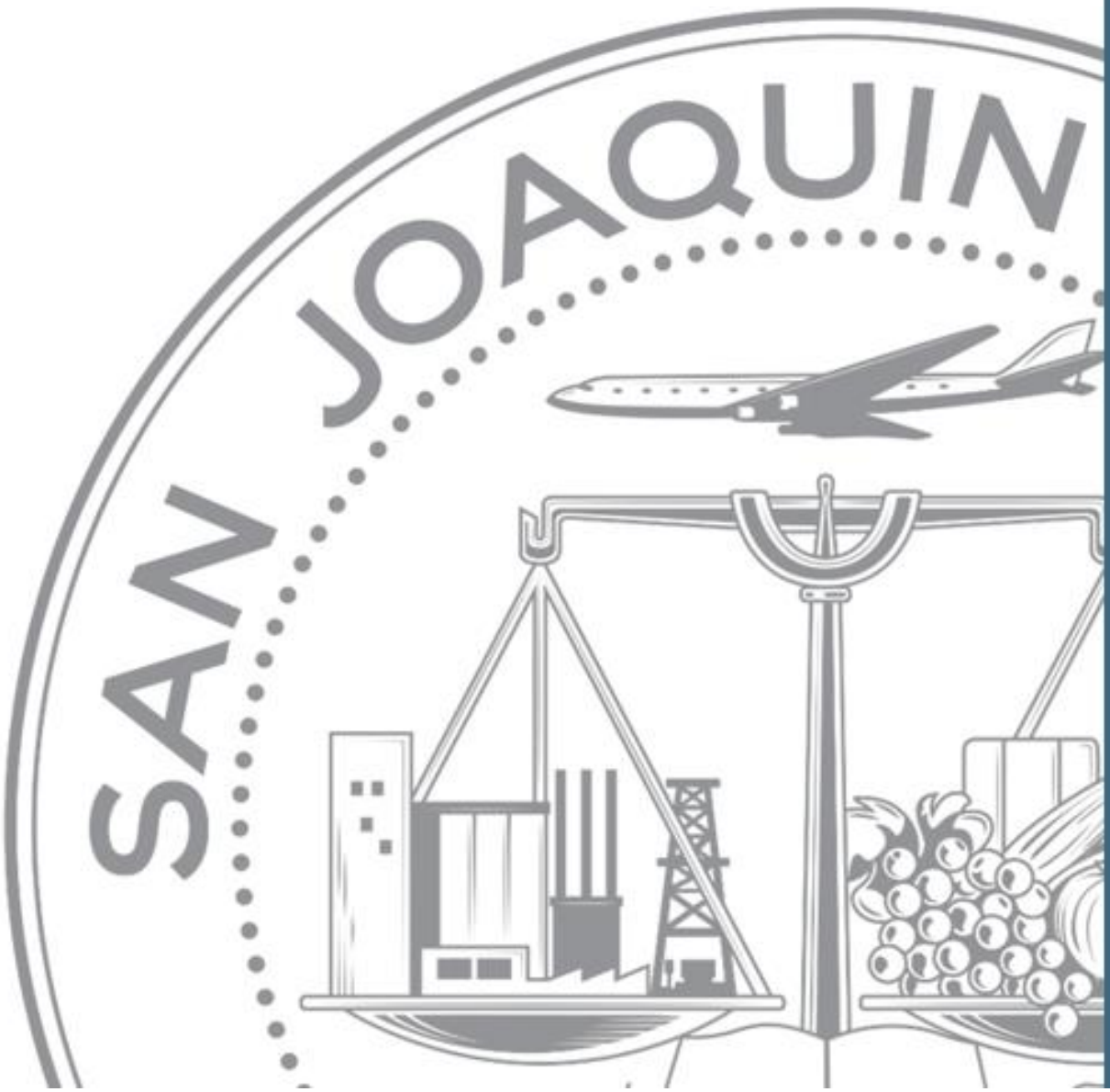
SAN JOAQUIN COUNTY

Greatness grows here.

Flood and Dam Failure Hazard Annex

March 2019



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Promulgation Document/Signature Page

This Flood and Dam Failure Annex addresses San Joaquin County's planned response to extraordinary emergency situations associated with flooding or dam failure and is an extension of the San Joaquin County Emergency Operation Plan. This plan assigns tasks and responsibilities to county departments and various agencies and organizations specifying their roles in a flood or dam failure event.

In order to execute this plan effectively and mobilize available resources, all implementing personnel must have knowledge of the procedures set forth in this plan and be trained in its use. Departments and agencies having roles and responsibilities established by this plan are expected to develop Standard Operating Guidelines and Procedures based on the provisions of this plan.

This plan was developed using generally accepted emergency management principles and practices. Incorporated are planning elements derived from Federal Emergency Management Agency and California's emergency planning documents. Modifications to this plan may be made under the direction of the Director of Emergency Operations. Changes to this plan will be relayed digitally to all members of the distribution list. Adoption will occur following the established maintenance schedule; however, the plan may be modified in the interim without prior approval and formal adoption. This plan will be updated and reviewed at least every two years, or following a major flood or dam failure event.

This plan has been developed pursuant to the California Emergency Services Act, and conforms to the Standardized Emergency Management System (SEMS). This plan is promulgated by the chairperson of the Emergency Services Council of San Joaquin County. The Emergency Services Council is empowered by County Ordinance to review and approve emergency and mutual aid plans.

This plan supersedes all previous flood and dam planning annexes developed by the San Joaquin County Office of Emergency Services.

Signature Marcia Cunningham Date 03/29/2019

Marcia Cunningham, Director of General Services
Chair, San Joaquin County Emergency Services Council
Director of Emergency Services

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Plan Administration

San Joaquin County Office of Emergency Services Director of Emergency Operations will coordinate review, revise, and re-promulgate this annex at least once every two years or when key changes occur, such as lessons learned from exercises or real events. Changes may be made by the San Joaquin County Director of Emergency Operations without formal Emergency Services Council's approval. This document supersedes all previous flood and dam failure appendices and annexes for the Operational Area.

Record of Changes

All updates and revisions to this annex will be tracked and recorded in the following table. This process will ensure that the most recent version of the plan is disseminated and implemented by emergency response personnel.

Date	Change No.	Change made by (name/title)	Summary of Changes

Plan Distribution

San Joaquin County Office of Emergency Services (OES) maintains the San Joaquin County Emergency Operations Plan (EOP) in the San Joaquin County (SJC) Emergency Operations Center (EOC) Library. This document, upon signature, will become an annex to the EOP. The primary method of EOP distribution is electronic, with a copy available in the Advanced File Library of the SJC web based information sharing database (WebEOC) and the SJC web page.

Information about Maps

The maps displayed in this plan are from state and local sources. These maps are provided for general information only. In the event of an event/emergency, SJC OES will ensure the accuracy of the maps used and will update the plan accordingly.

TABLE OF CONTENTS

List of Figures

List of Tables

1 INTRODUCTION

1.1 INTRODUCTION

This annex addresses four distinct types of flooding events that San Joaquin County (SJC) may experience. The first type is localized or flash flooding due to heavy rains. The second is slow rise flooding, which is the rising of the rivers, caused by heavy and continued rains. The rain occurs at a rate, which results in maximum outflows from upstream dams and heavy inflow from tributary streams, increasing stress on the integrity of the levee system. The third is the failure of one or more levees in the county, which can be caused by overtopping, breach or erosion. Finally, this annex will address flooding caused by catastrophic failure of one or more dams in the region.

This annex provides information and guidance for emergency operations during a flood disaster or emergency. Additionally, this annex identifies operational concepts focused on potential large-scale disasters, which can generate unique situations requiring unusual emergency responses that pose a major threat to life and property.

This plan accomplishes the following:

(1) Identifies the emergency management organization required to mitigate any significant flood emergency or disaster affecting SJC.
(2) Identifies the policies, responsibilities and procedures required to protect the health and safety of SJC communities, as well as public and private property.
(3) Establishes the operational concepts and procedures associated with field response to emergencies, the SJC Emergency Operations Center (EOC) activities and the recovery process.

This annex will be activated when the San Joaquin County Office of Emergency Services receives reports of potential flooding or failure of one or more dams affecting the OA.

1.2 PURPOSE

This annex is intended as a guide for the coordination of agencies and organizations during incidents of flooding or dam failure within SJC. Floods or dam failures can threaten lives and property requiring coordination between response organizations for effective operations. General emergency management principles should be applied to any flood or dam failure incident. This annex provides additional information specific to these types of incidents. The annex is designed as a guide for coordinated community-wide process to facilitate mitigation, preparedness, response, and recovery to flooding. This annex is available for use by SJC departments and agencies, cities, businesses, non-governmental organizations and residents.

1.3 SCOPE

An emergency response to flooding or a dam failure may require the resources of the entire Operational Area, Region, State of California and Federal government. In order to meet the response objectives of this annex, both public and private agencies are assigned specific tasks.

The Federal Emergency Management Agency (FEMA), defines a flood as a general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties from:

- Overflow of inland or tidal waters; or
- Unusual and rapid accumulation or run-off of surface waters from any source; or
- Mudflow or;
- Collapse or subsidence of land along the short of a lake or similar body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that results in a flood as defined above.

General assignments are as follows:

- County support of Flooding Events within incorporated city limits will be based on the principle of self-help. Cities will be responsible for utilizing all available local resources along with initiating mutual aid and cooperative assistance agreements before requesting assistance from the County.
- The Office of Emergency Services (OES) is responsible for general support of the county's response and will ensure proper notifications are made upon activation of this annex. OES will activate the EOC to support operations, planning, logistics, and finance as the situation dictates. Further information on EOC activation is covered in the ESF-05 Management Annex.
- County departments and other community organizations identified in the annex are responsible for checking the welfare and/or providing services to those members of the vulnerable population that fall under their programs.

Community Based Organizations (CBOs) and private non-profits (PNPs) organized in the SJC Disaster Relief Coalition (DRC) may be requested to assist in response operations.

2 SITUATION OVERVIEW

2.1 HAZARD ANALYSIS

Historically, in San Joaquin County, floods (e.g., urban, small stream, and riverine) have been the most frequent and damaging events. SJC has a very low inland elevation and a very flat drainage basin for the San Joaquin River and its numerous tributaries. Valley flooding can be detrimental to urban communities, as well as the agricultural industry and economy in the County. In addition, thirty four percent of SJC is threatened by flooding from both high water events due to heavy precipitation and/or upstream reservoir releases, as well as tidally influenced events.

In the late 1800s to mid-1960s, flood management agencies, (reclamation districts, flood control districts, and US Army Corps of Engineers) built a network of levees to direct water away from people and property. Since 1914, these “project levees” have been regulated by the Central Valley Flood Protection Board (CVFPB). The Division of Flood Management works with CVFPB and Local Maintaining Agencies (LMA) to prevent loss of life, reduce property damage caused by floods and to assist in recovery efforts following any natural disaster.

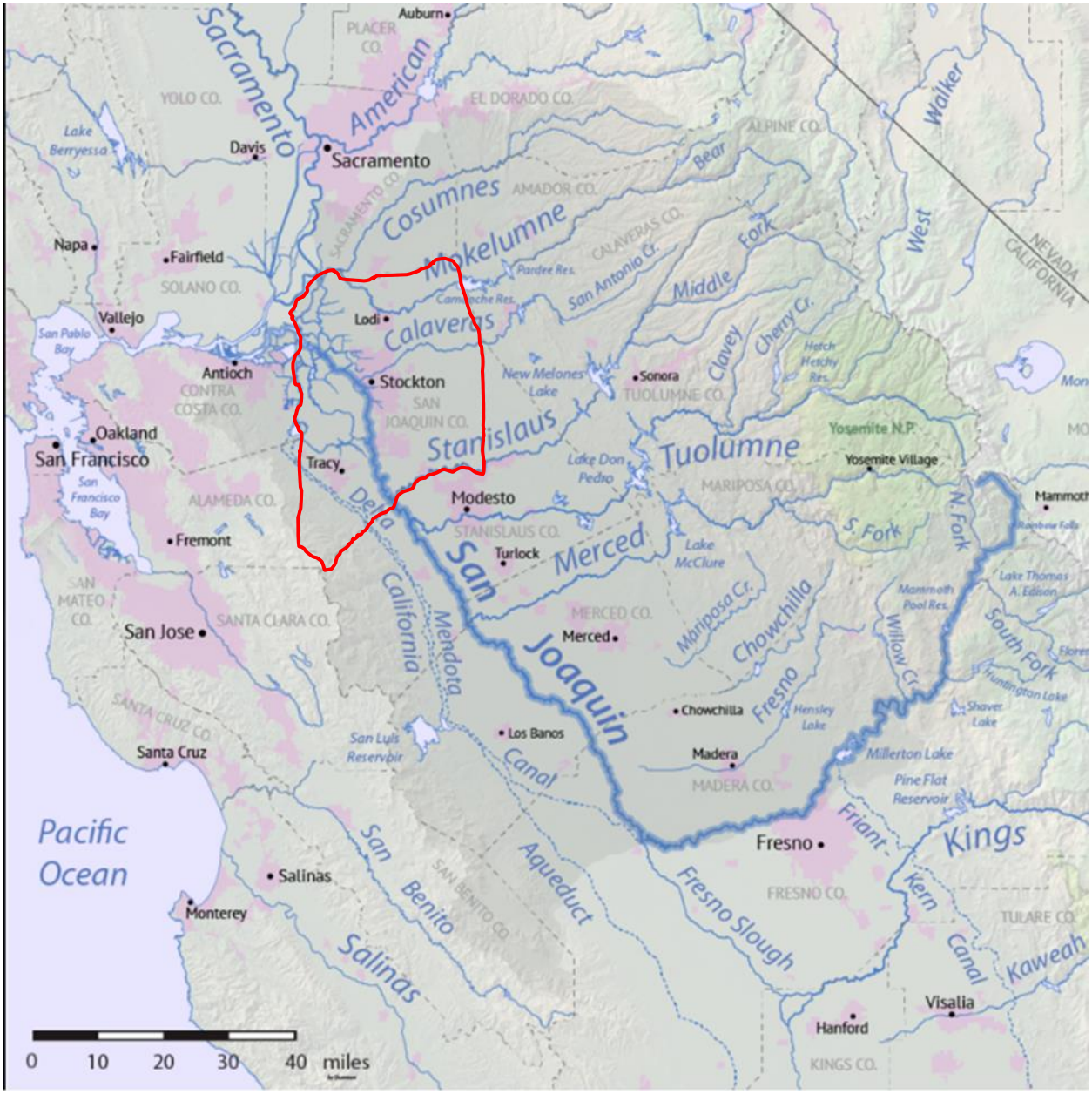
The Delta is fed fresh water in the north, through the Sacramento, American, Mokelumne, and Consumes rivers; from the east through the Calaveras River; from the south through the Stanislaus, Tuolumne, Merced and San Joaquin rivers. Figure 1 shows the intricate river and tributary system that bring water from the mountainous counties east of San Joaquin, ultimately to the ocean.

