



*Stockton 2040 General Plan Update*

*Existing Conditions Technical Memorandum:  
Hazards and Safety*

*June 28, 2016*

---



# ***Existing Conditions Technical Memorandum: Hazards and Safety***

---

This memo describes existing conditions and applicable regulations as they relate to wildland fires, flooding, airport hazards, and emergency response plans in Stockton in order to provide context for the General Plan Update.

## **A. WILDLAND FIRES**

This section describes the regulatory framework and existing conditions related to wildland fires in the Planning Area.

### **1. Regulatory Framework**

Federal, State, and local agency plans and regulations address wildland fires in the Planning Area.

#### *National Fire Plan*

The National Fire Plan (NFP), developed in 2000, is an effort to examine the nation's intergovernmental structure for wildland fire protection and response and describe the existing legal responsibilities, authorities, and roles of federal, State, local, and tribal wildland fire protection organizations. The NFP focuses on five key points: firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability. The US Department of Agriculture (USDA) Forest Service and Department of Interior are charged with implementing the NFP and providing assistance to communities threatened by wildland fire. The NFP also provides recommendations for wildland fire risk reduction.<sup>1</sup>

#### *State Agency Plans and Regulations*

##### California Department of Forestry and Fire Protection

The California Department of Forestry and Fire Protection (CAL FIRE) has mapped fire threat potential throughout California.<sup>2</sup> The CAL FIRE ranks fire threat based on the availability of fuel and the likelihood of an area burning based on topography, fire history, and climate. The rankings include no fire threat, moderate threat, high threat, and very high threat. Additionally, CAL FIRE produced the *2010 Strategic Fire Plan for California*, which contains goals, objectives, and policies to prepare for and mitigate for the effects of fire on California's natural and built environments.<sup>3</sup>

---

<sup>1</sup> National Fire Plan, [http://www.fs.fed.us/database/budgetoffice/NFP\\_final32601.pdf](http://www.fs.fed.us/database/budgetoffice/NFP_final32601.pdf), accessed on April 22, 2016.

<sup>2</sup> CAL FIRE, [http://www.fire.ca.gov/fire\\_prevention/fire\\_prevention\\_wildland\\_zones\\_development.php](http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones_development.php), accessed on April 15, 2014.

<sup>3</sup> CAL FIRE, 2010 Strategic Fire Plan for California, <http://cdfdata.fire.ca.gov/pub/fireplan/fpupload/fpppdf668.pdf>, accessed on April 15, 2014.

## EXISTING CONDITIONS TECHNICAL MEMORANDUM: HAZARDS & SAFETY

### California Fire Plan

The California Fire Plan is the State's "road map" for reducing the risk of wildfire. The overall goal of the plan is to reduce total costs and losses from wildland fire in California through focused pre-fire management prescriptions and increased initial attack success. The current plan was finalized in early 2010. The Plan provides guidance to local jurisdictions in meeting State goals.<sup>4</sup>

### Public Resources Code Fire Safe Regulations

Section 4290 of the Public Resources Code covers Fire Safe Regulations, establishing minimum road standards; signage for streets, roads, and buildings; private water supply resources; and wildland fuel modification. Section 4290 works in conjunction with building construction development standards in State Responsibility Areas (SRAs), which are State-identified lands or areas for which CAL FIRE has the primary responsibility to manage the public safety during a fire incident. SRAs are defined based on land ownership, population density, and land use. In addition, Section 4291 of the PRC requires annular defensible space of 100 feet to be provided around all structures in or adjoining any mountainous area or land covered with forest, brush, grass, or other flammable material.

### California Fire Code

California Code of Regulations, Title 24, also known as the California Building Standards Code, contains the California Fire Code (CFC), included as Part 9 of that Title. Updated every three years, the CFC includes provisions and standards for emergency planning and preparedness, fire service features, fire protection systems, hazardous materials, fire flow requirements, and fire hydrant locations and distribution. Similar to the CBC, the CFC is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions.

### California Health and Safety Code

The California Health and Safety Code provides regulations pertaining to the abatement of fire-related hazards. This Code also requires that local jurisdictions enforce the State Building Standards Code, which provides standards for fire-resistant building and roofing materials and other fire-related construction methods, as discussed above.

### Assembly Bill 337 (Bates Bill)

In response to the Oakland Hills fire of 1991, the Bates Bill was passed in 1992. Pursuant to this law, all new construction that is located in any fire hazard zone in Stockton must use brush clearance and fire-resistant roof material.

### Senate Bill 1241

Signed into law at the end of 2012, Senate Bill (SB) 1241 amends the Government and Public Resources Codes to require cities and counties to review and update the Safety Element as necessary to address the risk of fire in SRAs and very high FHSZs. As shown on Figure 1, there are no SRAs or very high FHSZs within the Planning Area.

---

<sup>4</sup> California Department of Forestry and Fire protection, [http://cdfdata.fire.ca.gov/fire\\_er/fpp\\_planning\\_cafireplan](http://cdfdata.fire.ca.gov/fire_er/fpp_planning_cafireplan), accessed on January 22, 2016.

---

## EXISTING CONDITIONS TECHNICAL MEMORANDUM: HAZARDS & SAFETY

### *Local Plans and Regulations*

#### Stockton General Plan

Wildland fire hazards are addressed in the Health and Safety Element and Public Facilities and Services Element of the Stockton General Plan. The policies related to wildland fire hazards are listed below:

- **HS-1.1 Development Constraints.** The City shall permit development only in areas where the potential danger to the health and safety of people can be mitigated to an acceptable level.
- **HS-1.3 Continue to Update Building and Fire Codes.** The City shall continue to update building, fire, and other codes to address fire and other hazards.
- **PFS-8.6 Adequate Emergency Access and Routes.** The City shall require that new development provide adequate access for emergency vehicles, particularly firefighting equipment, as well as provide evacuation routes.
- **PFS-8.9 Fire Hazard Protection for City Programs.** The City shall consider protection from fire hazards in all planning, regulatory, and capital improvement programs.
- **PFS-8.10 Public Awareness of Fire Hazards and Prevention.** The City shall continue to promote public awareness and prevention of fire hazards through fire prevention programs.
- **PS-8.11 Weed Abatement.** The City shall maintain a weed abatement program to ensure clearing of dry brush areas. Weed abatement activities shall be conducted in a manner consistent with all applicable environmental regulations.

See also the fire protection service policies described in the Existing Conditions Technical Memorandum describing community services.

