy SA 1-4: Coordinate with the California Emergency Management Agency to ensure coordinated local and state-level responses in the event of an emergency.

Policy SA 1-5: Ensure that all areas of the County are accessible to emergency response providers.

Policy SA 1-6: Site locations for new emergency response facilities such as sheriff's stations, fire stations in areas that are not subject to high levels of risk from flooding, wildland fires, or seismic effects.

Advanced emergency planning and preparedness can greatly assist in responding to natural disasters such as earthquakes, fires and floods, as well as human-caused disasters such as hazardous materials releases.

Action SA 1-A: Every three to five years, review and update coordinated emergency response plans collaboratively with agencies that provide services for police protection, fire, public works, flood control, and other emergency services. Plans should include information regarding emergency access routes for major flood or fire events, measures to ensure adequate access for emergency vehicles on designated emergency routes, and the location of emergency shelters and evacuation areas.

Action SA 1-B: Periodically review, maintain and repair County roadways and emergency access routes and provide signage, where necessary, to clearly identify emergency access routes.

Action SA 1-C: Seek funding from State, Federal, and other sources to assist in emergency management planning, including community education and outreach describing public procedures and evacuation routes in the event of an emergency or natural disaster.

Action SA 1-D: Annually update the emergency contact list and emergency response information on the County's website. The information should include emergency access routes, evacuation center locations, available emergency resources and contact information for emergency responders.

***Action SA 1-E:** Locate new important community safety facilities, such as hospitals, health care centers, emergency shelters, fire and police stations, and central communication centers outside of identified flood, geologic and fire hazard areas.*

Objective SA 1-B: *Ensure that Planning and Development Procedures Identify and Mitigate Potential Hazards*

Policy SA 1-7: Permit development only in areas where the potential danger to the health and safety of people and property can be mitigated to an acceptable level.

Policy SA 1-8: Designate areas with a potential for significant hazardous conditions for low intensity uses that do not attract significant numbers of residents, visitors, or employees.

Policy SA 1-9: Except as otherwise allowed by Federal or State law, require new buildings intended for human use to be designed in compliance with the latest edition of the California Building Standards Code, California Fire Code, and other adopted standards based on potential risks.

Policy SA 1-10: Promote awareness among residents and businesses regarding possible natural hazards, including earthquakes, flooding, fire hazards, and emergency procedures.

Policy SA 1-11: Promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, and other health and safety public education efforts.

Policy SA 1-12: Require, where feasible, new road networks (public and private) to provide adequate access for emergency equipment and provide alternate routes for evacuation

Policy SA 1-13: Require site investigations in areas planned for new development to determine susceptibility to landslides, subsidence/settlement, contamination, fire, and/or flooding.

Objective SA 1-C: *Reduce Risks to Human Life and Property from Seismic and Geological Hazards*

Policy SA 1-14: Require new land development proposals to avoid unreasonable exposure to geologic hazards, including earthquake damage, subsidence, liquefaction and expansive soils.

Policy SA 1-15: All development and construction proposals shall be reviewed by the County to ensure conformance with applicable building standards.

Policy SA 1-16: No development shall take place on or immediately adjacent to an existing landslide unless a geotechnical investigation has been performed and mitigation measures to reduce risks have been implemented. This investigation shall define slide activity and slide limits, and contain specific recommendations regarding avoidance, removal or repair.

Seismic and geologic hazards in Colusa County include those related to earthquakes, steep slopes and landslides, erosion, and soil subsidence. Detailed background materials related to these topics are located in Section 4.1 of the Colusa County General Plan Background Report.

Policy SA 1-17: Limit construction and grading on slopes in excess of 30 percent.

Policy SA 1-18: Permit development on soils sensitive to seismic activity only after adequate site analysis, including appropriate siting, design of structure, and foundation integrity.

Policy SA 1-19: Address seismic standards of dam safety, including those promulgated by the State Division of Safety of Dams, for all new and existing dam structures.

Policy SA 1-20: Geotechnical investigations shall be completed prior to approval of any schools, hospitals, fire stations, and sheriff stations, as a means to ensure that these critical facilities are constructed in a way that mitigates site-specific seismic and/or geological hazards.

Policy SA 1-21: All projects subject to CEQA review shall address seismic safety issues and provide adequate mitigation for existing and potential hazards identified.