The San Joaquin River is the main route for seagoing vessels moving container and bulk items to and from the inland Port of Stockton, which lies on the west side of the downtown area of Stockton.

The amount of water flowing through the hydraulic system in the Delta, as well as SJC is determined by environmental conditions, natural events, and manmade infrastructure. An extensive system of dams, levees, pumping plants, and flood bypass channels, have been established to protect the Delta regions from flooding. These facilities control floodwaters by regulating the amount of water passing through a particular area. Additionally, much of the water flowing through the county is a major water supply for the San Francisco Bay area and farming and agriculture communities to the south, making the delta a critical resource.

Floodwater levels are closely monitored by local, state, and federal agencies. Historic flooding events have generally defined the area limits of water intrusion into the countryside. As water levels approach those limits, a coordinated warning system assists local agencies and the public in general to prepare for evacuation and begin flood fighting efforts, to preserve lives and limit property damage.

Figure 1 San Joaquin River Basin (San Joaquin County in Red)



Localized or Riverine Flooding

Floods can be local, short-lived events that happen suddenly, sometimes with little or no warning. Localized flooding is caused by intense storms that produce more runoff than an area can store or a stream can carry within its normal channel. Small streams are subject to flash floods (very rapid increases in runoff), which may last from a few minutes to a few hours. On larger streams, floods usually last from several hours to a few days. A series of storms might

keep a river above flood stage (the water level at which a river overflows its banks) for several weeks. In urban and developed areas, street drains clogged with leaves or other debris may not drain correctly and cause localized flooding from a heavy downpour. Additionally power outages associated with intense storms, can shut down drainage pumps, allowing water to back up and potentially flood neighborhoods.

Dam Failure

Dam failure is the collapse or failure of an impoundment that causes significant downstream flooding. Flooding of the area below the dam may occur as the result of structural failure of the dam, overtopping, or a seiche (oscillations of the water body). The principle consequences of dam failure are injury, loss of life, and significant downstream property damage.

The collapse and structural failure of a dam may be caused by a severe storm, earthquake, or internal erosion (piping caused by embankment and foundation leakage). Seismic activity may also cause inundation by the action of a seismically-induced wave that overtops the dam without causing failure of the dam, but significant flooding downstream. Landslides flowing into the reservoir may also cause dams to fail or overtop.

There are twelve dams which directly or indirectly have the potential to cause flooding in SJC. Dams located outside SJC boundaries such as Camanche, Pardee, Farmington, New Hogan, Don Pedro, Friant, Henseley, Los Banos, New Exchequer, New Melones and Pine Flat help to control floodwaters. However, occasionally a combination of frequent storms, extended heavy rain, and melting snow can result in floodwaters that may exceed normal high-water boundaries and cause damage. It's important to note that the Reservoir Operators/Owners maintain Emergency Action Plans (EAP) that are reviewed on an annual basis with partner agencies that may be impacted by a dam failure. Copies of these plans are also maintained by OES for planning and response purposes.

A catastrophic failure of any these dams could have a significant impact on SJC. Complete devastation could occur in and along the river bottoms along with river levels rising several feet above normal. The potential for elevated river levels is from the dam to a point where the river widens near the ocean. River levels could be greater than those during the worst recorded floods.

Flooding is an infrequent hazard with low to high severity to the County and dam failure is an infrequent hazard with high severity to the County.

Levee failure:

In the early 1900s, many natural wetlands in the San Joaquin Valley were drained for agricultural use. A system of levees was introduced to prevent water from flooding the natural wetlands. Levees can be damaged by water saturation (boils), overtopping and erosion, land subsidence, earthquake, burrowing animals, general lack of maintenance or damages caused by large vessels using the waterways.

Weather impacts:

The SJC precipitation season is October through April annually, when 94 percent of the annual rainfall is received. The heaviest months for rainfall are typically December, January, February and March. The average rainfall is 17.85 inches. Although snow does not generally fall in SJC, it does accumulate in the Sierra Nevada Mountain Range to the east, where run-off as a result of rapid snowmelt can cause river levels to rise and stress the levee system beyond its capabilities. This can result in a slow-rise flooding event. Section 5 provides guidelines on slow-rise river flooding response.

2.2 PLANNING ASSUMPTIONS

The following provides a general list of assumptions taken during the development of this annex.

- All incidents are local.
- Flooding emergencies, dam related or not, may occur due to heavy rains, melting snow, or weakened levee infrastructure or spring run-off.
- Flood emergencies or disasters may pose a serious threat to public health, property, the environment, and the local economy.
- Flood warning is provided through a variety of means, including National Weather Service (NWS) announcements, National Oceanic & Atmospheric Administration (NOAA) radio, standard radio and television Emergency Alert System (EAS) bulletins, and directly from the dam operators.
- Major flood emergencies may require a multi-jurisdictional response with cities within the County and California Governor's Office of Emergency Services (Cal OES).
- In flood emergencies, Standardized Emergency Management System (SEMS) and National Incident Management system (NIMS) will be implemented by all responding agencies.
- SJC is primarily responsible for emergency operations in the unincorporated areas of the County and will commit appropriate available resources to save lives, minimize injury to persons and the environment, and minimize property damage.
- In the event of a major flood that requires the extensive commitment of county personnel and resources, ongoing efforts shall be made to provide for the continuation of essential county services.
- The County's planning strategies will incorporate access and functional needs populations.

2.3 FLOOD ZONES

To determine the impact of flooding, planners use a risk based approach utilizing the FEMA Federal Insurance Rate Maps (FIRM) for both 100 and 500-year flood plains. A 100-year flood event is a flood that has a one percent chance of occurring in any given year, while a 500-year flood has a 0.2 percent chance of occurring in a given year.

SJC has more than 6,600 properties that are located within flood plains identified by FEMA as high risk for flooding. These properties are identified in the Special Flood Hazard Area (SFHA)

on FEMA maps. There are nearly 50,000 citizens living in areas of SFHA. These maps may be viewed online at http://www.sjmap.org/nhd/.

There are also several key transportation corridors listed in the SFHA including three interstates (I-5, I-205 and I-580), seven highways (Highway's 4, 12, 26, 88, 99, 120, and 132) and several highly used county roadways.

The Office of Emergency Services maintains a comprehensive assortment of electronic and hard copies of maps that show district boundaries, levees, supply depots, locations of previous levee breaches, and areas of historic seepage or erosion, and characteristics of waterways controlled by district levees. Maps that do not contain sensitive information may be accessed on line from at http://www.sjmap.org/nhd/.

It is important to note that areas outside of these pre-identified flood zones may also be susceptible to flooding events.

2.4 Local Maintaining Agencies / Reclamation Districts

The multiple levees are monitored and maintained by 52 Reclamation Districts (RD) or Local Maintaining Agencies (LMA) in SJC. LMAs or RDs have the primary day-to-day responsibility for the integrity, improvement, operations, and maintenance of their flood control infrastructure, such as levels and water supply facilities in the County. These districts have elected officials who ensure the levees are patrolled to maintain their safety and upkeep. A map of these districts is represented in the figure below (figure 2). This map may also be viewed on the SJC OES webpage as well. A table of LMAs is listed in Appendix B. A copy of each LMA's Emergency Operations Plan may be viewed from the SJC OES plan webpage, at http://www.sjmap.org/oesfcm/.

The San Joaquin Area Flood Control Agency (SJAFCA) is a Joint Powers Authority that was created in 1995 between the City of Stockton, San Joaquin County, and the San Joaquin County Flood Control and Water Conservation District for the purpose of addressing flood protection for the City of Stockton and surrounding County area (see figure 3).

Figure 2 Reclamation District Map

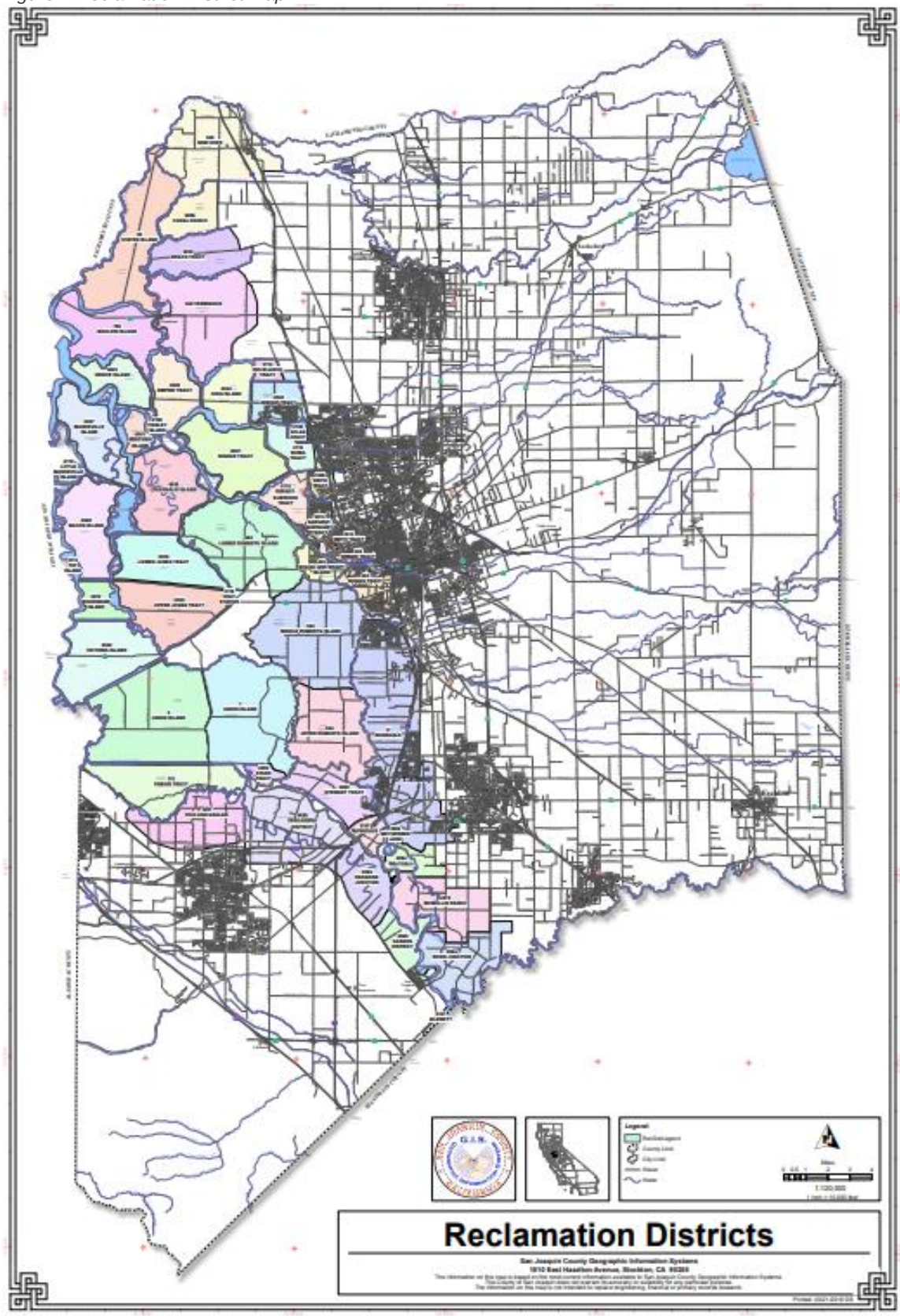
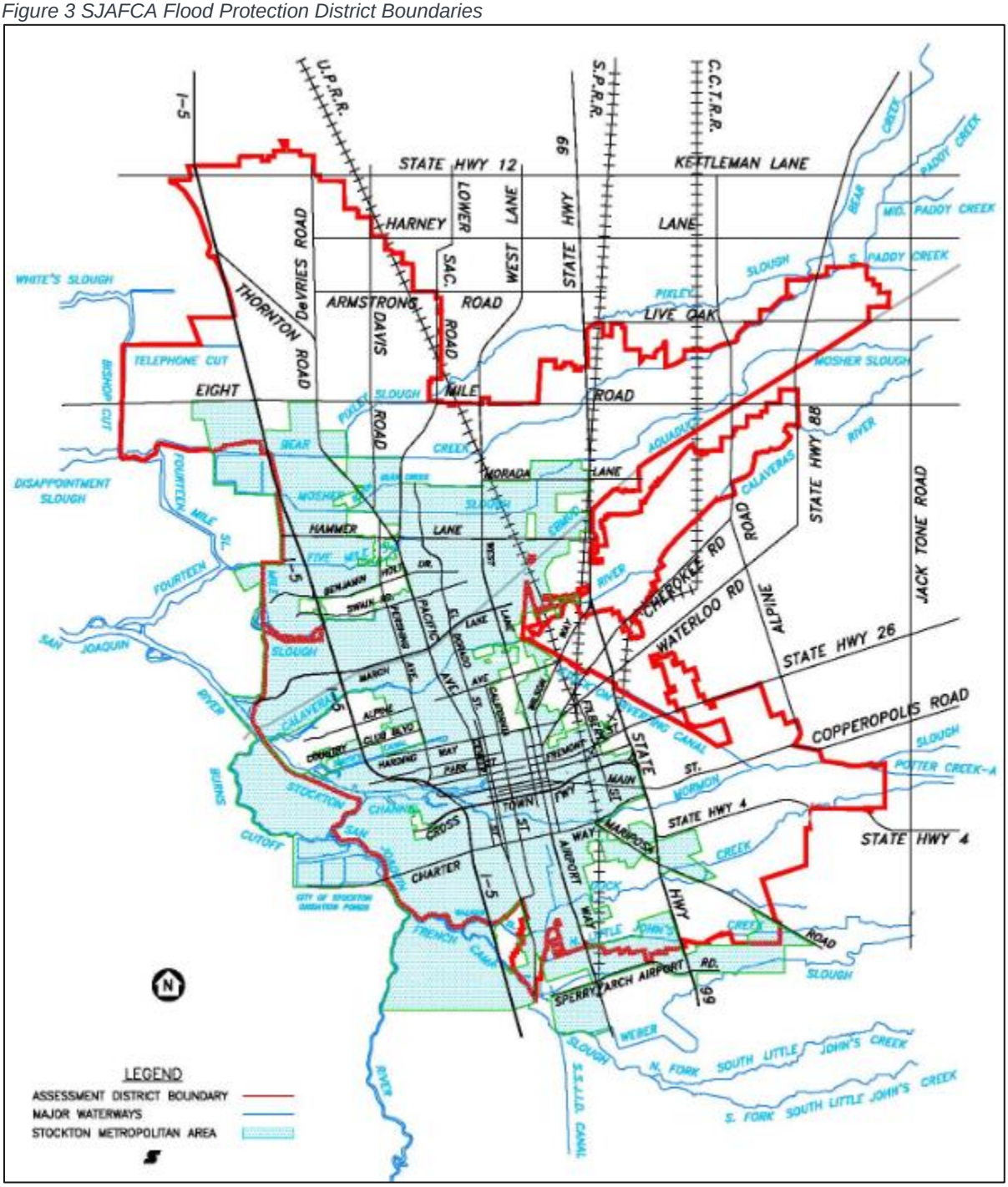


Figure 3 SJAFCA Flood Protection District Boundaries



3 CONCEPT OF OPERATIONS

This plan or the applicable portions of this plan will be implemented as directed by the Director of Emergency Services or the Director of Emergency Operations as appropriate. Incident Command for flood and/or dam failure incidents at the Operational Area level will most often be managed through Unified Command as designated by the jurisdiction(s) having authority, usually consisting of the local maintaining agency, law enforcement, and fire response agencies.