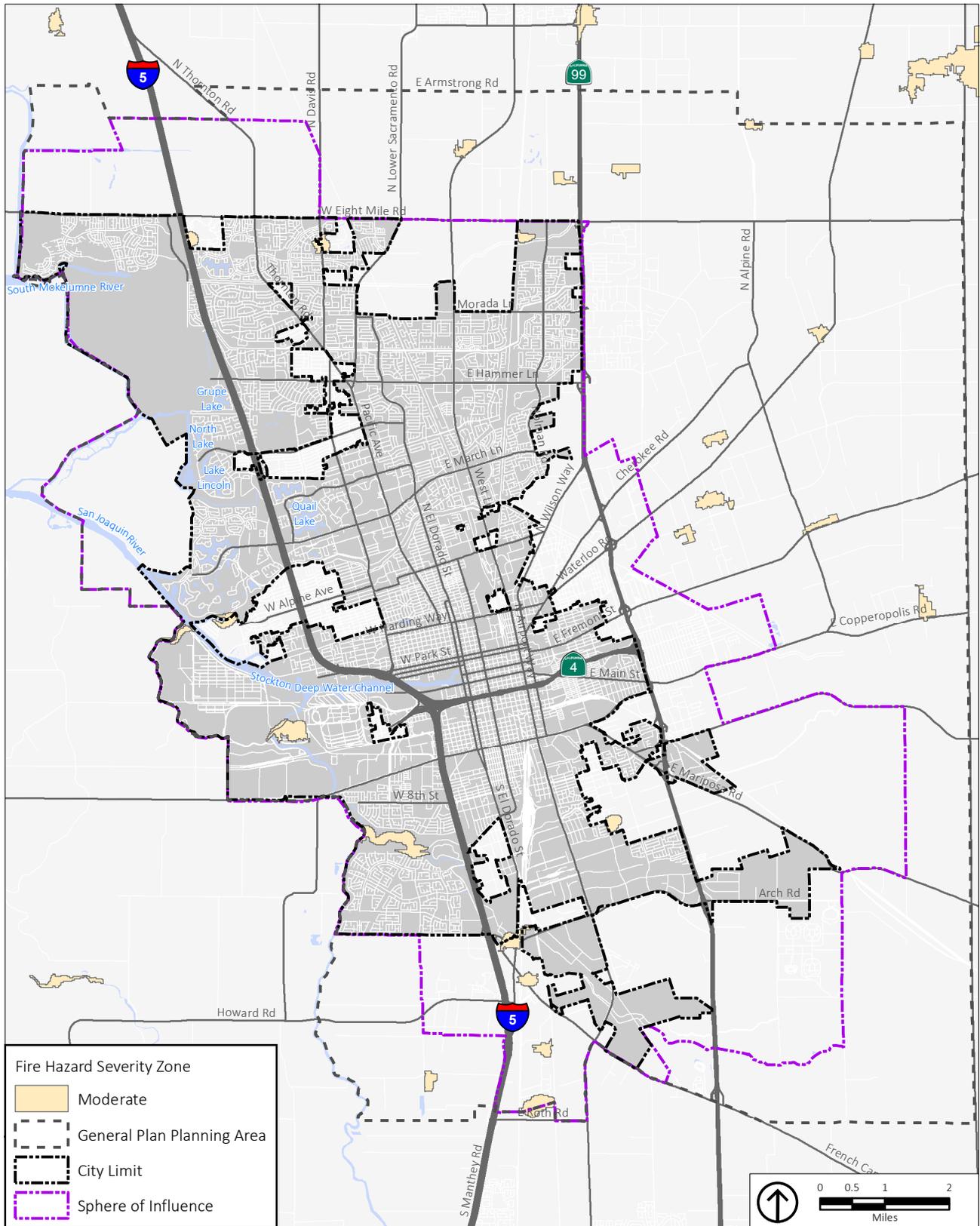
#### Stockton Municipal Code

Chapter 15.12 of the Stockton Municipal Code outlines the standards and regulations of the Stockton Fire Code. Section 15.12.010 incorporates the California Fire Code, 2013 Edition by reference and adopts these documents as the Fire Code of the City of Stockton.

## 2. Existing Conditions

The severity of wildfire hazards is based on fuel classification, topography, and critical fire weather frequency. CAL FIRE defines fire hazard severity zones for areas within the State as a “measure of the likelihood of an area burning and how it burns.” The CAL FIRE FHSZ maps indicate areas for which the Board of Forestry has determined that the State has fiscal responsibility for wildland fire protection services as SRA, and areas for which local jurisdictions have fiscal responsibility as the Local Responsibility Area (LRA). SRAs include areas covered by forest or trees capable of producing forest products, and lands used for range or forage purposes. SRAs do not include lands owned by the federal government or lands within city boundaries. The entire Stockton General Plan Planning Area is considered an LRA. As shown on Figure 1, there are no high or very high FHSZs in the Planning Area; approximately 945 acres of land classified as within the moderate FHSZ are scattered throughout the Planning Area, mostly beyond the city limit.

EXISTING CONDITIONS TECHNICAL MEMORANDUM:  
HAZARDS AND SAFETY



Source: City of Stockton; PlaceWorks, 2016; CAL FIRE 2007.

Figure 1  
Fire Hazard Severity Zones

---

## EXISTING CONDITIONS TECHNICAL MEMORANDUM: HAZARDS & SAFETY

### B. FLOODING

This section describes the regulatory framework and existing conditions related to flooding hazards in the Planning Area.

#### 1. Regulatory Framework

There are federal, State, and local agencies, plans, and regulations that affect flooding hazards in the Planning Area.

##### *Federal Emergency Management Agency*

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains.<sup>5</sup> FEMA also issues Flood Insurance Rate Maps (FIRMs) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection is established by FEMA. FEMA's minimum level of flood protection for new development is the 100-year flood event, also described as a flood that has a 1-in-100 chance of occurring in any given year.

Additionally, FEMA has developed requirements and procedures for evaluating earthen levee systems and mapping the areas affected by those systems.<sup>6</sup> Levee systems are evaluated for their ability to provide protection from 100-year flood events, and the results of this evaluation are documented in the FEMA Levee Inventory System (FLIS). Levee systems must meet minimum freeboard standards and must be maintained according to an officially adopted maintenance plan. Other FEMA levee system evaluation criteria include structural design and interior drainage.

As required by the FEMA regulations, all development constructed within the Special Flood Hazard Zone (as delineated on the FIRM) must be elevated so that the lowest floor is at or above the base flood elevation level. The term "development" is defined by FEMA as any human-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials. Per these regulations, if development in these areas occurs, a hydrologic and hydraulic analysis must be performed prior to the start of development, and must demonstrate that the development does not cause any rise in base flood elevation levels, as no rise is permitted within regulatory floodways. Upon completion of any development that changes existing Special Flood Hazard Areas, the NFIP directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision, as soon as practicable, but not later than six months after such data becomes available.

---

<sup>5</sup> Federal Emergency Management Agency (FEMA), 2016. National Flood Insurance Program: Flood Hazard Mapping accessed on February 23, 2016 at, <http://www.fema.gov/national-flood-insurance-program-flood-hazard-mapping>.