Action SA 1-F: The County shall rely upon the most current and comprehensive geological hazard mapping available in the evaluation of potential seismic and geologic hazards associated with proposed new development.

Action SA-1-G: Maintain a map showing the general location of existing landslides for reference by development applicants. Note: The identification of the location of a landslide relative to a proposed development and the preparation of any geotechnical report shall be the responsibility of the development applicant.

Action SA 1-H: Require a geotechnical analysis for construction in areas with potential geological hazards and require that recommendations from the geotechnical analysis are incorporated into the project's design and engineering.

Action SA 1-I: The County shall seek State and Federal financial assistance to fund seismic upgrades and safety measures for existing County buildings and structures.

Action SA 1-J: Annually review revisions to the California Building Standards Code (CBSC) and consider adoption of updates to the CBSC that include new or revised measures to avoid or reduce the potential for damage to structures and facilities caused by groundshaking and other geologic hazards.

Action SA 1-K: Update the County's development project application materials to require new development projects to submit a preliminary geotechnical investigation. The preliminary geotechnical investigation shall:

- a. Identify potential geologic issues, including potential hazards associated with unstable soils (soils with moderate to severe potential for erosion, shrink-swell, or expansiveness) or underlying geology, and potential hazards associated with steep slopes; and*
- b. Identify appropriate mitigation measures to ensure the safety of future users of the project site. In areas where hillside slope is at or around 30 percent, the mitigation measures shall include the layout of proposed improvements including roadways and structures to allow for enough adjacent useable space to help ensure that all cut and fill slopes would be no steeper than "2" feet horizontal to "1" foot vertical.*

All slopes should also be properly keyed in accordance to the California Building Standards Code. Also, characteristics of cut/fill areas to be located on tops and sides of hills should be designed by a professional engineer. This condition implies that use of a soils engineering report during the design of the project grading plan would be necessary to help ensure the project's design is compatible with the engineering characteristics of underlying soils.

Action SA 1-L: Update Section 9-2 of the Colusa County Code to require compliance with the County's grading review and permitting provisions for all projects of one or more acres.

Objective SA 1-D: Take Appropriate Steps to Reduce the Risks to Life, Property, and Public Services Associated with Flooding.

Policy SA 1-22: Maintain designated floodways as open space and limit uses to low intensity uses such as agriculture, passive recreation, preservation of vegetation and wildlife habitat, and scenery; provided such uses do not impede floodwaters or pose a threat to public safety.

Policy SA 1-23: Support and participate in planning efforts undertaken at the regional, state and federal level to improve flood management facilities throughout the County, particularly along the banks of the Sacramento River.

Much of the eastern areas of Colusa County, between the Sacramento River and the Interstate 5 corridor, are within the FEMA designated 100-year floodplain (Figure SA-1). The 100-year floodplain in Colusa County affects portions of the City of Colusa, the City of Williams, Arbuckle, Maxwell, Princeton and Grimes. Detailed background materials related to this topic, are located in Section 4.3 of the Colusa County General Plan Background Report.

Policy SA 1-24: Monitor and participate in efforts currently underway by the Central Valley Flood Protection Board for preparation of the Central Valley Flood Protection Plan (CVFPP).

Policy SA 1-25: Support and encourage the efforts of public agencies and private landowners to maintain and improve existing flood management facilities.

Policy SA 1-26: Provide ongoing maintenance of bridges, culverts, railroad trestle structures, and other flood control and storm water conveyance infrastructure to provide for adequate storm water flows.

Policy SA 1-27: Maintain adequate lands that can be used for groundwater recharge and storm water management. These lands may include parcels designated Agriculture General (AG), Designated Floodway (DF), and Resource Conservation (RC).

Policy SA 1-28: Coordinate with the cities of Colusa and Williams to develop a Flood Emergency Plan. This may be included as a subcomponent of a County-wide Emergency

Management Plan.

Policy SA 1-29: Require new development projects to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development review process. Project applicants shall demonstrate that project implementation would not result in increases in the peak flow runoff to adjacent lands or drainage facilities.

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Policy SA 1-30: Ensure that construction activities will not result in adverse impacts to existing flood control and drainage structures.

Policy SA 1-31: Require project proponents to pay their fair share for construction of off-site drainage or flood control infrastructure improvements necessitated by their projects.