The SJC OES will activate as noted in the Basic EOP. Levels and positions activated will be based upon SEMS and reflect the extent and pace of the crisis. Additional activation information is in the ESF-05 Management Annex and EOC policies.

Flooding in SJC may be preceded by a buildup period, providing advanced warning to those who might be affected. Others occur without warning, and require mobilization and commitment of the emergency organization after the onset of the emergency. In the event of slow-rise flood threats and or threatened levee conditions, the phases are initiated based on various river elevations or foreseeable issues related to reservoir releases.

In an **increased readiness** phase, responders monitor potential conditions that could lead to flooding, such as continuing and excessive rainfall, an unusually rapid snowmelt, and rising rivers. Activation level of the EOC and the amount of staffing needed is event-driven and at the direction of the EOC Director. The EOC will monitor communications, receive information on field situations, operations, weather, river and reservoir stages, direct response, and coordinate with local agencies. The EOC will also activate mutual aid, as well as coordinate the allocation of resources and assets, including State and Federal resources. The State of California Emergency Management Mutual Aid Plan will be adhered to for mutual aid; see also ESF-7 Resources annex for more information.

The DWR Flood Operations Center (FOC) will also monitor flooding situations on a daily operational schedule. If LMAs begin to encounter extensive problems, the FOC will begin around the clock (24-hours per day) operations to prepare to support flood-fight operations. Typically, the Cal OES State Operations Center (SOC), Regional Emergency Operations Centers (REOC), and the Dam Management Center, operated by the United States Army Corps of Engineers (USACE) are all activated at some degree as flood threats increase.

Response enters the **emergency phase** when it is observed that emergency conditions exist or are imminent. Upon activation, SJC OES will begin to conduct operations as follows:

- Assess the flood threat to determine additional response actions.
- Advise flood responders to activate available resources to monitor and protect the public.
- Notify people and property owners at risk from potential flood.
- Verify risk to lives and property, include number of people, structures, infrastructure, businesses, livestock, and area of land impacted by potential flooding.
- Where resources appear insufficient, prepare to receive mutual aid.
- Maintain contact with Cal OES and DWR FOC to provide necessary situational assessments. These include type of threat, imminence, potential severity, area affected,

and associated problems. Reports will include actions planned or taken, as well as deficiencies in critical resources.
- Coordinate and cooperate with LMAs and RDs to share situational information.
- Maintain situational awareness and ensure all agencies are notified of changes in conditions.
- The EOC is activated based on projections that indicate the level of potential need for EOC multi-agency coordination.
- Assess need for Local or State Proclamation or Federal Declaration as dictated by current and projected conditions.
- Initiate OA incident documentation processes to support FEMA cost recovery, including environmental assessment and timekeeping.

The **Emergency Response** phase is initiated upon occurrence of a flood emergency requiring extraordinary effort. The nature of the response is driven by the requirements of the situation. The emergency organization is mobilized to cope with the situation. Priority will be given to operations such as:

- Survey and evaluate the situation and advise the EOC and the DWR FOC.
- The EOC will immediately notify the County Administrator's Office (CAO) and Board of Supervisors of the situation.
- Mobilize, allocate, and position personnel and materials for patrolling and/or flood-fighting.
- Establish staging areas for personnel, supplies, and equipment.
- Establish evacuation centers/shelters to aid in managing the movement of people from the affected areas.
- Produce and disseminate emergency information and advice to other EOCs when the Joint Information System (JIS) and or Joint Information Center (JIC) has been activated.
- Protect, control, and allocate vital resources.
- Restore or activate essential facilities and systems.
- When the local response has expanded beyond the jurisdiction's capabilities and additional resources are required to manage the emergency, requests for mutual aid will be initiated through the Logistics Section of the SJC EOC.

Levee Incidents: LMAs have identified trigger actions that will be taken by District personnel, as conditions affecting the levees and drainage system warrant such action in their EOP. In the field, the LMA will fill the role of Incident Commander for a flood fight. As the levee event progresses to a level where it poses a threat to life and property, the LMA Incident Commander will reach out to the appropriate law enforcement agency and emergency manager at the local level (City or County) for support.

Coordination of public or media information releases will be through the Public Information Officer or Joint Information System, when activated. The management function of SEMS will determine the information to be released and the appropriate timeframe for such releases. See also the ESF-15 Public Information Annex. The Alert and Warning Annex contains more details on how public alert and warning of general public is conducted during any emergency or threatened emergency.

3.1 NOTIFICATIONS:

Advanced notifications of high water events with the potential of effecting the hydraulic systems throughout the County are shared via email as weather alerts by NWS. These include the following:

Flood Watch: Be Prepared - A Flood Watch is issued when conditions are favorable for flooding. It does not mean flooding will occur, but it is possible.

Flood Advisory: Be Aware - A Flood Advisory is issued when flooding is not expected to be bad enough to issue a warning. However, it may cause significant inconvenience, and if caution is not exercised, it could lead to situations that may threaten life and/or property.

Flood Warning: Take Action! - A Flood Warning is issued when flooding is imminent or occurring.

Flash Flood Watch: Is issued when conditions may develop that lead to flash flooding. You should monitor later forecasts and be prepared to take action should Flash Flood Warnings be issued.

Flash Flood Warning: Take Action! - A Flash Flood Warning is issued when a flash flood is imminent or occurring. If you are in a flood prone area move immediately to high ground. A flash flood is a sudden violent flood that can take from minutes to hours to develop. It is even possible to experience a flash flood in areas not immediately receiving rain.

Public Alerting and Warning:

SJC uses FEMA's Integrated Public Alerting and Warning System (IPAWS) to alert county citizens of an emergency. The EOC will process the alert at the direction of the Sheriff's Department or law enforcement entity with jurisdiction. The Alert and Warning Annex outlines the processes in more detail.

Precipitation Monitoring:

In addition, SJC references OneRain©[1] to monitor rainfall levels. This web-based dashboard and alerting system is monitored by SJC Public Works in their Flood Management, Channel Maintenance and Road Maintenance departments. Gauges and information sources are monitored to detect objective conditions which will trigger additional actions beyond routine activities, such as rising water levels. There are various notifications that are pre-coded into the SJC ALERT system to provide advanced notice of an event.

[1] The OneRain San Joaquin County Dashboard may be accessed at: https://sanjoaquin.onerain.com/home.php

3.2 ROLES AND RESPONSIBILITIES

All responses in SJC are managed in accordance with the Standardized Emergency Management System (SEMS). The field level consists of LMAs and first responders and is the incident level where emergency response begins. Local government includes the cities. SJC is charged with the lead role as the OA and is the primary point of contact for the Region and the State. The SJC EOP further outlines the SEMS organization levels.

When streams are forecast to rise above certain pre-determined stages (water surface elevations), or flow rates, Flood Operations Center (FOC) personnel make high water notification calls to appropriate local flood system LMAs or RDs.

During these elevated threat periods, Local Maintaining Agencies are required to patrol their levees on a 24-hour basis as long as the water level is at or above monitor stage and until no threat remains to the levees. They are responsible for organizing levee patrols and may have caches of material and equipment available for a flood-fight. The LMA has Incident Command authority for their jurisdictions flood response. Additionally, they are responsible for having established communication protocols for informing OES of flood emergencies. See Appendix B for a list of LMAs and RDs.

Agencies with law enforcement jurisdictional authority, (i.e., SJC Sheriff's Department, for the unincorporated areas of the county or local police department of the city having jurisdiction), are responsible for public safety and will coordinate rescue activities, evacuations, and provide for general security for impacted areas. They are also responsible for identifying and relating evacuation routes, identifying shelter sites, and conducting door-to-door alerting and notification to residents that may not have electronic means for receiving alerts. Areas within the Delta have pre-established evacuation and staging planning maps that are maintained on a password protected web-based server. (OES will share this information for planning, preparedness, and response, as needed.) Refer to the Evacuation and Population Protection Support Annex for more details on evacuation roles and responsibilities.

The DWR[2] monitors operations through their Flood Operations Center (FOC). OES will coordinate with DWR FOC, on behalf of the affected area, and request flood-fight assistance or technical assistance when needed. DWR also operates California Data Exchange Center (CDEC), which monitors rainfall, stream flow, river stages, and reservoir stages and releases across the State. The information is available to the public at http://cdec.water.ca.gov/.

Federal agencies work to support emergency incident responses and provide aid in disasters on a larger scale. In a flood event, the US Army Corps of Engineers and US Bureau of Reclamation have responsibilities for federal activities in California. The USACE is responsible for overseeing reservoir releases and supporting the State's efforts in maintaining levees and structures associated with the State Plan of Flood Control. USACE can support emergency work as requested by the State under Public Law 84-99 and the Stafford Act, which includes levee flood fighting. All management activities, mutual aid, and resource allocations will be within the framework of NIMS.

[2] For more detailed information on DWR's role in flood preparedness and technical assistance, their webpage is: Https://water.ca.gov/What-We-Do/Flood-Preparedness

During a disaster in which local resources are overwhelmed or have the potential to be overwhelmed, requests for assistance from local governments may be made by the affected jurisdictions through the OA Logistics Section of the EOC.

The Director of General Services may proclaim a Local Emergency to activate necessary resources and assistance as outlined in the County EOP.

Non-Profit or Volunteer Organizations

Non-profit organizations, such as the American Red Cross will be involved in flood response planning and response, particularly when shelter services are necessary. SJC will contact the appropriate non-profit organizations in the event of a potential threat or actual event. Voluntary Organizations Active in Disasters (VOAD), which include nonprofit and faith-based volunteer organizations, will work through the SJC OES to pinpoint community needs. A Volunteer Coordinator may be appointed within the EOC that will alert volunteer organizations of anticipated needs prior to the event to allow for preparation time. The ESF-17 Volunteer and Donations Management Annex describes this process.

Private Sector Entities

Private sector coordination generally occurs through the Emergency Support Functions (ESF) within the SJC EOC. For example, ESF-8 is the liaison with hospitals and nursing homes concerning problems caused by flooding; and ESF-12 coordinates with power, natural gas, and gasoline companies concerning outage reporting and restoration estimates. An OA level liaison is typically appointed into the EOC to coordinate information between these organizations.

4 ORGANIZATIONAL RESPONSIBILITIES

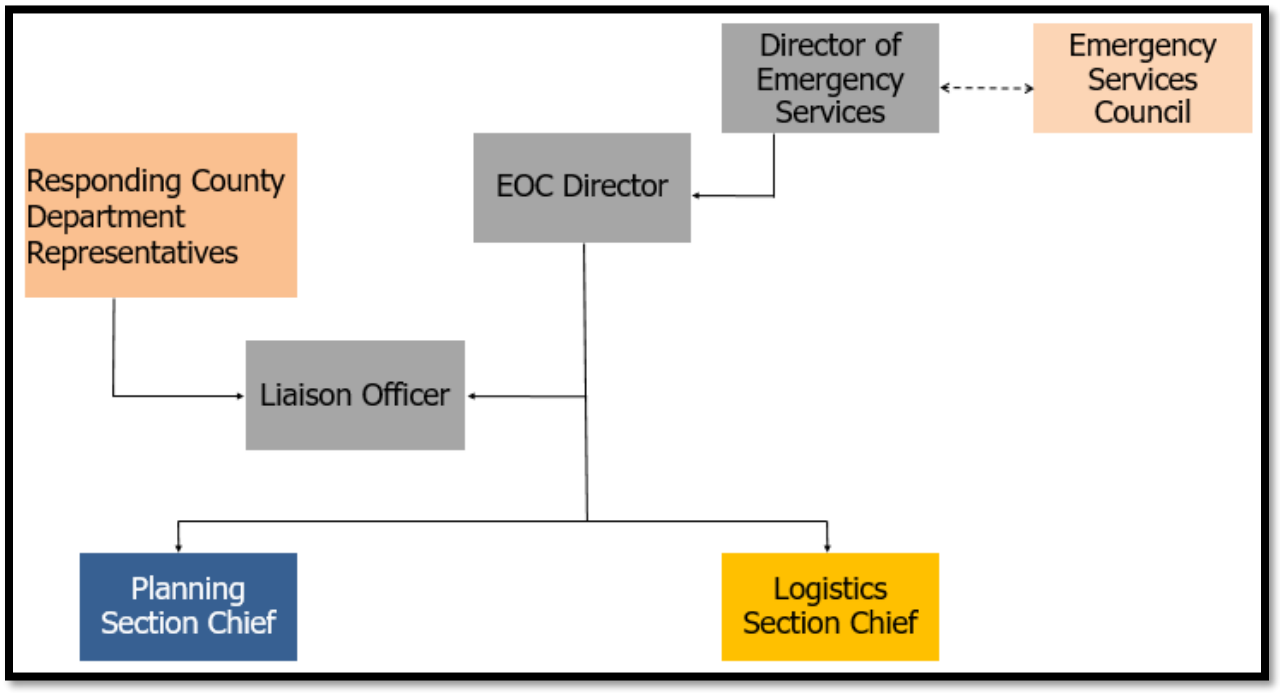
4.1 OPERATIONAL AREA EMERGENCY OPERATIONS CENTER (EOC)

The OA operates under SEMS, with the EOC Director providing leadership to the Management Function. The EOC may be activated in support of operations in the unincorporated area of the County or at the request of a local Jurisdiction (City or Special District) as outlined in the SJC EOP. The following organizational charts depict the standard active positions based upon the necessary activation level of the EOC in a flood incident or emergency.

4.1.1 EOC Low Level Activation – Level 3

As the lowest activation level, Level 3 is a monitoring or steady state. This level may only activate the OES Duty Officer or a few other staff assignments, as noted in the figure below. The level of staff is commensurate with the needs to support field activation levels and maintain situational awareness as the event changes. Additional positions may be activated as needed by the EOC Director.