<sup>6</sup> FEMA, 2016, Living with Levees: It's A Shared Responsibility. Accessed on February 26, 2016 at <http://www.fema.gov/living-levees-its-shared-responsibility>.

## EXISTING CONDITIONS TECHNICAL MEMORANDUM: HAZARDS & SAFETY

### *State Agencies and Regulations*

#### Central Valley Flood Protection Board

The Central Valley Flood Protection Board (CVFPB), formerly known as the California State Reclamation Board, is the regulating authority over flood risk management in the Central Valley. In addition, CVFPB is charged with the review and adoption of the Central Valley Flood Protection Plan (CVFPP). The CVFPB's governing body consists of seven Governor-appointed and Senate-confirmed members. The board works in close partnership with the Department of Water Resources (DWR), the US Army Corp of Engineers (USACE), and stakeholders to implement the CVFPP. The CVFPB also works closely with the California Department of Fish and Wildlife, US Fish and Wildlife, and the National Marine Fisheries Service to evaluate the environmental impacts of flood control.

#### Central Valley Flood Protection Plan

The CVFPP was adopted by the CVFPB on June 29, 2012. The plan provides a policy, program, and project implementation framework to help guide regional and State level financing plans and investments. The CVFPP proposes a State Systemwide Investment Approach (SSIA) for sustainable, integrated flood management in areas currently protected by facilities of the State Plan of Flood Control (SPFC). The CVFPP suggests improvements to SPFC levees located along the San Joaquin River and tributary channels in the Stockton Metropolitan Area.

#### Delta Plan

The Delta Reform Plan, adopted by the Delta Stewardship Council on May 16, 2013, is a comprehensive long-term management plan for the Sacramento-San Joaquin River Delta. The Delta Plan includes rules and recommendations that support the State's goals for the Delta to: (1) improve water supply; (2) protect and restore a vibrant and healthy Delta ecosystem; and (3) preserve, protect, and enhance the unique agricultural, cultural, and recreational characteristic of the Delta. The 14 regulatory policies in the Delta Plan are enforceable through regulatory authority included in the Delta Reform Act, enacted as part of Senate Bill X7. These policies address flood protection for residential development and limit encroachment in floodplains.

Soon after the Delta Stewardship Council adopted the Plan, it was challenged in court by a variety of interests, including the City of Stockton, in seven separate lawsuits. The court consolidated the seven lawsuits and recently issued a ruling on the statutory challenges on May 18, 2016. In that ruling, the court directed the Council to revise the Plan to include quantified or otherwise measurable targets associated with achieving reduced Delta reliance, decreasing environmental harm from invasive species, restoring more natural flows, and increasing water supply reliability, in accordance with the Delta Reform Act, as well as to promote options for water conveyance and storage systems.<sup>7</sup>

#### Senate Bill 5 and Assembly Bill 162

Senate Bill (SB) 5 requires a 200-year level of flood protection from urban and urbanized areas within the Central Valley. Per SB 5, all cities and counties in the Central Valley are required to incorporate the data and analysis of the CVFPP into their General Plans and Zoning Ordinances. Under SB 5, development in moderate

---

<sup>7</sup> Superior Court of California, May 18, 2016, *Delta Stewardship Council Cases, Ruling on Submitted Matter: Petitions for Writ of Mandate, Bifurcated Proceeding on Statutory Challenges*, available at <http://deltacouncil.ca.gov/sites/default/files/2016/05/Delta%20Plan%20Decision%2001.pdf>.

---

## EXISTING CONDITIONS TECHNICAL MEMORANDUM: HAZARDS & SAFETY

or special hazard areas within the Central Valley is permitted if the local agency can provide substantial evidence that the development would be subject to less than 3 feet of flooding during a 200-year flood event.

Assembly Bill (AB) 162 was approved by the Governor in 2007, and amended Sections 65302, 65303.4, 65352, 65584.04, and 65584.06, and added Sections 65300.2 and 65302.7, to the Government Code. The new and amended sections require cities and counties to address flood management in the Land Use, Conservation, Safety, and Housing Elements of their General Plans. This ensures that flood management is addressed in General Plans in the following ways:

- Requires that areas subject to flooding, as identified by federal and State maps of floodplains, are identified in the Land Use Element for annual review.
- Requires that rivers, creeks, streams, flood corridors, riparian habitat, and land that may accommodate floodwater for specified purposes are identified in the Conservation Element, upon the next Housing Element review on or after January 1, 2009.
- Requires that flood hazard zones are identified and policies to avoid or minimize the unreasonable risks of flooding are established in the Safety Element, by the next Housing Element review on or after January 1, 2009.
- Permits areas where the flood management infrastructure is inadequate and housing development is impractical to be excluded from the determination of land suitable for urban development in the Housing Element analysis.

Separate from the 2040 General Plan Update process, the City is currently initiating updates to the General Plan in compliance with SB 5 and AB 162, including the following:

- Updates to the General Plan Background Report to identify rivers, creeks, streams, flood corridors, riparian habitat, and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management, as well as to provide updated information related to flood protection facilities and emergency services.
- Updates to the Safety Element to include information regarding flood hazards and to establish a set of comprehensive goals, policies, and objectives for the protection of the community from unreasonable risks of flooding.

These updates will be conducted ahead of the comprehensive General Plan Update process in order to comply with the State-mandated schedule requirements.

The City is also underway with amendments to Titles 15 and 16 of the Stockton Municipal Code in compliance with SB 5. These amendments address floodplain management and development in 200-year floodplains.

### *Local Agencies and Plans*

#### San Joaquin Area Flood Control Agency

The San Joaquin Area Flood Control Agency (SJAFCA) is a joint powers agency consisting of the following members: San Joaquin County, the City of Stockton, and the San Joaquin Flood Control and Water Conservation District. The SJAFCA's mission is to study, plan, and implement flood protection projects in order to reduce the risk to people, structures, and the economy.

## EXISTING CONDITIONS TECHNICAL MEMORANDUM: HAZARDS & SAFETY

### Regional Flood Management Plan

The Regional Flood Management Plan (RFMP) provides a framework for managing flood risk within the Lower San Joaquin River Region and Delta South Region. The RFMP provides a reconnaissance-level assessment of flood risks and presents a prioritized list of short-term and long-term flood risk reduction projects for each region. The Lower San Joaquin River Region and Delta South Region are further divided into five planning regions. Stockton is located within the Upper Sacramento/Mid-Sacramento River planning region.