Policy SA 1-32: For properties located within a flood hazard zone, as identified on the most recent FEMA 100-year floodplain map or identified by the California Department of Water Resources, the County shall not enter into a development agreement, approve any discretionary entitlement, tentative parcel map, parcel map, final map, or any ministerial permit that would result in the construction of a new residence unless flood protection findings consistent with the requirements of California Government Code Sections 65865.5, 65962, 66474.5 can be made and documented.

Policy SA 1-33: Monitor ongoing efforts by FEMA and the California Department of Water Resources to update flood hazard maps within Colusa County.

Policy SA 1-34: Require new structures to be located outside of the 100-year floodplain to the greatest extent feasible. Exceptions may be made for agricultural structures that would not significantly impede flood waters or result in significant water quality impacts during a storm event.

Policy SA 1-35: Encourage and accommodate multi-benefit flood control projects that incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of the County's streams, creeks and lakes. Where appropriate and feasible, the County shall also encourage the use of flood and/or stormwater retention facilities for use as groundwater recharge facilities.

Policy SA 1-36: Encourage flood control measures that respect natural drainage features, vegetation and natural waterways, while still providing for adequate flood control and protection.

Policy SA 1-37: Require a minimum of 100-year flood protection for new construction, and strive to achieve 200-year flood protection for unincorporated communities.

Policy SA 1-38: Require adequate all-weather access to new development located within a flood zone.

Action SA 1-M: *Develop a Drainage Master Plan that addresses the following, at a minimum:*

- a. Storm water and drainage improvements for each community that are needed to accommodate planned growth;*
- b. Standards for agricultural operations to ensure that on-site activities do not result in adverse off-site flooding and drainage impacts;*
- c. Standards for on- and off-site stormwater and flooding improvements to ensure no adverse impacts to adjacent or nearby properties;*

- d. *Coordination with irrigation districts, cities and other flood control agencies throughout the County to develop uniform standards for irrigation and storm water conveyance infrastructure; and,*
- e. *Standard measures to be used by new development to address localized flooding impacts.*

Action SA 1-N: *Develop a Flood Master Plan that addresses the following, at a minimum:*

- a. *Identification of areas for stream channel or flood control conveyance system enlargement and/or stabilization;*
- b. *Areas for floodwater detention and water quality preservation;*
- c. *Crossing improvements;*
- d. *Operation, maintenance and funding of flood control facilities; and*
- e. *Emergency preparedness for flooding events.*

Action SA 1-O: *Develop a public flooding awareness program that:*

- a. *Informs the public about the specific risks of living in areas at risk of flooding;*
- b. *Notifies landowners and tenants of their property's flood designation status;*
- c. *Provides information on steps that property owners can take to reduce their exposure to flood damages;*
- d. *Encourages landowners within the 100- and 200- year floodplain, and/or within areas protected by levees, to purchase and maintain flood insurance;*
- e. *Provides information regarding evacuation plans, flood protection programs, local flood protection agencies, and other relevant information; and*
- f. *Informs property owners of potential changes in flood insurance requirements and rates as a result of future changes to designated flood hazard areas.*

Action SA 1-P: *Annually review areas subject to flooding, levee failure, and dam inundation, including any relevant information developed by FEMA, the California Department of Water Resources, and other agencies, and update County-wide flood risk maps accordingly in compliance with AB 162.*

Action SA 1-Q: *During preparation of the Capital Improvement Program, review the conditions of bridges, culverts, railroad trestle structures, and other flood control and storm water conveyance infrastructure and include necessary improvements on the CIP to ensure safety of persons in the County and adequate conveyance of flood waters.*

Action SA 1-R: *In accordance with California Government Code Sections 65302.9 and 65860.1, once the Central Valley Flood Protection Plan (CVFPP) has been adopted, the County shall review, and if necessary, amend the Safety Element of the General Plan and*

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the Zoning Ordinance, to ensure that these documents are consistent with the requirements of the CVFPP. Adoption of the CVFPP is anticipated to occur in July 2012.

Action SA 1-S: Seek State and Federal funding for improvements to existing flood control and drainage infrastructure.