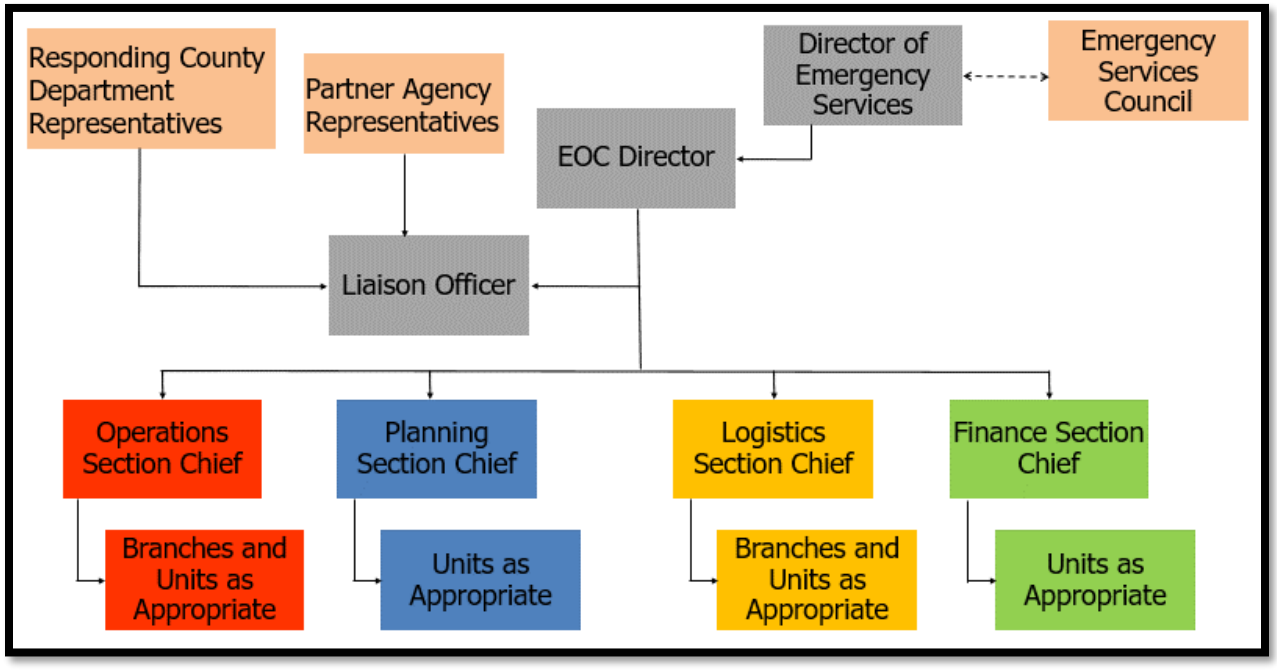
Figure 4 EOC Low Level Activation - Level 3



4.1.2 EOC Moderate Level Activation – Level 2

This partial activation level is to provide continued support to field operations. This level is commensurate with the scope and needs of the incident. The figure below outlines the standard positions activated for a moderate flooding incident. As with all events, the staffing level requirements are determined by the DOC Director and are based upon the support needs of the field events.

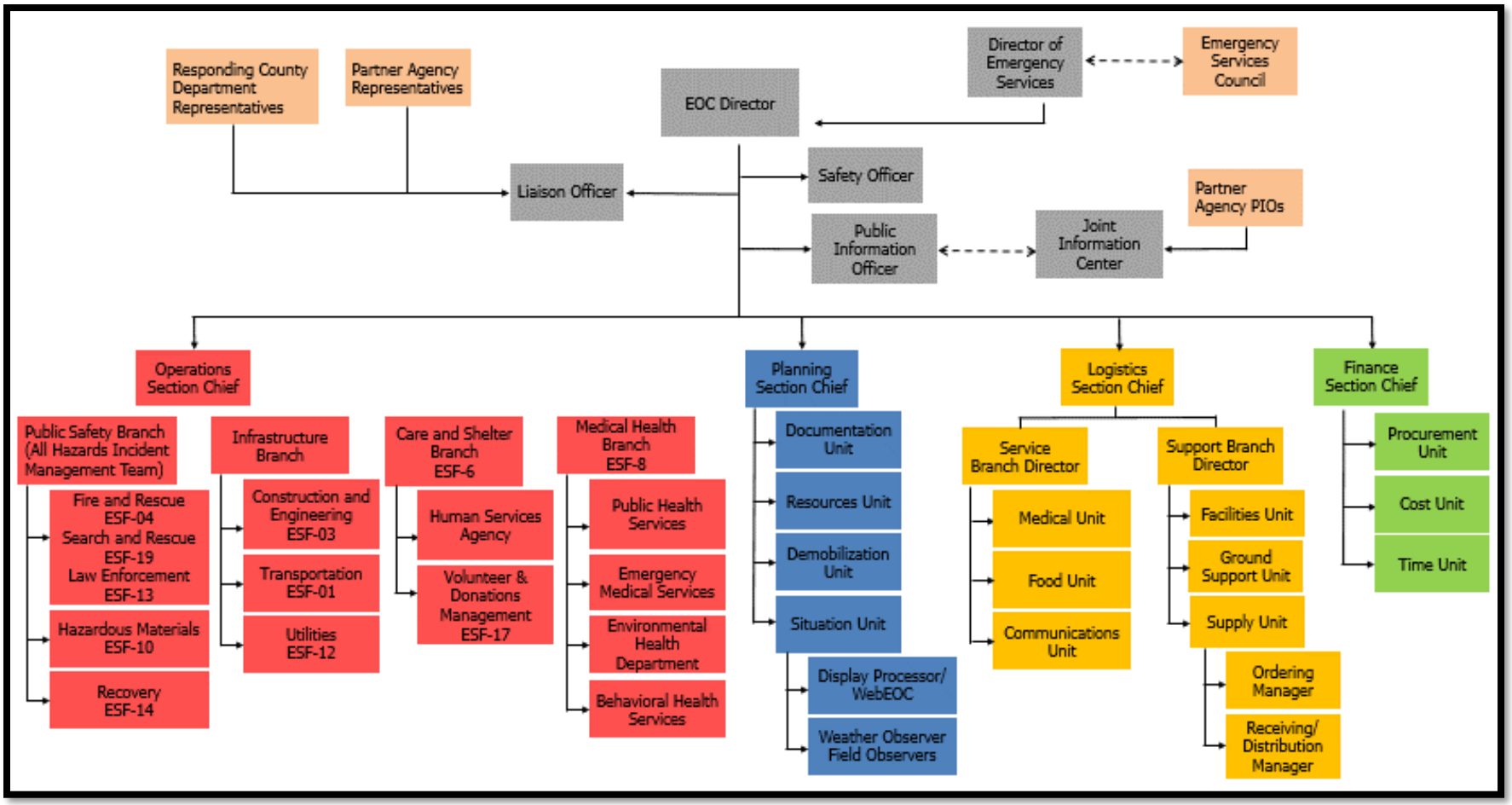
Figure 5 EOC Moderate Level Activation – Level 2



4.1.3 EOC Full Activation – Level 1

A level 1 activation is the highest level of EOC activation for major incidents that require a broad range of resources to work to return to a normal state of operations. The following figure represents the minimum positions that will likely be staffed. As noted in the EOP, deactivation of the EOC will occur based upon the mission needs as warranted.

Figure 6 EOC Full Activation – Level 1



4.2 PUBLIC INFORMATION

The Joint Information System (JIS) will be activated as soon as practical during an emergency. The Public Information Officer (PIO) will coordinate with activated PIOs within the OA for public information releases. News release procedures will be agreed upon, and established for the OA, the Unified Command, and other interested parties prior to any public release of information. The need to activate a Joint Information Center (JIC) to assist in public information coordination will be determined by the EOC Director and PIO. More information is located in the ESF#15 Public Information Annex.

4.3 INFORMATION SHARING AND DISSEMINATION

The following table lists key information needed and possible sources when preparing for and conducting operations during flood and dam failure events.

Table 1 Information Resources

Information Type	Source
Weather Forecasts / Warnings	National Weather Service, Sacramento https://www.weather.gov/
River/Stream Levels and forecasted levels Pre-recorded River and Reservoir Conditions 800-942-5530 (24-hour toll-free) 916-574-0954 (24-hour) Main Menu – Press 4 for recorded conditions menu, then press 3 for San Joaquin River Basin	National Weather Service, Sacramento https://water.weather.gov/ahps California Data Exchange Center https://cdec.water.ca.gov/index.html California Department of Water Resources https://water.ca.gov/ Flood Emergency Response Information Exchange http://ferix.water.ca.gov/webapp/home.jsp Reservoir Levels http://cdec.water.ca.gov/reservoir_map.html
Local Conditions / Observations	National Weather Service, Sacramento https://www.weather.gov/ Street and Road Departments (CalTrans) http://quickmap.dot.ca.gov/ Law Enforcement (CHP) http://cad.chp.ca.gov/
Dam Conditions	Dam Owner/Operator Private Engineers
Dam Inundation Areas	Dam Emergency Action Plan Dam Owner/Operator GIS Specialists

Dam owners/operators maintain a current Emergency Action Plan (EAP) and will promptly make necessary notifications. A current hard copy binder of each EAP is stored in the EOC Dam EAP library. During an actual emergency or disaster, the release of information raises significant issues regarding information sharing and dissemination. Security and confidentiality concerns must be weighed against operational needs and public interest.

The notification of an event (i.e., hazardous situation developing) or an emergency/disaster (i.e., failure of dam is imminent or has occurred) and any subsequent updates will be made verbally through the most secure form of landline available. Written confirmations of notification and updates will be used. Emergency response personnel will observe communication security procedures.

Sensitive information will not be communicated by cell phone or radio. SJC will host scheduled briefings for EOC staff and other emergency response personnel and will coordinate briefing times, reporting approaches, and news releases as much as possible with other SEMS levels.

A flood incident planning and response matrix is included attachment A which outlines the issues and considerations based upon the level of awareness indicated by the NWS, (e.g., Flood Watch, Flood Advisory, Flood Warning, and Flash Flood Warning). The matrix includes specific decision points for each level of awareness and the responsibilities of each ESF.

4.4 WEBEOC

The OA EOC will utilize WebEOC for recording incident information from the initial onset of an event. This will be to record activity logs, situational assessments, information sharing, development of Incident Action Plans, documenting LMA Board Status, Road Closures, and resource requesting and deployment tracking. EOC Standard Operations Plans detail these processes.

4.5 CAPABILITIES

The OA has seven (7) flood-fight containers pre-staged throughout the Delta areas. Each heavy-duty container has enough supplies to provide up to one-mile of wave wash protection or to assist with mitigating damaged levee areas. These supplies include sandbags, stakes, hand tools, twine, plastic sheeting and other materials. In accordance with SEMS, when the jurisdiction of authority depletes their available resources, they may request from the next level available mutual aid resources to assist with the event. The DWR also has similar containers and supplies available at its Weber Avenue warehouse in Stockton. Upon request, DWR will also provide technical staff to assist with flood-fight efforts by reviewing and evaluating projects prior to the start of work. These items are available from DWR through standard Mutual Aid resource requesting processes through the Logistics Section at the OA EOC.

The California Conservation Corps may also be requested through a Memorandum of Understanding for flood-fighting as needed at the request of the jurisdiction with responsibility. This is an assistance-by-hire agency, and as such, requires proper requests by the jurisdiction responsible for payment.

5 SLOW RISE RIVER FLOODING PLAN AND RESPONSE

The following information is provided as a guideline to be used within the procedural structure of SEMS and ICS and not intended to be a substitute for the decisions of the EOC Director. The information presented here is based on information provided by Local, State, and Federal Agencies as well as experiences and lessons learned from previous events/emergencies.

5.1 SLOW RISE FLOODING RIVER STAGES AND TYPICAL ACTIVITIES

SJC utilizes three emergency activation stages in its flood warning system. These stages are tied to river levels at one or more gauging stations in the various basins in the County. Table 2 summarizes the rivers/streams and their applicable river levels for each stage. In addition, the historical high water levels are also listed with reference to the key monitoring stations that can potentially impact the County. Attachment D provides additional information on river stages and definitions for leveed and non-leveed streams.

Table 2 San Joaquin County Rivers and Streams

River/Stream	Forecast Point	Top of Levee Elevation (From Sea Level)	Water Level Stages of Impact			Historical High Level (Unimpeded)
			Monitor	Flood	Danger	
Cosumnes River	Michigan Bar	168 ft.	7 ft.	12 ft.	N/A	18.54 ft.
Cosumnes River	McConnell	5 ft.	40 ft.	46 ft.	N/A	48.5 ft.
Mokelumne River	Benson's Ferry	16 ft.	12 ft.	17 ft.	N/A	21.69 ft.
Calaveras River	Mormon Slough @ Bellotta	130 ft.	16 ft.	22 ft.	23 ft.	18.48 ft.
Stanislaus River	Orange Blossom Bridge	117 ft.	13 ft.	16 ft.	N/A	13.95 ft.
Tuolumne River	Modesto	90 ft.	50.5 ft.	55 ft.	N/A	69.19 ft.
Merced River	Pohono Bridge near Yosemite	3,862 ft.	N/A	10 ft.	N/A	23.43 ft.
Merced River	Near Stevinson	82 ft.	67 ft.	71 ft.	N/A	73.81 ft.
San Joaquin River	Near Newman	90 ft.	63 ft.	69.4 ft.	70.4 ft.	66.26 ft.
San Joaquin River	Near Patterson	97 ft.	48 ft.	54.7 ft.	55.7 ft.	51.71 ft.
San Joaquin River	Vernalis	35 ft.	24.5 ft.	29 ft.	29.5 ft.	34.88 ft.
San Joaquin River	Mossdale Bridge	32 ft.	19.5 ft.	28.5 ft.	29.5 ft.	24.40 (+2.38) ft.
Bear Creek	McKee Road	187 ft.	17 ft.	23 ft.	N/A	24.65 ft.
Sacramento River	Rio Vista Bridge	0	7.4 ft.	11.9 ft.	12.9 ft.	11.5 ft.

Note: N/A=data not available for given data point. This information derived from the California Nevada River Forecast Center provided by the National Oceanic and Atmospheric Administration webpage and is provided for planning purposes only. (https://www.cnrfc.noaa.gov/qpf.php) Updated information should always be referenced during events.

5.2 TRIGGERS

The following outlines the actions taken by SJC OES based upon the changes in water level.

Water level at **Normal Stage**, but forecast to rise:

- Monitor NWS river forecasts
- Document the appropriate incident Activity Log in WebEOC
- Participate in established conference calls from NWS or with Cal OES
- Coordinate with appropriate LMA as needed

Water level at **Monitor Stage** and forecast to rise:

- Continue above actions; and
- Consider activating the EOC at level 3 (Lowest)
- Notify REOC of activation, if applicable
- Identify on-call duty officer for after-hours (if applicable); notify Sheriff Dispatch of information.