### Stockton General Plan

Flooding hazards are addressed in the Health and Safety Element of the Stockton General Plan. The policies related to flooding hazards are listed below:

- **HS-6.1 New Urban Development.** The City shall approve new urban development only when the project is shown to be protected from a 100-year flood.
- **HS-6.2 Existing Urban Development.** The City shall investigate, and implement when feasible, mitigation measures that offer protection from flooding for existing urban development with a 100-year flood zone.
- **HS-6.3 Preservation of Floodway and Floodplains.** The City shall preserve floodways and floodplains for non-urban uses, except that development may be allowed in a floodplain with mitigation measures that are in conformance with the City's floodplain management program.
- **HS-6.4 Emergency Evacuation Plans.** The City shall formulate emergency management plans for the safe evacuation of people from areas subject to inundation from dam failure. Plans shall be reviewed and periodically updated.
- **HS-6.5 Levee Maintenance.** The City shall encourage reclamation districts to institute a levee maintenance program to reduce levee failures.
- **HS-6.6 Flood Insurance Program.** The City shall continue to participate in the National Flood Insurance Program.
- **HS-6.7 Roadway System.** The City shall require that roadway systems for areas protected from flooding by levees be designed to provide multiple escape routes for residents in the event of a levee failure.
- **HS-6.8 Prohibited Uses within a 100-Year Floodplain.** The City's floodplain management program shall prohibit development of residential land uses, critical emergency response facilities, and the streets that provide access to such properties within a floodway or floodplain which is subject to a 100-year flood. Areas designated for such land uses and adjacent streets shall be removed from the 100-year floodplain prior to approval of any related final map, final parcel map, or building permit, as applicable.
- **HS-6.9 Cooperate with Flood Control Agencies and Support Regional Programs.** The City shall cooperate with appropriate local, State, and federal agencies to address local and regional flood issues.
- **HS-6.10 Develop Flood Protection Plan for Levee Systems.** The City shall coordinate with appropriate State, federal, and local flood control agencies to develop a flood protection plan for the levee systems protecting the city. The plan shall identify the levees protecting the city and the entities responsible for operation and maintenance of the levees. The plan will determine the flood levels in the waterways and the level of protection offered by the existing levees along the waterways. A long-term plan will be developed to upgrade the system as necessary to provide at least a 100-year level of flood protection to the city. The City also commits to considering and revising the plan to reflect future appropriate State or federally mandated levels of flood protection in an effort to meet these applicable levels of flood protection.

---

## EXISTING CONDITIONS TECHNICAL MEMORANDUM: HAZARDS & SAFETY

### 2. Existing Conditions

As described above, FEMA issues FIRMs that identify areas that are subject to flooding. Areas that have a 1 percent chance of flooding in any given year are designated as a 100-year flood zone and considered a Special Flood Hazard Area. Areas that have a 0.2 percent chance of flooding in any given year are designated as a 500-year flood zone. FEMA mapping also indicates areas that are protected from the flood zone by a levee. The flood zones as mapped by FEMA are shown on Figure 2.

In addition, in response to SB 5, described above, DWR has mapped flood depths in a 200-year storm event. Those flood depths are shown on Figure 3.

#### *Flood Zones*

As shown on Figure 2, significant areas subject to 100-year flooding include:

- Undeveloped land in the northwestern portion of the Planning Area.
- The area around the Country Club neighborhood with inadequate levee protection (see the discussion of the Smith Canal levee below).
- Areas along the San Joaquin River and its floodplain in southern parts of the city limit and southeastern parts of the Planning Area.
- The area north of the Stockton Diversion Canal, east of the city limit.

There are also large areas within the 500-year flood zone, and, as discussed below, the majority of the city limit is outside of the flood zone based on levee protection.

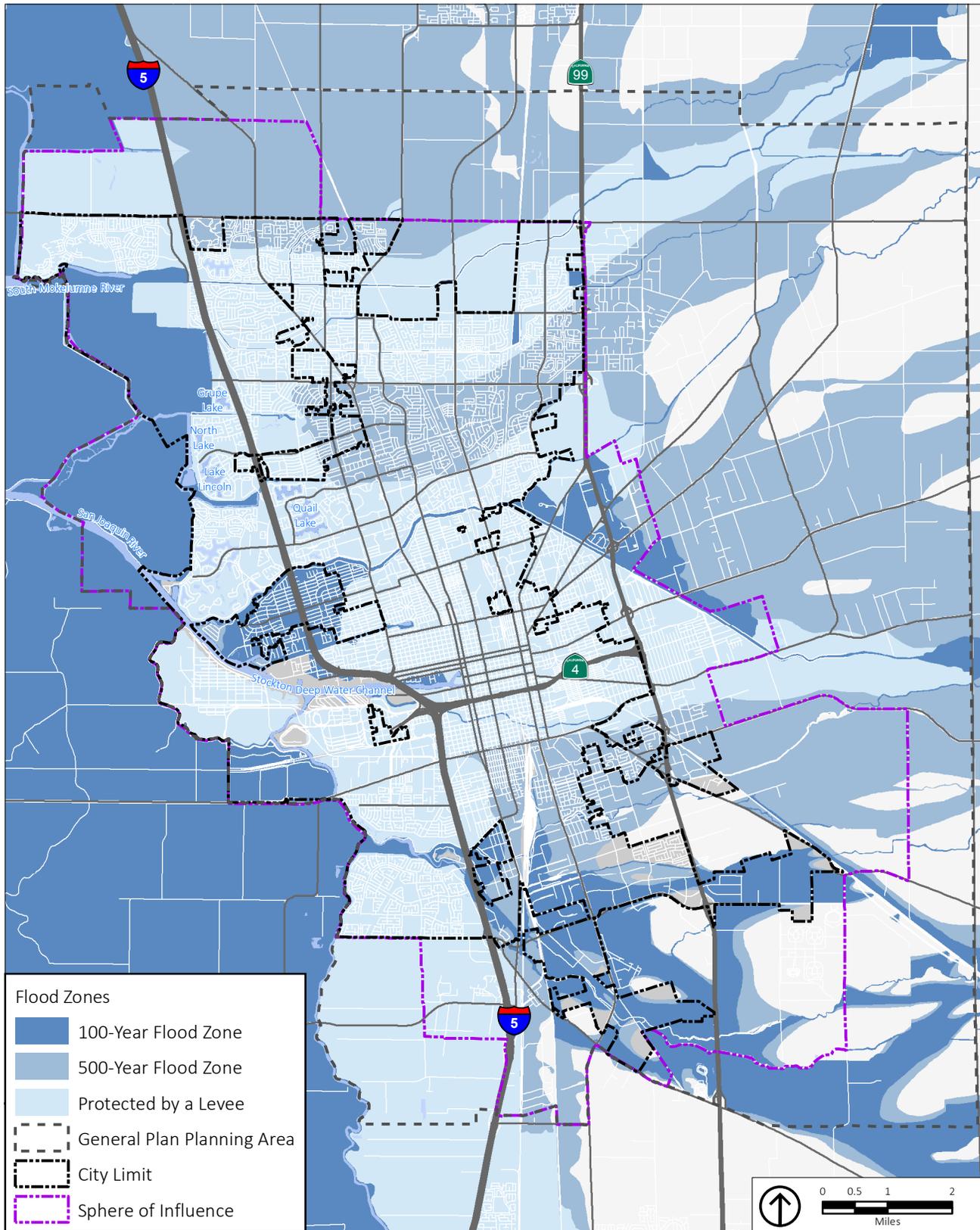
As shown on Figure 3, significant portions of the city and the Planning Area are subject to flood depths of 3 feet or more during a 200-year storm event, including the majority of the area west of Interstate 5, as well as the area extending east of Interstate 5 north of the port. There are also other more isolated areas subject to flooding in a 200-year storm event, primarily north and east of the city limit.