Action SA 1-T: Review the County Code, including Chapter 33- Flood Damage Prevention, and revise as necessary to ensure that development standards are consistent with the requirements of state law, including Government Code Section 65007. Development and building standards shall require the following:

- a. New structures proposed for location within the 100-year floodplain shall be elevated one (1) foot or more above the 100-year flood elevation.*
- b. Within urban, or urbanizing areas, as defined in California Government Code Section 65007, the lowest floor of any new construction or substantial improvements to existing structures shall be elevated a minimum of one (1) foot above the 200-year flood elevation.*
- c. New construction in the 100-year floodplain shall be designed and constructed so that they do not contribute to cumulative flooding problems that could pose a hazard to surrounding landowners or the public.*
- d. Discourage extensive areas of impermeable surfaces and promote the use of permeable materials for surfaces such as driveways and parking lots.*
- e. Ensure new development within areas prone to flooding include all-weather access roads or other measures to ensure access during a flood event.*

Action SA 1-U: Review the Safety Element concurrently with the periodically updated Housing Element to update any new information regarding floodplain mapping and/or regulations to ensure consistency with Federal and State requirements.

Objective SA 1-E: Strive to Maintain an Adequate System of Levees that Provide Flood Protection to Areas Throughout the County.

Policy SA 1-39: Support coordinated efforts to maintain levees along the Sacramento River and adjacent to canals and waterways throughout the County.

Policy SA 1-40: Support the efforts of levee owners and agencies to redesign and repair levees that do not meet flood protection standards in compliance with adopted State and/or Federal standards.

Policy SA 1-41: Require new development proposals in levee inundation areas to conduct an analysis of risk from failure of levees.

Action SA 1-V: Ensure that the construction of new levees or improvements made to existing levees will not adversely divert flood waters or increase flooding in other sensitive locations.

***Action SA 1-W:** Ensure that the construction of new levees or improvements made to existing levees do not impede the delivery of water supplies used for domestic or agricultural purposes.*

***Action SA 1-X:** Support the efforts of levee maintenance districts with efforts to secure State and Federal funding for geotechnical studies of levees and implementation of associated improvements.*

Objective SA-1F: Reduce Risks to Life and Property from Dam Inundation

Policy SA 1-42: Require new development proposals in dam inundation areas, as identified in Background Report Figure 4.3-2 or the most current available mapping, to consider risks from failure of these dams.

***Action SA 1-Y:** Address emergency evacuation and disaster preparedness in the event of dam failure as part of the emergency response planning efforts identified in Actions SA 1-A and SA 1-B.*

Five dams could cause damage in Colusa County if they were to fail: Lake Oroville, Lake Shasta, Whiskeytown Lake, Black Butte Lake and East Park Reservoir. A major earthquake centered close to a dam would be the most likely cause of failure.

Objective SA 1-G: Minimize Risks to Human Life and Property from Fire in both Developed and Undeveloped Areas of the County

Policy SA 1-43: Reduce potential fire hazards through management and conservation of forested lands and fuel management in wildland areas.

Policy SA 1-44: Facilitate clear and organized communication and coordination between County departments and fire protection agencies.

Wildfires are a potential hazard to development and land uses located in the foothill and mountain areas.. The grassland, chaparral, woodland, and forest vegetation in areas of Colusa County, coupled with hot, dry summers, present extreme fire hazards during critical fire periods

Policy SA 1-45: Require identification of an adequate water source and supply system, including adequate fire flows, prior to development in very high, high or moderate Fire Hazard Severity Zones. Major industrial and other large-scale developments may be required to provide and maintain water storage facilities to ensure adequate water supply.

Policy SA 1-46: Require new residential developments to demonstrate adequate fire flow availability (water pressure and water quantity) prior to project approval.

Policy SA 1-47: Development projects adjacent to significant wildland, forest, or open space areas with high fuel loads shall prepare and implement wildland fire management plans.

***Action SA 1-Z:** Revise the Development Standards to require fire protection methods, including fuels management and adequate water supply, for new development and expansion projects in areas of high and very high Fire Hazard Severity Zones, as shown in*

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Figure 4.2-1 of the Background Report. Fire protection methods may consist of the establishment of “defensible space” around structures, using fire resistant ground cover, building with fire-resistant roofing materials, fuel load reductions, and other appropriate measures.