Water level expected to reach **Flood Stage** and forecast to rise:

- Continue above actions; and
- Consider activating EOC at level 2, (moderate)
- Notify REOC of activation level change
- Notify key functions involved in emergency operations
    - Law enforcement (evacuations)
    - Human Services Agency (sheltering activities)
    - Public Works
- Conduct San Joaquin Multi-Agency Coordination Group Call (SJ MAC Group) to assess conditions for response to expected impacts. Refer to the SJ MAC Group Plan.
- If waterway does not indicate a Danger Stage, consider upgrading to a level 1, Full EOC activation.

Water level expected to reach **Danger Stage** and forecast to rise:

- Continue with above actions
- Activate EOC to Level 1 (highest)

6 DAM FAILURE PLAN AND RESPONSE

The following information is provided as a guideline for Emergency Operations to be used within the procedural structure of SEMS and ICS and not intended to be a substitute for the decisions of the EOC Director. The information presented here is based on information provided by Local, State, and Federal Agencies as well as experiences and lessons learned from previous events/emergencies.

6.1 DAM FAILURES AND TYPICAL ACTIVITIES

SJC utilizes EAPs provided by the operating agencies for each of the dams that would affect the County. The following section identifies the area dams in case of a hazardous event/partial failure or complete failure of a dam.

The information provided in table 3 outlines the name of the dam and its river tributary. In some cases, multiple dams fall along a specific waterway. Inundation maps and water travel times are updated periodically by the dam operator. Updated maps and specific travel time for water in the event of a disaster can be found in the EOC Dam EAP library. To ensure the response information is accurate and current, responders should immediately consult the appropriate EAP.

Table 3 Dams with potential to impact San Joaquin County

Dam	Impacted River(s)/Stream(s)	Capacity (Acre Feet)
Beardsley	Middle Fork Stanislaus River	97,800
Camanche	Mokelumne River	417,120
Don Pedro	Tuolumne River / San Joaquin River	2,030,000
Farmington	Littlejohn Creek	52,000
Friant/Millerton	San Joaquin River	520,500
Jackson Creek	Jackson Creek / Dry Creek	22,000
McClure Lake	Merced River	1,024,600
Merced Falls	Merced River	620
Modesto Reservoir	Tuolumne River / San Joaquin River	29,000
New Exchequer	Merced River / San Joaquin River	1,024,600
New Hogan	Calaveras River	317,000
New Melones	Stanislaus River / San Joaquin River	2,400,000
New Woodbridge Diversion	Mokelumne River	2,462
Pardee	Mokelumne River	203,795
San Luis	Delta-Mendota Canal	2,041,000
Tulloch Reservoir	Stanislaus River / San Joaquin River	67,000
Turlock Lake	Tuolumne River / San Joaquin River	45,600
Salt Spring Valley Reservoir	Cashman Creek	141,900

**Reservoir information from California Data Exchange Center on Department of Water Resource's website (http://cdec4gov.water.ca.gov/misc/resinfo.html)*

7 TRAINING AND EXERCISES

Training will be coordinated as necessary to ensure safe, secure, and effective operations of equipment and procedures. Training requirements of staff involved in all phases of response will be expected to have completed training as identified in the Basic Emergency Operations Plan. The SJC OES will notify departments, jurisdictions, and agencies of training opportunities as they are available. Any OA grant funds identified to be expended for exercise/training should be coordinated with the SJC OES to ensure proper allocation/tracking of the funds before expenditure occurs.

Exercises are important for the successful response of personnel during an emergency or disaster. If an exercise interferes or otherwise hampers normal operations the exercise will be terminated and not resumed until such time as the problem is corrected.

8 ACRONYMS/DEFINITIONS

Cal OES	California Governor's Office of Emergency Services
CAO	County Administration Office (San Joaquin)
CBO	Community Based Organizations
CDEC	California Data Exchange Center
CVFPB	Central Valley Flood Protection Board
DRC	Disaster Relief Coalition
DWR	Department of Water Resources
EAP	Emergency Action Plan
EAS	Emergency Alert System
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
ESF	Emergency Support Function
FEMA	Federal Emergency Management Agency
FIRM	Federal Insurance Rate Maps
FOC	Flood Operations Center
ICS	Incident Command System
IPAWS	Integrated Public Alert and Warning System
JIC	Joint Information Center
JIS	Joint Information System
LMA	Local Maintaining Agency
NFIP	National Flood Insurance Program
NIMS	National Incident Management System
NOAA	National Oceanic & Atmospheric Administration
NWS	National Weather Service
OA	Operational Area
OES	Office of Emergency Services
PIO	Public Information Officer
PNP	Private Non-Profits
RD	Reclamation District
REOC	Regional Emergency Operations Center
SEMS	Standardized Emergency Management System
SFHA	Special Flood Hazard Area
SJ MAC	San Joaquin Multi-Agency Coordination Group
SOC	State Operations Center
SOP	Standard Operation Procedure
USACE	United States Army Corps of Engineers
VOAD	Voluntary Organizations Active in Disasters
WebEOC	WebEOC: Web based information sharing database

9 AUTHORITIES/REFERENCES

In addition to the documents cited in the San Joaquin County Emergency Operational Plan, the following documents were referenced during the drafting of this document.

- California Department of Water Resources, Flood Emergency Response Program, **Flood Threat Mitigation Process**, January 2018

- **Guidelines for Coordinating Flood Emergency Operations**, CalOES, Governors Executive Order W-156-97

- **State-Federal Flood Operations Center Informational Sheet,** March 2018, Flood Operations Branch, available through California Department of Water Resources, Flood Emergency Response Program.

LMA and RD Emergency Operations Plans are maintained digitally under each specific agency and may be accessed via OES webpage at: http://www.sjmap.org/oesfcm/ .

ATTACHMENT A: FLOOD INCIDENT PLANNING AND ESF RESPONSE MATRIX

Listed by Emergency Support Function (ESF)

	Flood Preparedness Activities	Flood Watch	Flood Advisory	Flood Warning	Flash Flood Warning
Forecast Event	**No flood expected**	**Potential flooding but no imminent threat**	**Flooding that is an inconvenience but not an imminent threat**	**Flooding is imminent or occurring**	**Flooding that occurs 6hrs after rain event**
Major Weather Events	Flooding threats exist with all possible rain associated events and dam breaches.	Flood Watch is issued when conditions are favorable for a specific hazardous weather event to occur and when conditions are favorable for flooding. It does not mean flooding will occur, but it is possible.	Flood Advisory is issued when flooding is not expected to be bad enough to issue a warning. However, it may cause significant inconvenience, and if caution is not exercised, it could lead to situations that may threaten life and/or property.	Flood Warning is issued when flooding is imminent or occurring.	**Flash Flood Warning** is issued when a flash flood is imminent or occurring. If you are in a flood prone area move immediately to high ground. **Flash flood** is a sudden violent flood that can take from minutes to hours to develop. It is even possible to experience a flash flood in areas not immediately receiving rain.
ISSUES & CONSIDERATIONS		· Are Special Events scheduled for the geographic area(s) potentially impacted? · Will EOC need to be activated? · To what extent will local school systems be impacted by potential flooding?	· Are Special Events scheduled for the geographic area(s) potentially impacted? · Will EOC need to be activated? · To what extent will local school systems be impacted by potential flooding?	· Are Special Events scheduled for the geographic area(s) potentially impacted? · Is flooding anticipated to affect major metropolitan areas/transportation hubs during normal business hours?	· Are Special Events scheduled for the geographic area(s) potentially impacted? · Is flooding anticipated to affect major metropolitan areas/transportation hubs during normal business hours?

	Flood Preparedness Activities	Flood Watch	Flood Advisory	Flood Warning	Flash Flood Warning
Forecast Event	**No flood expected**	**Potential flooding but no imminent threat**	**Flooding that is an inconvenience but not an imminent threat**	**Flooding is imminent or occurring**	**Flooding that occurs 6hrs after rain event**
Decision Points		· Decision to convene an SJ MAC Group Conference Call? · Decision to provide pre-alert for EOC Section Chiefs	· Decision to Activate EOC? If so, what level? · Decision to convene SJ MAC Group Call? · Decision to initiate Wireless Emergency Alerts? · Decision to recommend cancellation of Special Events? · Decision to notify local school superintendents of potential weather impacts?	· Decision to Activate EOC? If so, what level? · Decision to establish a Joint Information Center? · Decision to proclaim a local emergency · Decision to initiate Wireless Emergency Alerts?	· Decision to Activate EOC? If so, what level? · Decision to proclaim a local emergency · Decision to initiate Wireless Emergency Alerts?
NWS Meteorologist	· Monitor weather models, NOAA products, local broadcast meteorologist forecast, radar trends, and etc. · Monitor SJC weather activities and disseminate information on any existing / threatening storms.	· Monitor SJC weather activities and disseminate information on any existing / threatening storms. · Share information with Director of Emergency Operations / appointee on whether any course of action needs to be taken.	· Consult with the Director of Emergency Operations on what course of action should be taken.	· Continue day-to-day activities. · Consult with the Director of Emergency Operations on courses of action, including: · Notify local OES Directors, area field coordinators, area school safety coordinators, and SJC Weather Distribution List; · Meet with Public Affairs Officer to construct proper messaging.	· Continue day-to-day activities. · Consult with Director of Emergency Operations on courses of action including: · Notify local OES Directors, area field coordinators, area school safety coordinators, and SJC Weather Distribution list; · Meet with Public Affairs Officer to construct proper messaging.

	Flood Preparedness Activities	Flood Watch	Flood Advisory	Flood Warning	Flash Flood Warning
Forecast Event	**No flood expected**	**Potential flooding but no imminent threat**	**Flooding that is an inconvenience but not an imminent threat**	**Flooding is imminent or occurring**	**Flooding that occurs 6hrs after rain event**
ESF 1 Transportation	· Actively monitor current weather conditions	· Actively monitor current weather conditions	· Actively monitor current weather conditions	· Develop Staffing Roster for EOC activation. · Cleaning and checking storm drains · Close roads as needed. · Post signage as needed.	· Develop Staffing Roster for EOC activation. · Monitor roadway condtions · Response as needed · Cleaning and checking storm drains
ESF 2 Communications	· Continue Planning Activities. · Continue Equipment Maintenance.	· Identify communications resources to support potential Resource Requests and post-disaster operations. · Preparatory actions to ensure all available disaster response communications equipment is prepared for deployment.	· Identify communications resources to support potential Resource Requests and post-disaster operations. · Monitor communications infrastructure and provide information updates to EOC. Begin restoration efforts.	· Identify and possibly deploy communications resources to support requesting operational response. · Monitor communications infrastructure and provide information updates to EOC. · Finalize and distribute the ICS Form 205 (Incident Radio Communications Plan) to all responding agencies.	· Identify and deploy communications resources to support requesting operational response. · Monitor communications infrastructure and provide information updates to EOC.

	Flood Preparedness Activities	Flood Watch	Flood Advisory	Flood Warning	Flash Flood Warning
Forecast Event	**No flood expected**	**Potential flooding but no imminent threat**	**Flooding that is an inconvenience but not an imminent threat**	**Flooding is imminent or occurring**	**Flooding that occurs 6hrs after rain event**
ESF 3 Construction/ Engineering	· Continue to Monitor Water Quality. · Continue Planning Activities.	· Continue to Monitor Water Quality. · Continue Planning Activities.	· Continue to Monitor Water Quality · Continue Planning Activities. · Send out Weather Alerts and Notifications Received from the EOC regarding potential for Severe Weather.	· Continue to Monitor Water Quality. · Continue Planning Activities. Develop ESF Staffing Roster for EOC Activation. · Send out Weather Alerts and Notifications Received from the EOC regarding potential for Severe Weather. · Prepare templates for Public Notification Advisories. · Identify all Drinking Water, Wastewater and Dams in the potentially impacted area. · Coordinate with major Public utilities if aid is needed · Coordinate with ground water system reps to monitor water quality	· Continue to Monitor Water Quality. · Continue Planning Activities. · Develop ESF Staffing Roster for EOC Activation. · Send out Weather Alerts and Notifications Received from the EOC. · Alert primary and support agencies to continue to monitor the weather and be prepared to respond to resource requests. · Coordinate with drinking water and wastewater facilities, and advise them to inventory their resources, to make assessments and/or resource requests. · Monitor Dams for potential flood issues

	Flood Preparedness Activities	Flood Watch	Flood Advisory	Flood Warning	Flash Flood Warning
Forecast Event	**No flood expected**	**Potential flooding but no imminent threat**	**Flooding that is an inconvenience but not an imminent threat**	**Flooding is imminent or occurring**	**Flooding that occurs 6hrs after rain event**
ESF 4 Fire & Rescue	· Maintain situational awareness of current and future weather conditions.	· Maintain situational awareness of current and future weather conditions.	· Send out Weather Alerts and Notifications Received from the EOC. · Direct Assistance to jurisdiction when requested	· Develop Staffing Roster for EOC Activation. · Send out to primary and support agencies the Weather Alerts and Notifications Received from the EOC.	· Develop Staffing Roster for potential EOC Activation. · Send out to primary and support agencies the Weather Alerts and Notifications Received from the EOC. · Provide support to the EOC and other ESF partners.
ESF 5 Emergency Management		· Determine potential for EOC Activation Level - 3 (Low Level) · Actively monitor current weather conditions. · Review and evaluate Damage Reports. · Coordinate Resource and Mutual Aid Requests.	· Determine potential for EOC Activation Level - 3 (Low Level) · Actively monitor current weather conditions. · Review and evaluate Damage Reports. · Coordinate Resource and Mutual Aid Requests. · Consider need to assign point of contact to coordinate with LMAs	· Determine EOC Activation Level for anticipated event · Develop Staffing Roster for EOC Activation. · Publish Awareness Statement to all County Employees, and all emergency management agencies. · Notify ESFs to increase response planning. · Notify necessary Staff to report to the EOC. · Create Incident in WebEOC. · Participate in OA, State Agency, and NWS Conference Calls.	· Determine EOC Activation Level · Publish Awareness Statement to all County Employees, and all emergency management agencies. · Notify ESFs to increase response planning. · Develop Staffing Roster for EOC Activation. · Notify necessary Staff to report to the EOC. · Create Incident in WebEOC. · Participate in County, State Agency, and NWS Conference Calls.