#### *Levees<sup>8</sup>*

In Stockton, the waterways have been heavily modified since the 1800s by dredging natural channels, constructing bypasses, and narrowing floodplains through levee construction. FEMA mapping indicates that most of the city limit is protected from flooding by levees. However, there is still a risk of flooding of these areas due to geotechnical instability of the levees, primarily through and under seepage concerns, as well as levee superiority (i.e., one bank of the levee being higher than the other), outflanking (i.e., water flowing around the upstream end of the levee), and issues related to encroachments, such as culverts and roadway crossings.

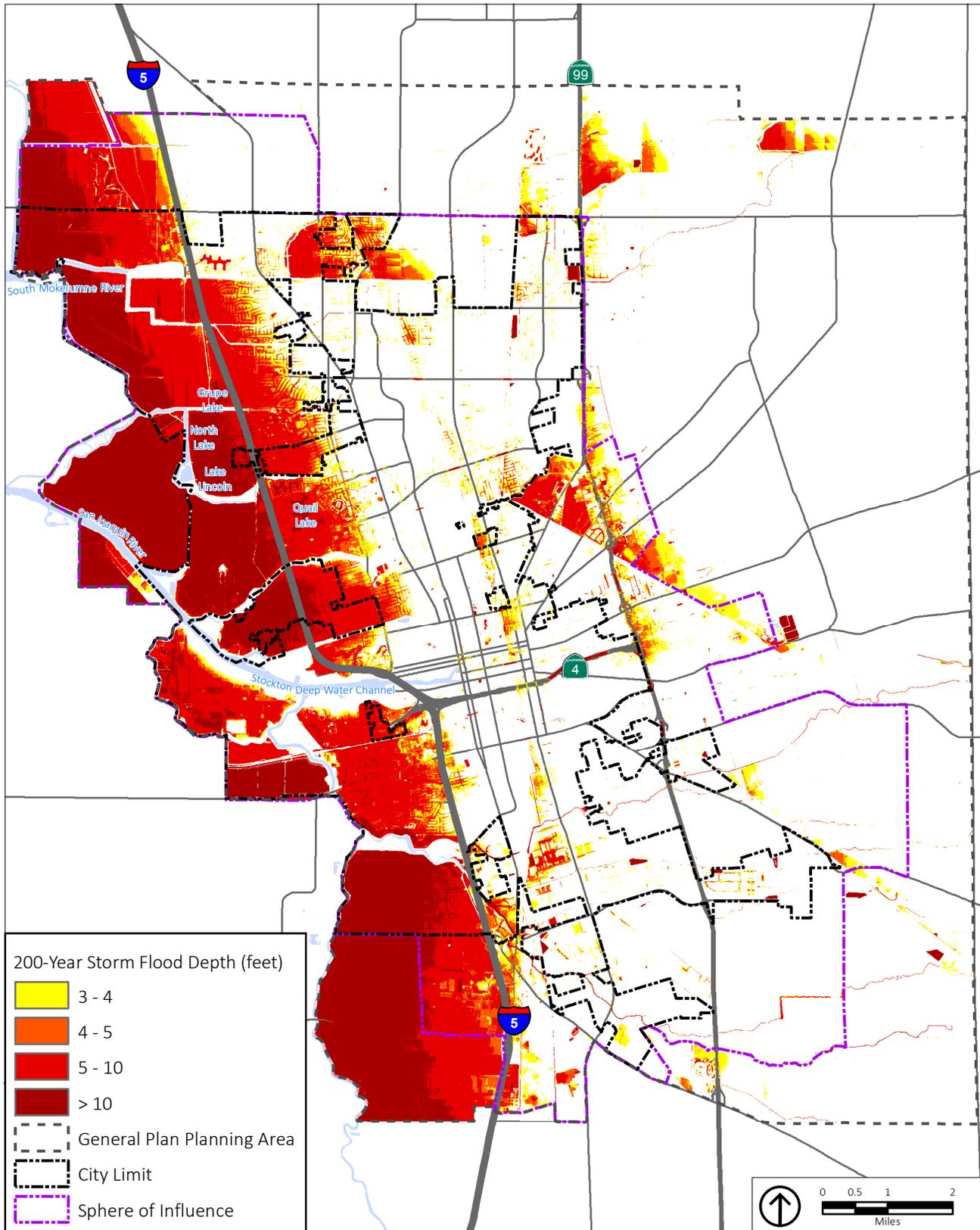
---

<sup>8</sup> Information about Stockton levees below is from: Churchwell, Roger. Deputy Executive Director, San Joaquin Area Flood Control Agency. Personal email communication with David Stagnaro, City of Stockton Community Development Department, March 24, 2016.



Source: City of Stockton; San Joaquin County; PlaceWorks; FEMA, 2016.

Figure 2  
FEMA Flood Zones



Source: PlaceWorks; California Department of Water Resources, 2016.

Figure 3  
200 - Year Flood Depths

## EXISTING CONDITIONS TECHNICAL MEMORANDUM: HAZARDS & SAFETY

In 2005, FEMA began requiring local communities and levee owners to submit documentation that shows levee systems provide a 100-year level of flood protection. FEMA de-accredited levees that did not provide the required documentation, and the areas behind those levees are included in the Special Flood Hazard Areas on the current FIRMs.

As part of that map modernization effort, FEMA de-accredited Stockton's Smith Canal levees in October 2009. During a 100-year flood, water from the San Joaquin River to the west could back up into Smith Canal. Should the Smith Canal levees overtop or fail, the Country Club area, most of which lies at or near sea level, would be inundated by flood waters flowing through the breach. The SJAFCA is currently pursuing the design and construction of a gate structure at the mouth of Smith Canal. The gate would normally rest on the bottom of the channel, allowing for boat traffic and normal tidal fluctuations. During high water periods, the gate would be raised, preventing floodwaters from the San Joaquin River from entering Smith Canal. The proposed wall and gate and structure would be built to provide a minimum 200-year level of performance as required in the CVFPP.