Action SA 1-AA: *Revise the County’s road standards to require new public roads in high and very high Fire Hazards Severity Zones to be of sufficient grade, radius and width to allow access by fire-fighting vehicles. The applicable fire protection agency shall be consulted as part of the development review process regarding fire protection and the design of new roads in these Fire Hazard Severity Zones.*

Action SA 1-BB: *Consult with the applicable fire protection agency during the review of development applications for projects within high and very high Fire Hazard Severity Zones.*

Action SA 1-CC: *Implement state recommendations for fire prevention in Fire Hazard Severity Zones.*

Action SA 1-DD: *Create a public outreach and awareness program to promote the development of “defensible space” around structures using areas free of fuel loads, fire resistant landscaping and fire resistant building materials.*

Objective SA-1H: Minimize Risks to Residents and the Environment from Hazardous Materials and Waste

Policy SA 1-48: Require businesses and agricultural operations to comply with all applicable local, state and federal regulations regarding the use, transport, storage and disposal of hazardous waste and hazardous materials.

Policy SA 1-49: Utilize the development review process to reduce the risk of community exposure to hazardous materials.

Policy SA 1-50: Require proponents of projects that would involve the use, storage, transport or disposal of hazardous materials or hazardous waste to demonstrate full compliance with all applicable local, state and federal regulations related to hazardous materials and waste. Any significant adverse environmental impacts associated with exposure to hazardous materials should be mitigated to a less than significant impact prior to approval of the project.

Policy SA 1-51: Encourage farming practices that utilize non-hazardous materials for fertilizers and pesticides.

Policy SA 1-52: Agricultural crop dusting operations shall not occur during periods of high wind.

Action SA 1-EE: *Require new residential development and development of uses that include sensitive receptors, to be located a safe distance from existing and planned sources of hazardous materials associated with industrial and agricultural operations. Sensitive receptors include schools, hospitals, nursing/convalescent homes, day care centers, and neighborhood parks.*

Action SA 1-FF: *New development and redevelopment in areas previously used for agricultural, commercial or industrial uses shall be required to demonstrate that soils,*

groundwater and structures affected by hazardous materials associated with previous land use activities will not pose a threat or health risk to the new development, future land users, or the environment. Project proponents shall be required to complete a Phase I Environmental Site Assessment (ESA) that meets the requirements and standards of the American Society for Testing and Materials (ASTM) prior to project approval on lands where there is a risk of exposure to hazardous materials or substances and to complete a Phase II ESA if necessary.

Action SA 1-GG: *Support the creation of a public information program regarding the safe disposal of household hazardous wastes, such as motor oil, used appliances containing mercury or Freon, fluorescent light bulbs, batteries, and medical waste such as used syringes.*

Objective SA-1I: Protect Lives and Property from Hazards Associated with Airport Operations

Policy SA 1-53: Ensure that land uses within the vicinity of airports and airstrips are compatible with airport restrictions and operations.

Land uses surrounding airports and airstrips can result in hazards to aircraft as well as hazards to persons on the ground associated with aircraft accidents and community exposure to noise.

Policy SA 1-54: Ensure that all development proposals in the vicinity of the Colusa County Airport are consistent with the restrictions and requirements contained in the Colusa Airport Comprehensive Land Use Plan (CLUP).

Policy SA 1-55: The County shall ensure that new development proposals do not result in encroachments into future airport expansion areas and do not result in adverse economic impacts to airport operations.

Policy SA 1-56: Work cooperatively with the Airport Land Use Commission to ensure continued airport operations in a safe and cost-effective manner, consistent with the public's needs and Federal Aviation Authority regulations.

Action SA 1-HH: *As part of the development review process, new development and expansion proposals near the Colusa County airport and public and private airstrips shall be:*

- a. *Reviewed for consistency with setbacks, land use restrictions, and height as determined by the Federal Aviation Administration (FAA) and the Colusa County Airport Land Use Commission;*
- b. *Provided to the Airport Land Use Commission for Review.*

Action SA 1-II: *As part of future planning efforts, the Department of Planning and Building shall review and provide input into updates to the Comprehensive Airport Land Use Plan to ensure that new development within the Colusa County Airport Safety Zone is compatible with existing airport operations, and that any changes or improvements to the airport facility or operations are compatible with land uses within this zone.*