	Flood Preparedness Activities	Flood Watch	Flood Advisory	Flood Warning	Flash Flood Warning
Forecast Event	**No flood expected**	**Potential flooding but no imminent threat**	**Flooding that is an inconvenience but not an imminent threat**	**Flooding is imminent or occurring**	**Flooding that occurs 6hrs after rain event**
ESF 5 Emergency Management (continued)				· Review and evaluate Damage Reports. · Coordinate Resource and Mutual Aid Requests. · Consider need to assign point of contact to coordinate with LMAs	· Review and evaluate Damage Reports. · Coordinate Resource and Mutual Aid Requests.
ESF 6 Mass Care & Shelter		· Maintain situational awareness of current and future weather conditions. · Maintain email and phone communication with the EOC. · Direct Assistance when requested.	· Maintain situational awareness of current and future weather conditions. · Maintain email and phone communication with the EOC. · Direct Assistance when requested.	· Develop Staffing Roster for EOC Activation. · Coordinate with ARC as required. · Direct Assistance when requested. · Maintain situational awareness of current and future weather conditions. · Provide support as needed.	· Develop Staffing Roster for EOC Activation. · Coordinate with ARC as required. · Direct Assistance when requested. · Maintain situational awareness of current and future weather conditions. · Provide support as needed.

	Flood Preparedness Activities	Flood Watch	Flood Advisory	Flood Warning	Flash Flood Warning
Forecast Event	**No flood expected**	**Potential flooding but no imminent threat**	**Flooding that is an inconvenience but not an imminent threat**	**Flooding is imminent or occurring**	**Flooding that occurs 6hrs after rain event**
ESF 7 Resources		· Monitor situation for possible support requirements	· Monitor situation for possible support requirements.	· Develop Staffing Roster for EOC Activation. · Monitor situation for possible support requirements.	· Develop Staffing Roster for EOC Activation. · Activate the purchasing and contracting portion of ESF-7. · Alert vendors and consider locating vendors (generators, water & tarps) for rapid response. · Provide support as needed.
ESF 8 Public Health and Medical Services			· Monitor Licensed Healthcare agencies for needs	· Develop Staffing Roster for EOC Activation. · Monitor Licensed Healthcare agencies for needs	· Develop Staffing Roster for EOC Activation. · Monitor Licensed Healthcare agencies for needs.
ESF 10 Hazardous Materials		· Maintain situational awareness of current and future weather conditions.	· Maintain situational awareness of current and future weather conditions.	· Develop Staffing Roster for EOC Activation. · Maintain situational awareness of current and future weather conditions. · Identify potential Hazmat threats in the potentially affected areas.	· Develop Staffing Roster for EOC Activation. · Maintain situational awareness of current and future weather conditions. · Identify potential Hazmat threats in the potentially affected areas.

	Flood Preparedness Activities	Flood Watch	Flood Advisory	Flood Warning	Flash Flood Warning
Forecast Event	**No flood expected**	**Potential flooding but no imminent threat**	**Flooding that is an inconvenience but not an imminent threat**	**Flooding is imminent or occurring**	**Flooding that occurs 6hrs after rain event**
ESF 11 Food and Agriculture		· Maintain situational awareness of current and future weather conditions.	· Maintain situational awareness of current and future weather conditions.	· Maintain situational awareness of current and future weather conditions. · Be prepared to coordinate damages assessments if needed. · Be prepared to provide technical assistance to public Natural, Cultural and Historic properties during damages assessment and request for assistance if needed.	· Maintain situational awareness of current and future weather conditions. · Be prepared to coordinate damages assessments if needed. · Be prepared to provide technical assistance to public Natural, Cultural and Historic properties during damages assessment and request for assistance if needed.

	Flood Preparedness Activities	Flood Watch	Flood Advisory	Flood Warning	Flash Flood Warning
Forecast Event	**No flood expected**	**Potential flooding but no imminent threat**	**Flooding that is an inconvenience but not an imminent threat**	**Flooding is imminent or occurring**	**Flooding that occurs 6hrs after rain event**
ESF 12 Utilities		· Maintain situational awareness of current and future weather conditions. · Maintain communication with primary agencies and support agencies and companies.	· Maintain situational awareness of current and future weather conditions. · Maintain communication with primary agencies and support agencies and companies.	· Develop Staffing Roster for EOC Activation. · Maintain situational awareness of current and future weather conditions. · Maintain communication with primary agencies and support agencies and companies. · Coordinate with critical infrastructure owners and operators to determine the number of citizens without electrical service.	· Develop Staffing Roster for EOC Activation. · Maintain situational awareness of current and future weather conditions. · Maintain communication with primary agencies and support agencies and companies. · Coordinate with critical infrastructure owners and operators to determine the number of citizens without electrical service.

	Flood Preparedness Activities	Flood Watch	Flood Advisory	Flood Warning	Flash Flood Warning
Forecast Event	**No flood expected**	**Potential flooding but no imminent threat**	**Flooding that is an inconvenience but not an imminent threat**	**Flooding is imminent or occurring**	**Flooding that occurs 6hrs after rain event**
ESF 13 Law Enforcement		· Monitor weather conditions and report any severe weather or damage.	· Monitor weather conditions and report any severe weather or damage. · Assist the public on the roadways and waterways. · Assist local Public Safety Agencies as requested.	· Develop Staffing Roster for EOC Activation. · Maintain communications between partner agencies. · Monitor weather conditions and report any severe weather or damage. · Assist the public on the roadways and waterways. Assist local Public Safety Agencies as requested. · Coordinate animal sheltering support needs. · Coordinate livestock animal evacuation response needs	· Develop Staffing Roster for EOC Activation. · Maintain communications between partner agencies. · Monitor weather conditions and report any severe weather or damage. · Assist the public on roadways/waterways. · Assist local Public Safety Agencies as requested. · Notify critical personnel to prepare for extended shifts and emergency responses. · Coordinate animal sheltering support needs. · Coordinate livestock animal evacuation response needs.

	Flood Preparedness Activities	Flood Watch	Flood Advisory	Flood Warning	Flash Flood Warning
Forecast Event	**No flood expected**	**Potential flooding but no imminent threat**	**Flooding that is an inconvenience but not an imminent threat**	**Flooding is imminent or occurring**	**Flooding that occurs 6hrs after rain event**
ESF 15 Public Information	· Continue planning activities. · Continue equipment maintenance. · Social Media: Maintain situational awareness of weather by monitoring twitter feeds/Facebook pages of NWS offices, local meteorologists. · Website: Continue monitoring day- to-day activities. No changes to the website. Homepage reflects the most notable weather conditions for that time of year.	· Social media: Maintain situational awareness of weather by monitoring Twitter feeds/Facebook pages of NWS offices, local meteorologists. · Website: Continue monitoring day- to-day activities. No changes to the website. Homepage reflects the most notable weather conditions for that time of year.	· Social media: Maintain situational awareness of weather by monitoring Twitter feeds/Facebook pages of NWS offices, local meteorologists. · Website: Continue monitoring day- to-day activities. No changes to the website. Homepage reflects the most notable weather conditions for that time of year.	· Develop Staffing Roster for EOC Activation. · Coordinate with meteorologist, Operations and EOC Leadership on messaging. · Provide talking points for local partners. · Social media: Maintain situational awareness of weather by monitoring Twitter feeds/Facebook pages of NWS offices, local meteorologists. · Website: Continue monitoring day-to-day activities. Through coordination with meteorologist and Operations, the Homepage may reflect the enhanced risk with addition of appropriate map and links to NWS products.	· Develop Staffing Roster for EOC Activation. · Coordinate with meteorologist, Operations and EOC Leadership on messaging. · Provide talking points for local partners. · Social media: Maintain situational awareness of weather by monitoring Twitter feeds/Facebook pages of NWS offices, local meteorologists. · Website: Continue monitoring day- to-day activities. Through coordination with meteorologist, Operations and Leadership, the homepage may reflect the moderate risk with addition of appropriate map and links to NWS products. · Provide news releases and respond to media requests accordingly.

ATTACHMENT B: LOCAL MAINTAINING AGENCIES

Local Maintaining Agencies within San Joaquin County

District ID #	District Name	District ID #	District Name
1	Union Island East	2042	Bishop Tract
2	Union Island West	2044	King Island
17	Mossdale	2058	Pescadero District
38	Staten Island	2062	Stewart Tract
348	New Hope Landing	2064	River Junction
403	Rough & Ready	2072	Woodward Island
404	Boggs Tract	2074	Sargent-Barnhart Tract
524	Middle Roberts Island	2075	McMullin Ranch
544	Upper Roberts Island	2085	Kasson District
548	Terminous	2086	Canal Ranch
684	Lower Roberts Island	2089	Stark Tract
756	Bouldin Island	2094	Walthall
773	Fabian Tract	2095	Paradise Junction
828	Weber Tract	2096	Wetherbee Lake
1007	Pico & Naglee	2101	Blewett
1608	Smith Tract	2107	Mossdale
1614	Smith Canal	2108	Tinsley Island
2023	Venice Island	2113	Fay Island
2027	Mandeville Island	2114	Rio Blanco Tract
2028	Bacon Island	2115	Shima Tract
2029	Empire Tract	2116	Holt Station
2030	McDonald Island	2118	Little Mandeville Island
2033	Brack Tract	2119	Wright-Elmwood Tract
2037	Rindge Tract	2126	Atlas Tract
2038	Lower Jones Tract	Zone 9	SJC Channel Maintenance
2039	Upper Jones Tract	Zone 10	SJC Channel Maintenance
2040	Victoria Island	SJAFCA	SJ Area Flood Control Agency
2041	Medford Island		

ATTACHMENT C: MAPS

These maps are for reference and planning purposes only. In the event of a real incident, OES will reference the latest versions of maps and/or request updated maps to be developed based upon the incident.

List of maps:

Figure 7: Special Flood Hazard Areas: Identifies areas within San Joaquin that have been identified by FEMA as Special Flood Hazard Areas.

Figure 8: Potential Dam Inundation: Identifies areas within San Joaquin that are subject to flooding due to a dam failure event.

Figure 9: Reclamation Districts: Identifies the boundaries for Reclamation Districts within San Joaquin County.

Figure 10: Northwest County Reclamation Districts: Zoomed version of the Reclamation District map.

Figure 11: West Central County Reclamation Districts: Zoomed version of the Reclamation District map.

Figure 12: Southwestern County Reclamation Districts: Zoomed version of the Reclamation District map.

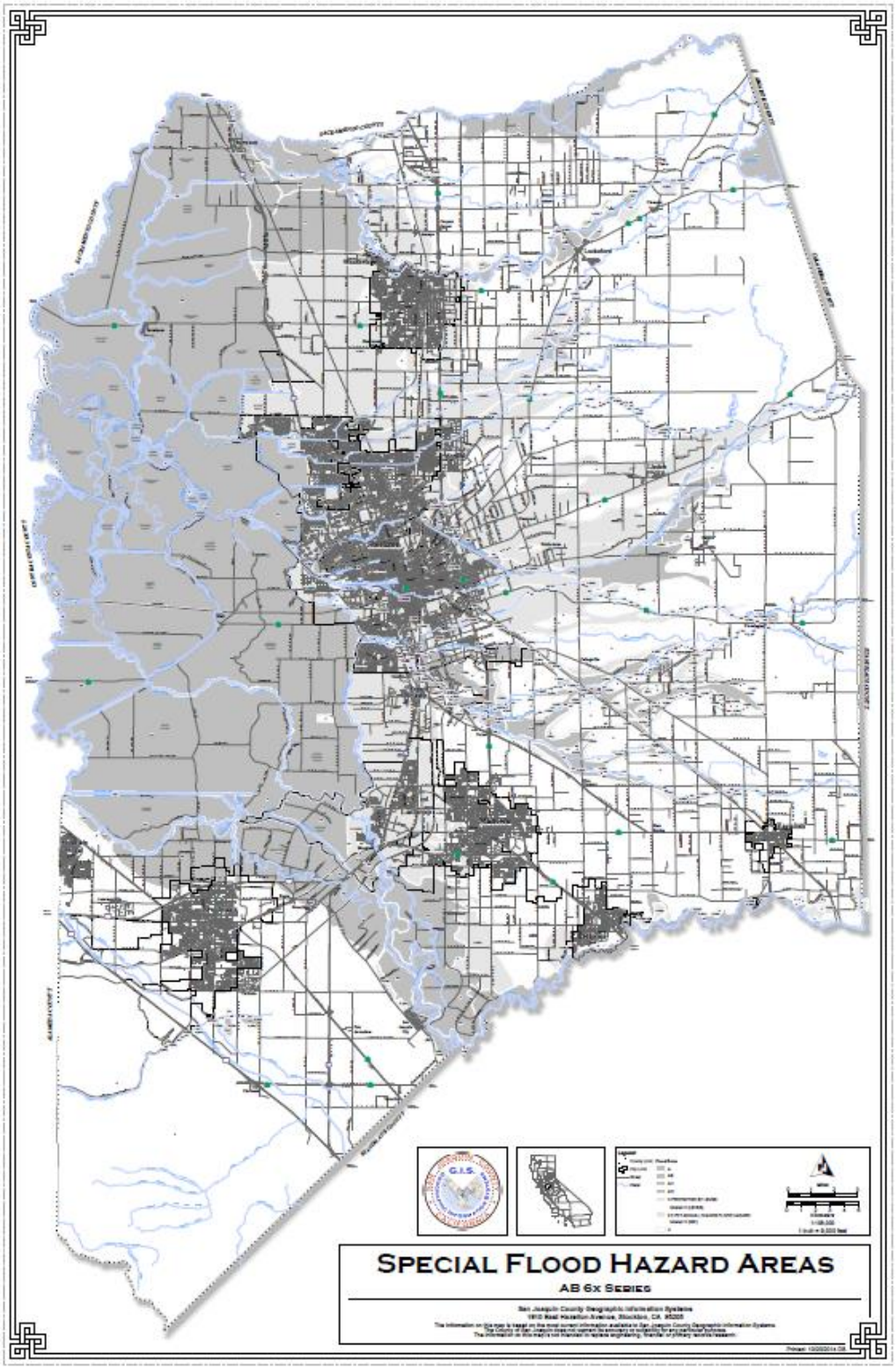
Figure 13: SJAFCA Flood Control District Map: Identifies the boundaries of the SJAFCA Flood Control District.

Figure 14: San Joaquin Valley Flood Control System: Outlines project levees and channel capacity.

Figure 15: Flood Control Projects and Agencies: Outlines Reclamation Districts, Project levees, and drainage districts.