In addition, FEMA is currently reviewing a Conditional Letter of Map Revision (CLOMR) for the Bear Creek system, Upper Calaveras and Diverting Canal, which could be remapped into the floodplain. Lower Bear Creek and Lower Mosher Slough west of Interstate 5 at the Twin Creeks subdivision currently do not meet FEMA criteria, and Twin Creeks could be placed in the floodplain if FEMA remaps the area. The levee protecting the Boggs Tract does not currently meet FEMA criteria, and the local Reclamation District (#404) has been working to resolve the issues. There are also issues with the levee that provides protection for the Weston Ranch area.

Although all remaining levees provide 100-year flood protection, no levees meet the State's 200-year flood protection requirement in the CVFPP. There is currently a feasibility study underway to reach a 200-year flood protection standard.

### **C. AIRPORT HAZARDS**

This section describes the regulatory framework and hazards related to the Stockton Metropolitan Airport.

#### **1. Regulatory Framework**

State and local regulations and plans related to airport safety are described below.

##### *State Regulations*

##### California State Aeronautics Act

The State Aeronautics Act is implemented by the Caltrans Division of Aeronautics. The purpose of this Act is to: 1) foster and promote safety in aeronautics; 2) ensure State laws and regulations relating to aeronautics are consistent with federal aeronautics laws and regulations; 3) ensure that people residing in the vicinity of airports are protected against intrusions by unreasonable levels of aircraft noise; and 4) develop informational programs to increase the understanding of current air transportation issues. The Caltrans Division of Aeronautics issues permits for and annually inspects hospital heliports and public-use airports, makes recommendations regarding proposed school sites within 2 miles of an airport runway, and authorizes helicopter-landing sites at or near schools.

---

## EXISTING CONDITIONS TECHNICAL MEMORANDUM: HAZARDS & SAFETY

### Assembly Bill 2776

AB 2776, which went into effect January 1, 2004, defines an “airport influence area” (AIA) as the area where airport-related factors “may significantly affect land uses or necessitate restrictions on those uses as determined by an airport land use commission (ALUC).” The California Public Utilities Code establishes airport land use commissions in every county to provide for the orderly development of air transportation and ensure compatible land uses around airports that are open to public use. According to the State Division of Aeronautics, the airport influence area is usually the planning area designated by an airport land use commission for each airport.

### *Local Plans and Regulations*

#### Stockton Metropolitan Airport Land Use Compatibility Plan

The Airport Land Use Compatibility Plan (ALUCP) for the Stockton Metropolitan Airport was last updated in 1993. The San Joaquin Council of Governments (SJCOC) is currently working to update the document, with a final draft recently released for public review on April 15, 2016.<sup>9</sup> The ALUCP provides guidance related to the placement of land uses near the Stockton Metropolitan Airport. Specifically, the ALUCP seeks to protect the public from adverse effects of aircraft noise, ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and ensure that no structures or activities adversely affect navigable airspace. The safety zones in the draft update to the ALUCP are shown on Figure 4 and further described below in Section C.2.

#### Stockton General Plan

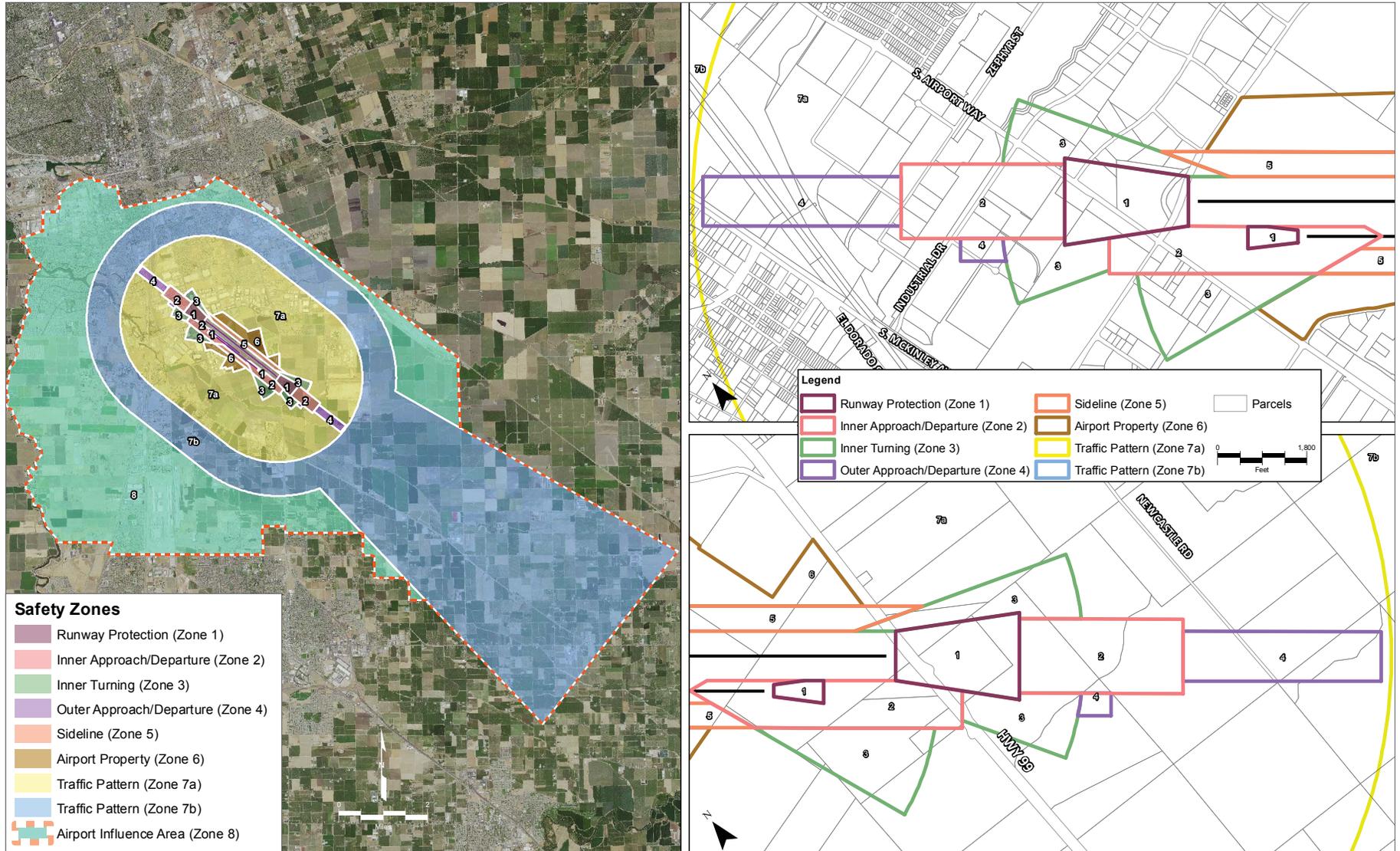
Airport hazards are addressed in the Land Use Element of the Stockton General Plan. The policies related to airport hazards are listed below:

- **LU-6.1 Airport Influence Area.** The City of Stockton will utilize the AIA adopted by the County ALUC for the Stockton Metropolitan Airport. In general, the AIA should be defined to encompass all lands that, due to their proximity to the airport, are subject to a materially greater level of safety risk and/or adverse environmental effect (e.g., noise) from present or foreseeable future airport operations than lands more distant from the airport, and all lands in the vicinity of the airport on which certain land uses (e.g., residential or educational) could inhibit present or foreseeable airport operations due to the increased safety risks or adverse environmental effects (e.g., noise) on sensitive receptors that could result from such land uses.
- **LU-6.2 Consistency with Airport Land Use Commission Policies.** The City will protect the airport and related aviation facilities from encroachment by potentially incompatible land uses. The City shall ensure that the General Plan and all future development within the AIA will be consistent with the policies adopted by the San Joaquin County ALUC, except where pursuant to Public Utilities Code Sections 21676 and 21676.5, the City Council, pursuant to a two-thirds vote, exercises its option to conclude that, notwithstanding a negative recommendation from the ALUC, the Council’s proposed action is consistent with the purposes of providing for the orderly development of the airport and the areas surrounding the airport while protecting the public health, safety, and welfare by minimizing the public’s exposure to excessive noise and safety hazards.

---

<sup>9</sup> San Joaquin Council of Governments, 2016, Airport Land Use Compatibility Plan Update for Stockton Metropolitan Airport.

EXISTING CONDITIONS TECHNICAL MEMORANDUM: HAZARDS AND SAFETY



Source: Stockton Airport Land Use Compatibility Plan Update, 2016.

Figure 4  
Stockton Metropolitan Airport Safety Zones

## EXISTING CONDITIONS TECHNICAL MEMORANDUM: HAZARDS & SAFETY

- **LU-6.3 Obstructions.** The City will ensure the height of new structures complies with Federal Aviation Administration (FAA) Part 77 requirements.
- **LU-6.4 Infill Within Adopted AIA.** Where substantial incompatible development already exists, additional infill development of similar land uses may be allowed to occur even if such land uses are to be prohibited elsewhere in the zone, consistent with Public Utilities Code Sections 21676 and 21676.5. Projects can be considered infill if they meet all of the following criteria:
  - The project site is bounded on at least three sides by uses similar to those proposed.
  - The proposed project would not extend the perimeter of the area developed with incompatible uses.
  - The proposed project does not otherwise increase the intensity and/or incompatibility of use through use permits, density transfers, or other strategies.
- **LU-6.5 Avigation Easements within AIA.** New development, or expansion of an existing use that requires a building permit, within the AIA defined at the time of application, will be required to file an avigation easement with the City.
- **LU-6.6 Adjacent Major Transportation Hubs.** The City shall direct industrial uses to areas in or near the Stockton Metropolitan Airport, the Port of Stockton, and the BNSF Intermodal Facility consistent with the policies of the ALUC, the Port of Stockton Master Development Plan, and BNSF respectively.
- **LU-6.7 Interior Noise Within Adopted AIA.** Sound attenuation shall be included in the requirements of new projects to provide interior noise levels (attributable to exterior sources) that do not exceed 45 dB in any habitable structure.

### Stockton Municipal Code

#### Chapter 16.28, Overlay Zoning District Land Use and Development Standards

Chapter 16.28 of the Stockton Municipal Code regulates development and new land uses in overlay districts established by Section 16.16.020. Section 16.28.030 establishes the Airport Operations (AIR) overlay district and provides height limits for structures in the vicinity of the Stockton Metropolitan Airport, based on zones or surfaces defined in the air space above the airport and its surroundings.

## 2. Existing Conditions

The Stockton Municipal Airport is located immediately south of the city limit. Its AIA totals 56,184 acres; of this total acreage, 21,030 acres are within the southwest portion of the city limit.<sup>10</sup> The following eight safety zones are defined by the airport, all of which are located within the Planning Area, as shown on Figure 4:

- **Zone 1, Runway Protection Zone.** All non-aeronautically functional structures are prohibited.
- **Zone 2, Inner Approach/Departure Zone.** Residential development is prohibited within this zone except very low density residential at a density of one dwelling unit per 10 acres.
- **Zone 3, Inner Turning Zone.** Residential densities should be limited to one dwelling unit per 5 acres.

---

<sup>10</sup> San Joaquin Council of Governments, 2016, Airport Land Use Compatibility Plan Update for Stockton Metropolitan Airport, page 2-8.

## EXISTING CONDITIONS TECHNICAL MEMORANDUM: HAZARDS & SAFETY

- **Zone 4, Outer Approach/Departure Zone.** Residential densities should be limited to one dwelling unit per 5 acres.
- **Zone 5, Slideline Safety Zone.** Residential densities should be limited to one dwelling unit per 2 acres.
- **Zone 6, Airport Property Zone.** Residential development is prohibited within this zone.
- **Zone 7, Traffic Pattern Zone.** There are no limits on residential density within this zone.
- **Zone 8, Airport Influence Area.** There are no limits on residential density within this zone.

### D. EMERGENCY RESPONSE PLANNING

This section describes existing plans for emergency response in the Planning Area.

#### 1. Federal Plans

##### *Federal Response Plan*

The Federal Response Plan of 1999 is a signed agreement among 27 federal departments and agencies and other resource providers, including the American Red Cross, that: 1) provides the mechanism for coordinating delivery of federal assistance and resources to augment efforts of State and local governments overwhelmed by a major disaster or emergency; 2) supports implementation of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as well as individual agency statutory authorities; and 3) supplements other federal emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a Presidential declaration of a major disaster or emergency. The Federal Response Plan is part of the National Response Framework.

##### *Robert T. Stafford Disaster Relief and Emergency Assistance Act*

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) of 1988 authorizes the federal government to provide assistance in emergencies and disasters when State and local capabilities are exceeded. The Stafford Act constitutes statutory authority for most federal disaster response activities especially as they pertain to FEMA and FEMA programs.

##### *National Response Framework*

The 2013 National Response Framework, published by the Department of Homeland Security, is a guide to how the nation responds to all types of disasters and emergencies. The Framework describes specific authorities and best practices for managing incidents that range from serious local to large-scale terrorist attacks or catastrophic natural disasters. In addition, the Framework describes the principles, roles, responsibilities, and coordinating structures for responding to an incident and further describes how response efforts integrate with those of the other mission areas.

#### 2. State Agencies and Plans

##### *California Emergency Management Agency*

The California Emergency Management Agency (CalEMA) was established as part of the Governor's Office on January 1, 2009; it was created by AB 38, which merged the duties, powers, purposes, and responsibilities of

---

## EXISTING CONDITIONS TECHNICAL MEMORANDUM: HAZARDS & SAFETY

the former Governor's Office of Emergency Services with those of the Governor's Office of Homeland Security. The CalEMA is responsible for the coordination of overall State agency response to major disasters in support of local government. The agency is responsible for assuring the State's readiness to respond to and recover from all hazards including natural and human-caused, emergencies and disasters and for assisting local governments in their emergency preparedness, response, recovery, and hazard mitigation efforts.