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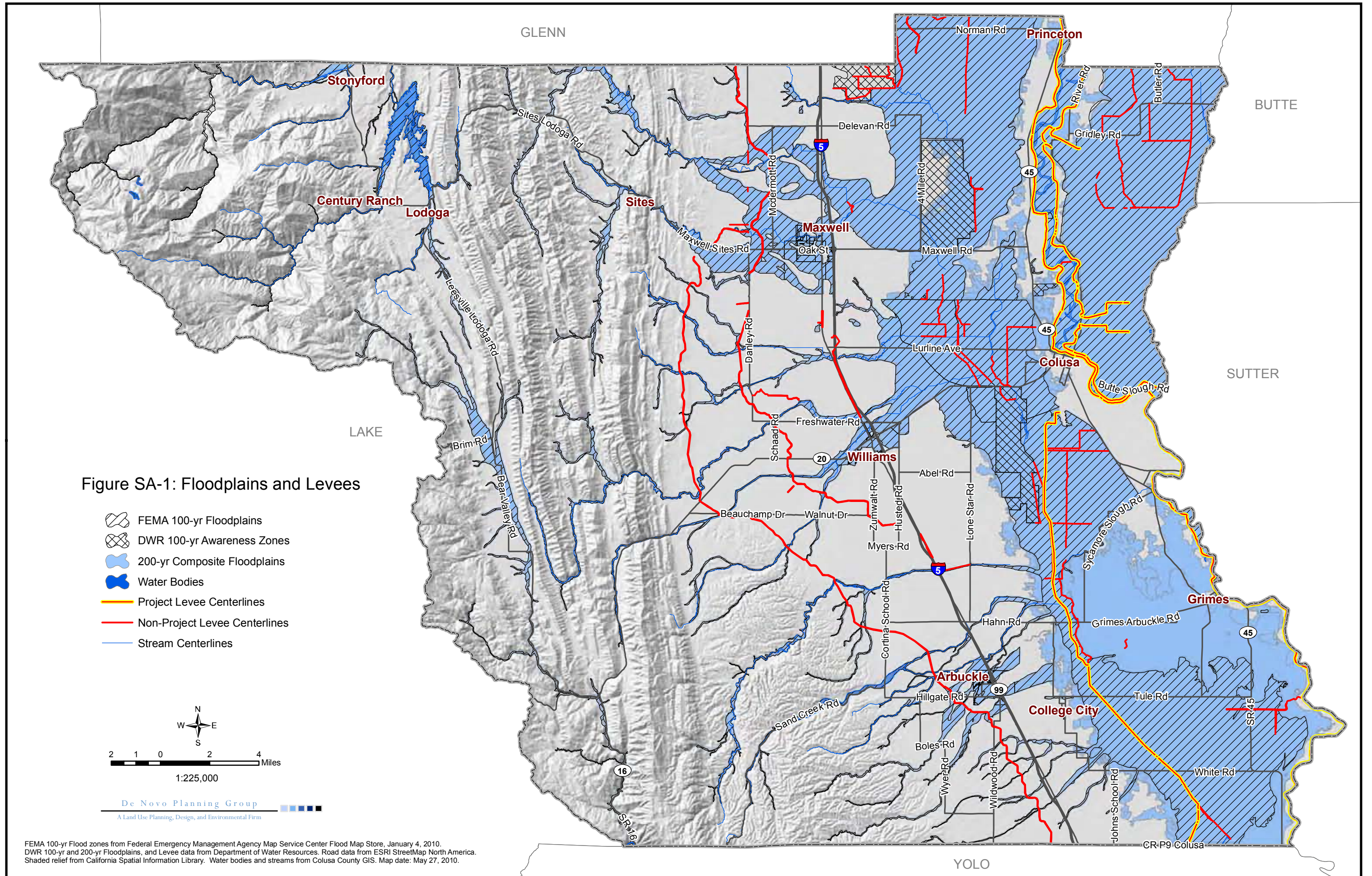







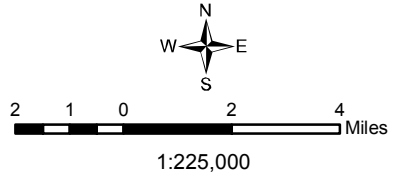


Figure SA-1: Floodplains and Levees

-  FEMA 100-yr Floodplains
-  DWR 100-yr Awareness Zones
-  200-yr Composite Floodplains
-  Water Bodies
-  Project Levee Centerlines
-  Non-Project Levee Centerlines
-  Stream Centerlines



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 A Land Use Planning, Design, and Environmental Firm

FEMA 100-yr Flood zones from Federal Emergency Management Agency Map Service Center Flood Map Store, January 4, 2010.
 DWR 100-yr and 200-yr Floodplains, and Levee data from Department of Water Resources. Road data from ESRI StreetMap North America.
 Shaded relief from California Spatial Information Library. Water bodies and streams from Colusa County GIS. Map date: May 27, 2010.