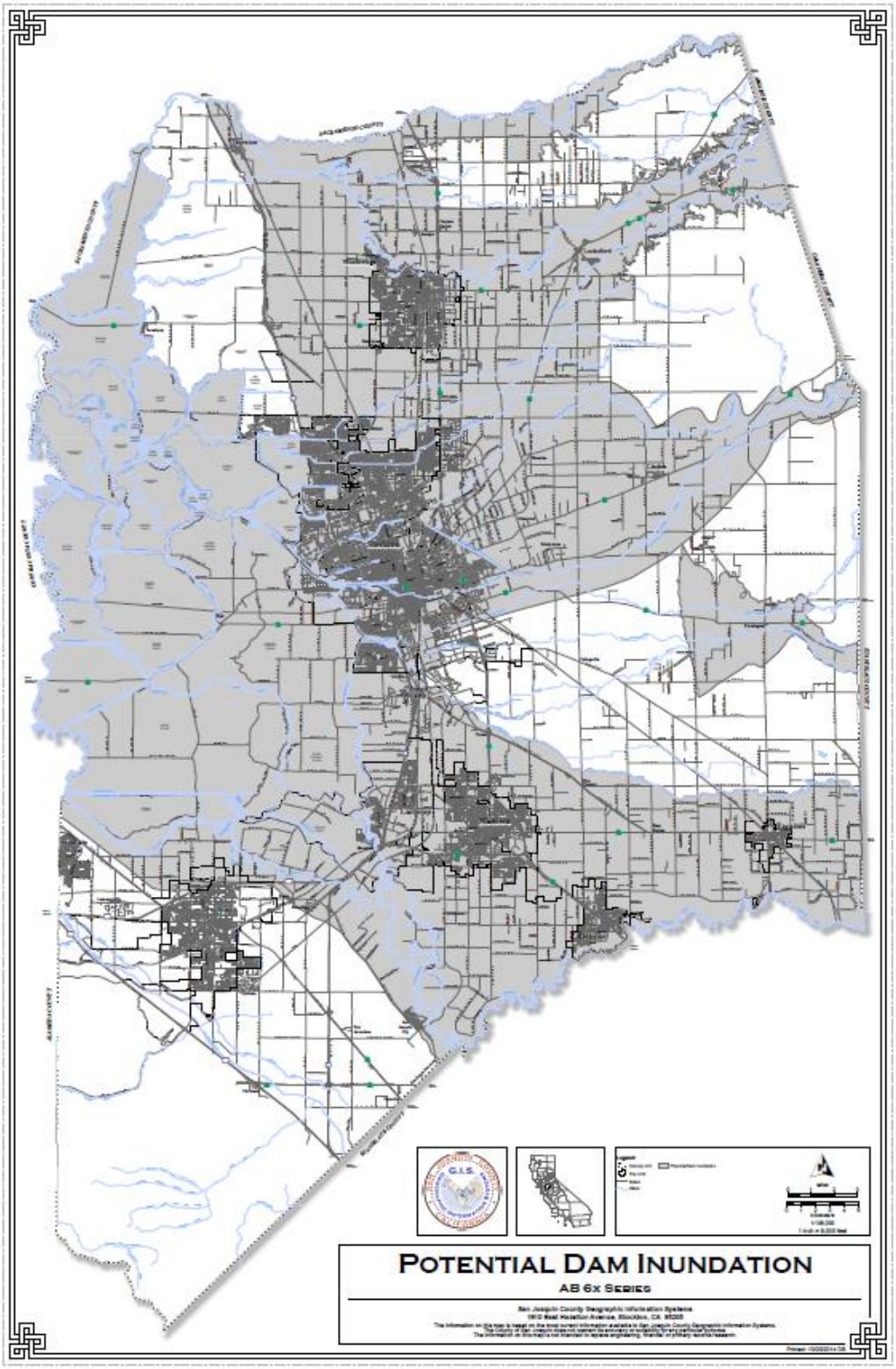
Map Special Flood Hazard Areas:
http://www.sjmap.org/nhd/pdfs/SJCGIS_AB6XSeries_SpecialFloodHazardAreas.pdf

Figure 7 Special Flood Hazard Areas



Map Areas subject to flooding due to a dam failure:
http://www.sjmap.org/nhd/pdfs/SJCGIS_AB6XSeries_PotentialDamInundation.pdf