### *California Disaster and Civil Defense Master Mutual Aid Plan*

The California Disaster and Civil Defense Master Mutual Aid Plan outlines policies, procedures, and authorities for provision of emergency management personnel from unaffected jurisdictions to support affected jurisdictions during an emergency event, in accordance with the Master Mutual Aid Agreement. The Master Mutual Aid Agreement established that jurisdictions should voluntarily aid and assist each other in the event that a disaster should occur, by the interchange of services and facilities, including, but not limited to, fire, police, medical and health, communication, and transportation services and facilities.

### *State Emergency Plan*

The State Emergency Plan, adopted in 2009, addresses the State's response to extraordinary emergency situations associated with natural disasters or human-caused emergencies. The State Emergency Plan describes the methods for carrying out emergency operations, the process for rendering mutual aid, the emergency services of governmental agencies, and how the public will be informed during an emergency or disaster.

## **3. Local Agencies and Plans**

### *San Joaquin County of Governments Office of Emergency Services*

The San Joaquin County Office of Emergency Services (OES) is responsible for preparing the County's Multi-Hazard Plan (Basic Plan). The most recent County Emergency Operations Plan (EOP) was adopted by the County Board of Supervisors in August 1994. The County EOP identifies the range and degree of probable emergency situations, the full range of emergency services which may be needed under multiple scenarios, and the timing and coordination of emergency service delivery, including recovery operations. The County EOP also establishes an emergency organization and assigns tasks to all responsible service agencies so that they may be applied effectively where and when they are needed.

### *City of Stockton Emergency Operations Plan*

The City adopted its most recent version of the EOP in June 2012. The EOP addresses the City's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies. The EOP establishes the emergency management organization required to mitigate any significant emergencies and identifies roles and responsibilities required to protect the health and safety of Stockton residents and property. In addition, the EOP establishes operations concepts associated with a field response to emergencies.<sup>11</sup>

---

<sup>11</sup> City of Stockton, Emergency Operations Plan, [http://stockton.granicus.com/MetaViewer.php?view\\_id=48&clip\\_id=4191&meta\\_id=345765](http://stockton.granicus.com/MetaViewer.php?view_id=48&clip_id=4191&meta_id=345765), accessed on April 26, 2015.

## EXISTING CONDITIONS TECHNICAL MEMORANDUM: HAZARDS & SAFETY

The purpose of the EOP is to provide the basis for a coordinated response before, during, and after a disaster incident within Stockton. The EOP is divided into four elements that contain general and specific information related to City emergency management operations. The four elements are listed below:<sup>12</sup>

- **Basic Plan:** Provides the structure and organization of the City's Emergency Management Organization.
- **Functional Annexes:** Contains detailed descriptions of the methods that the City and its departments should follow during emergency operations.
- **Hazard or Threat-Specific Appendices:** Describe the City's emergency response strategies that apply to a specific hazard.
- **Supporting Documents:** Contains supporting materials to the overall EOP.

The EOP divides local emergency operations into specific emergency functions that are managed by agencies related to those functions. Each agency is responsible for performing specific activities in response to emergency events (i.e., major earthquakes, hazardous material incident, flooding, dam failure, nuclear defense emergencies, transportation emergencies, and terrorism).<sup>13</sup>

### *Stockton General Plan*

Emergency planning is addressed in the Health and Safety Element of the Stockton General Plan. The policies related to emergency planning are listed below:

- **HS-7.1 Coordinated Emergency Response System.** The City shall coordinate with local, State, and federal agencies to establish, maintain, and test a coordinated emergency response system that addresses a variety of hazardous and threatening situations.
- **HS-7.2 Update of Emergency Operations Plan.** The City shall support and periodically update its various disaster plans, including the City's Emergency Operations Plan, to meet current federal, State, and local emergency requirements.
- **HS-7.3 Access and Evacuation Corridors.** The City shall ensure that major access and evacuation corridors are available and unobstructed in case of major emergency or disaster.
- **HS-7.4 Coordinated GIS Planning for Emergency Response.** The City will coordinate with other local agencies including San Joaquin County and cities within the county to develop coordinated geographical information systems (GIS) for emergency response services.
- **HS-7.5 Siting of Critical Emergency Response Facilities.** The City shall ensure that the siting of critical emergency response facilities such as hospitals, fire stations, police offices, substations, emergency operations centers, and other emergency service facilities and utilities have minimal exposure to flooding, seismic and geological effects, fire, and explosions.
- **HS-7.6 Security.** The City shall seek to minimize vulnerability of its infrastructure and water supplies/distribution systems.

---

<sup>12</sup> City of Stockton, Emergency Operations Plan, [http://stockton.granicus.com/MetaViewer.php?view\\_id=48&clip\\_id=4191&meta\\_id=345765](http://stockton.granicus.com/MetaViewer.php?view_id=48&clip_id=4191&meta_id=345765), accessed on April 26, 2015.

<sup>13</sup> City of Stockton, Emergency Operations Plan, [http://stockton.granicus.com/MetaViewer.php?view\\_id=48&clip\\_id=4191&meta\\_id=345765](http://stockton.granicus.com/MetaViewer.php?view_id=48&clip_id=4191&meta_id=345765), accessed on April 26, 2015.

---

## EXISTING CONDITIONS TECHNICAL MEMORANDUM: HAZARDS & SAFETY

### *Stockton Municipal Code*

Section 2.82.060 of the Stockton Municipal Code establishes the Director of Emergency Services to request that the City proclaim the existence of a threat or local emergency. Once a local emergency is proclaimed, the Director has seven days to take action. In addition, the Director has the authority to request the Governor to proclaim a “state of emergency” when local resources are inadequate to cope with the emergency. The Director shall control and direct the efforts of the emergency organization of the City and direct cooperation between the coordination of services and staff.

### **E. IMPLICATIONS FOR THE GENERAL PLAN UPDATE**

The General Plan Update provides a significant opportunity to help the community avoid and mitigate hazards. In particular, the General Plan Update can help to increase safety for Stockton residents and business owners through policies that:

- Ensure new development is adequately protected from hazards.
- Support continued efforts to improve levee flood protection.
- Maintain consistency with the Central Valley Flood Protection Plan and the Delta Plan.
- Carefully consider airport safety hazards when identifying future land uses within the Stockton Metropolitan Airport’s Airport Influence Area.
- Promote effective emergency response planning and support the City’s Emergency Operations Plan.

**EXISTING CONDITIONS TECHNICAL MEMORANDUM: HAZARDS & SAFETY**