Figure 8 Potential Dam Inundation



Levee Maintaining Agencies / Reclamation District Map

Figure 9 Reclamation Districts

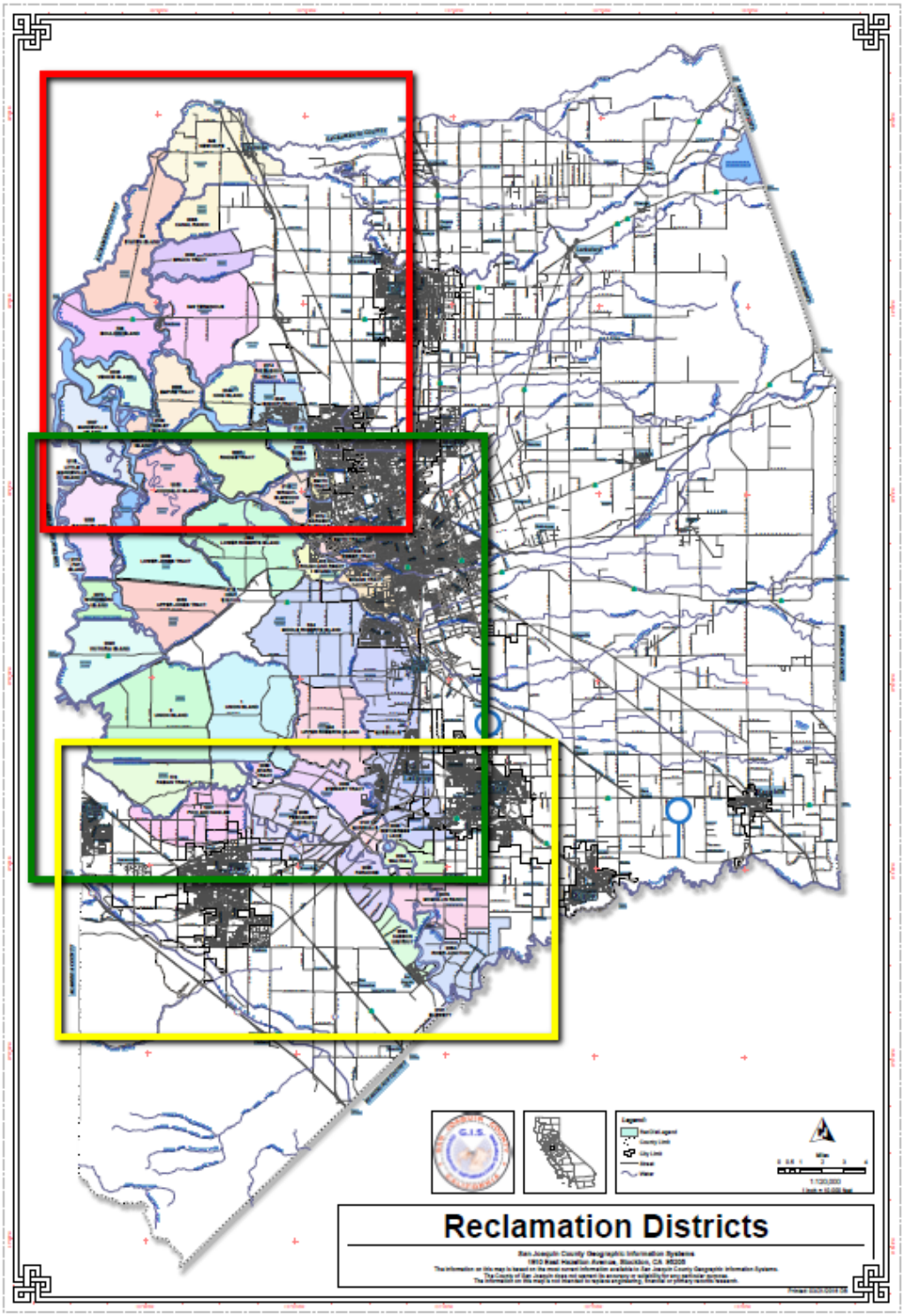


Figure 10 Northwest County Reclamation Districts

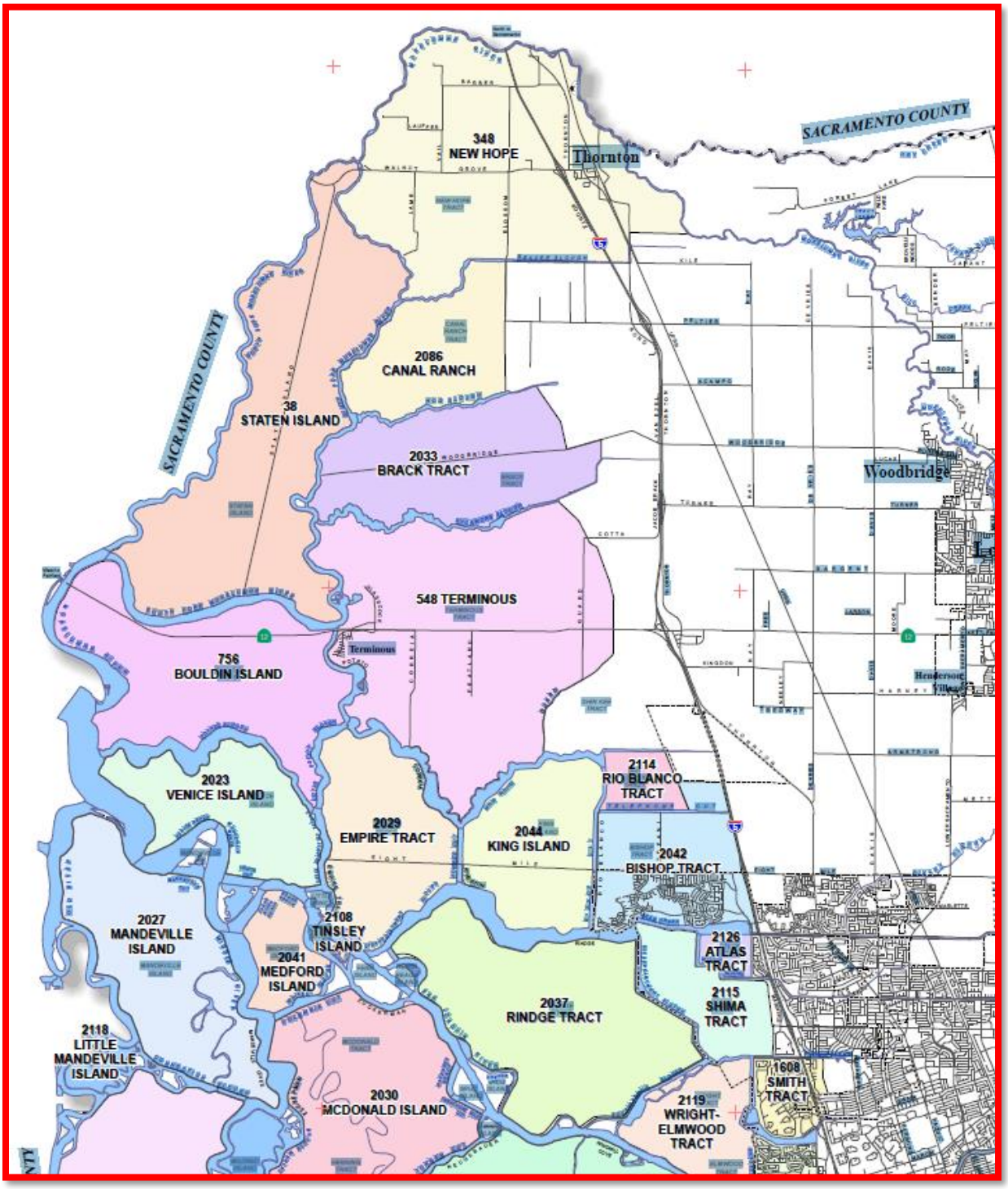


Figure 11 West-Central County Reclamation Districts

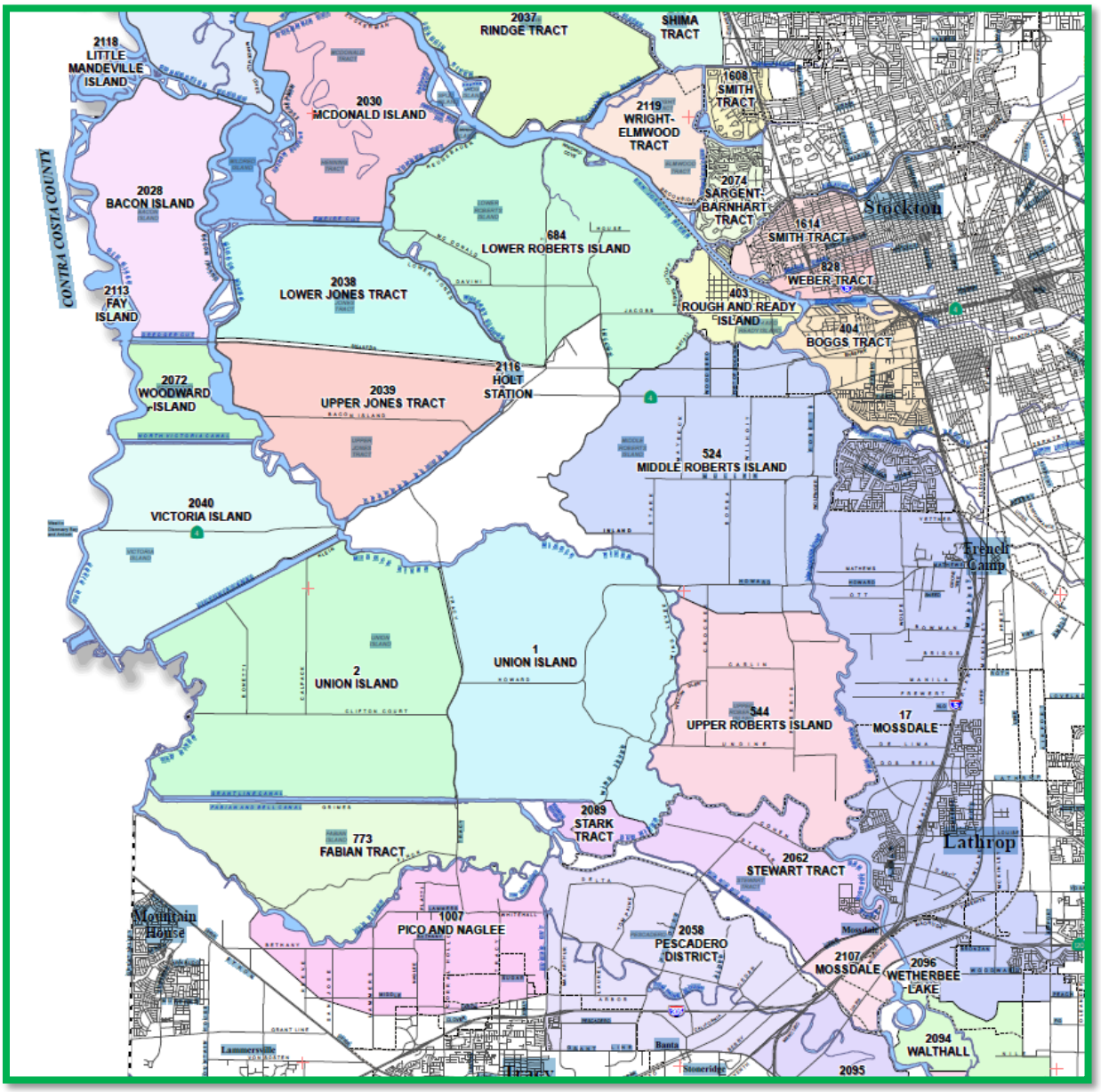


Figure 12 Southwestern County Reclamation Districts

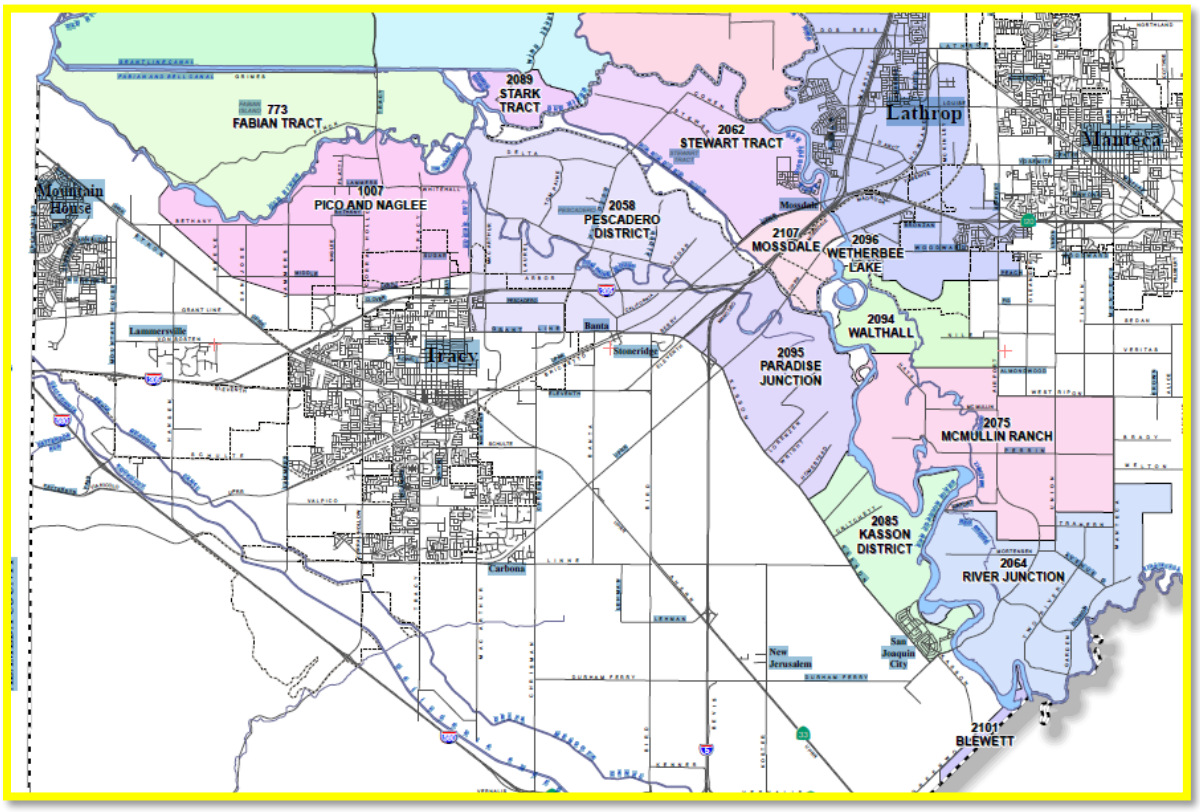


Figure 13 SJAFCA Flood Control District map

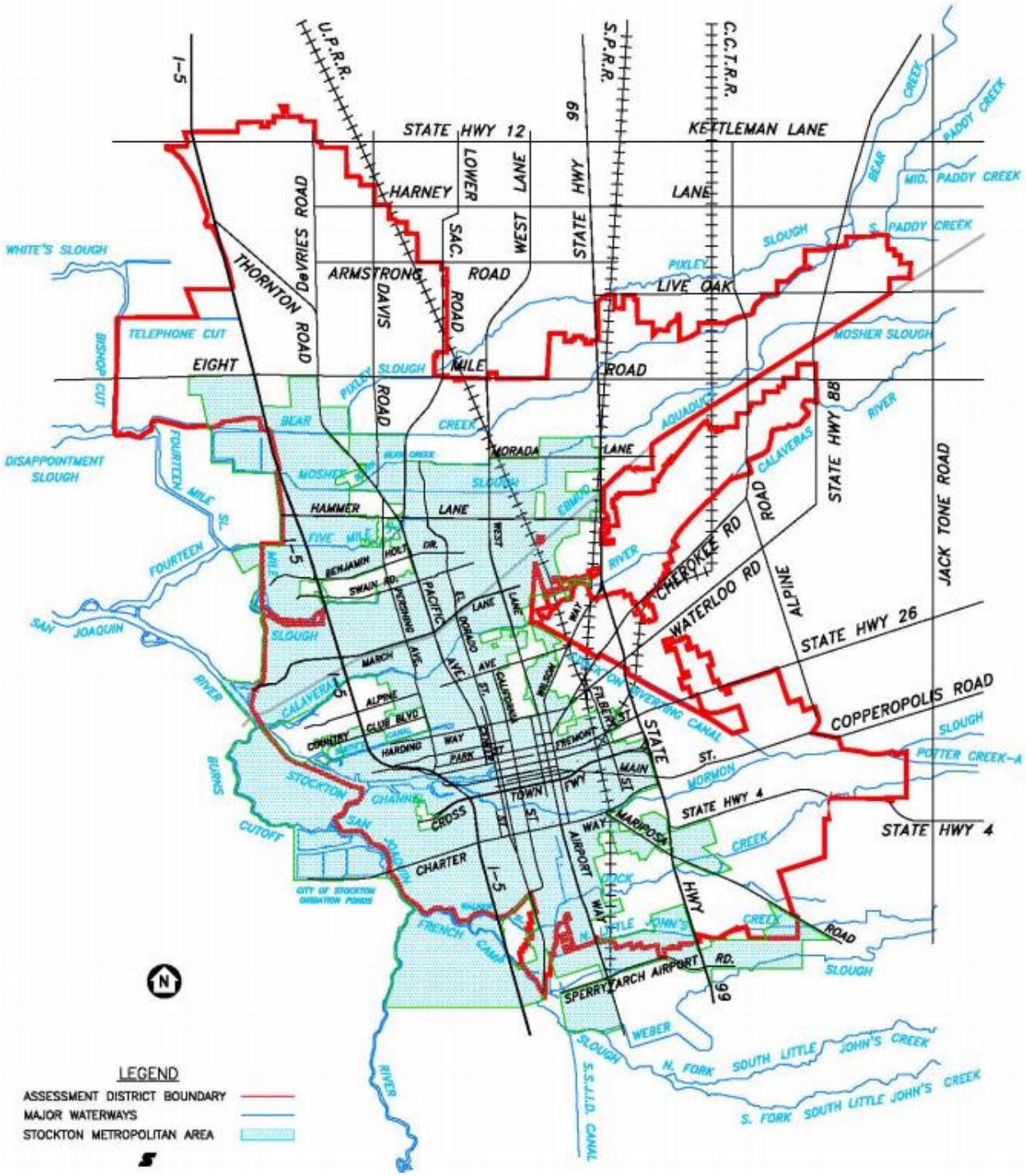
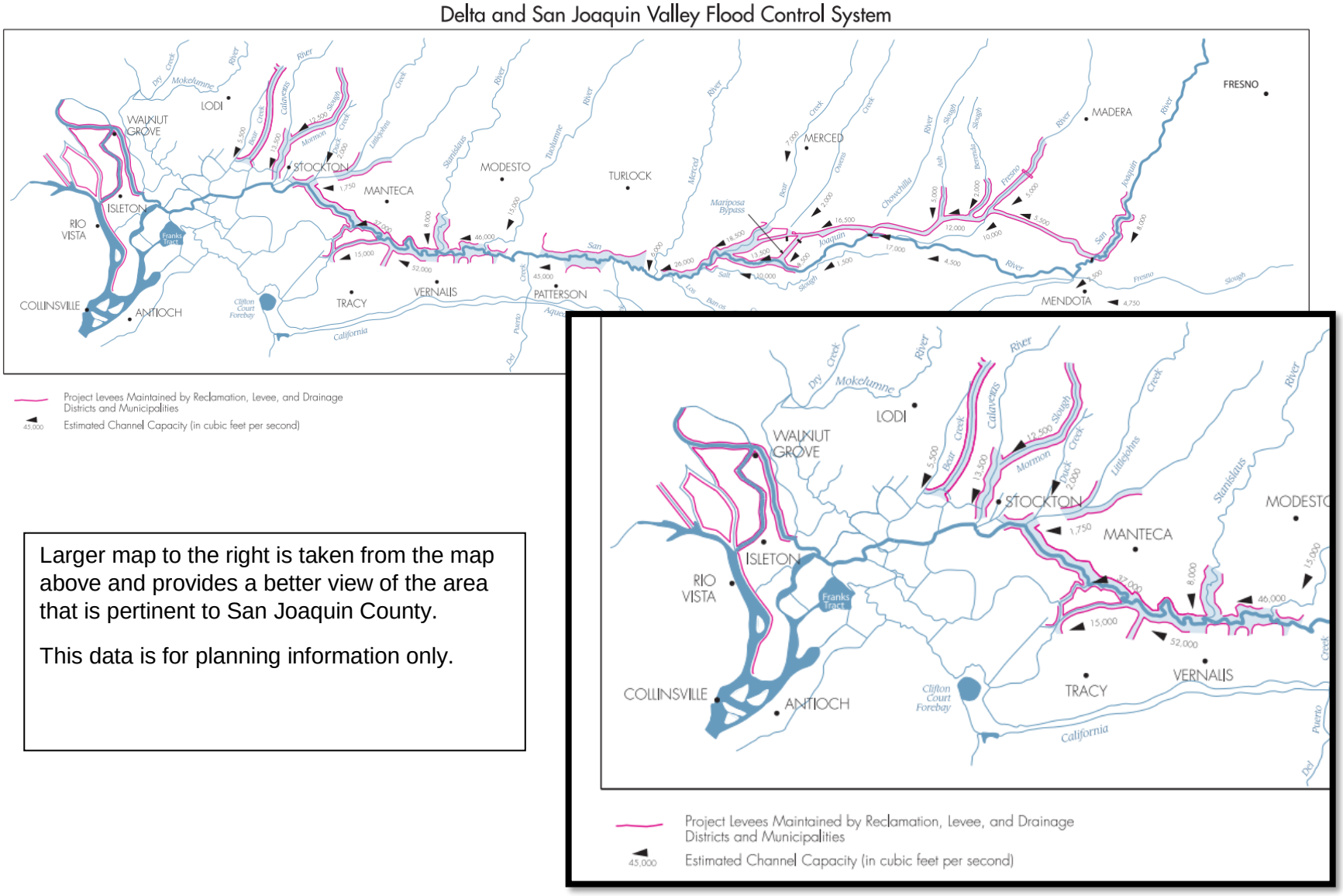


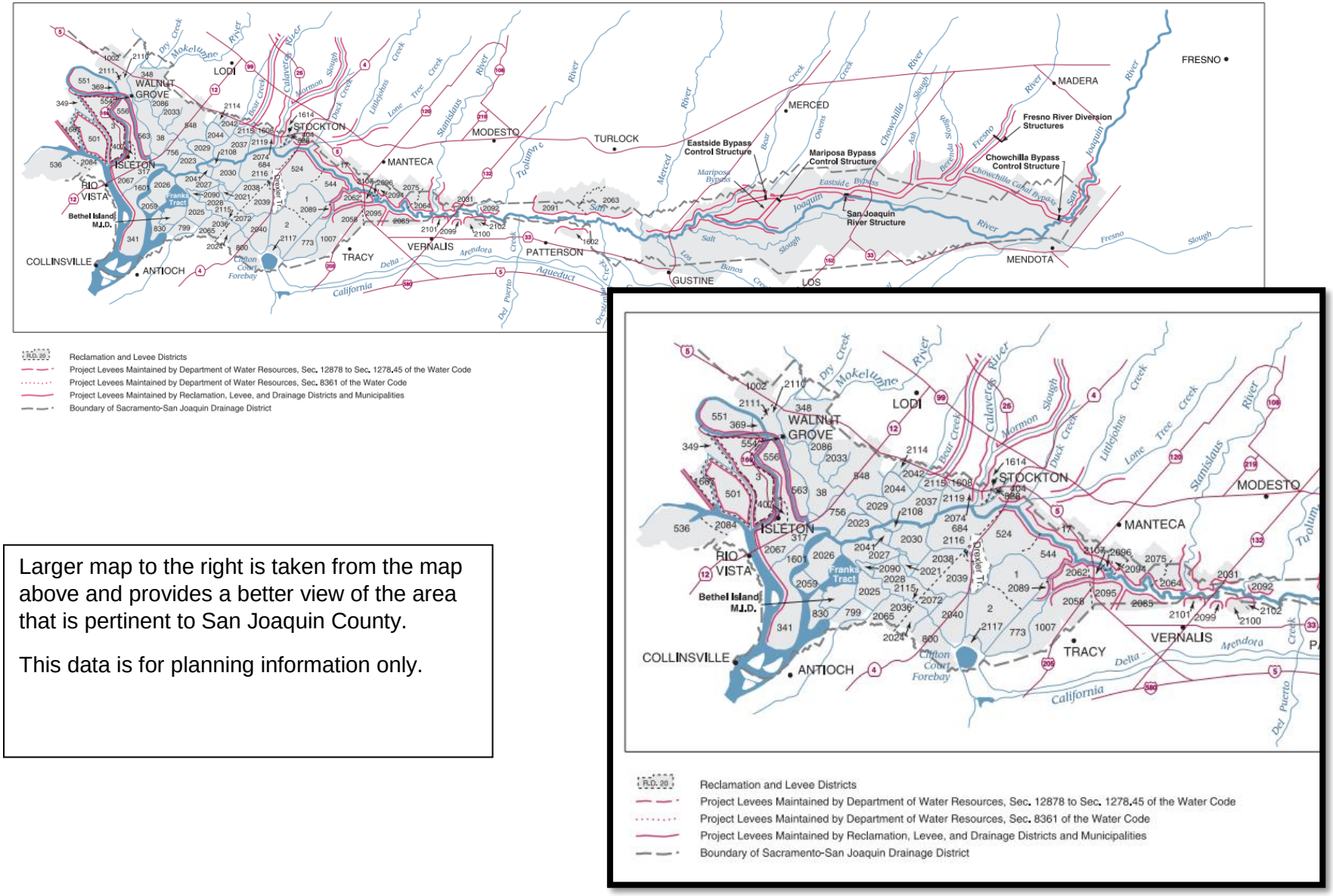
Figure 14 San Joaquin Valley Flood Control System



Larger map to the right is taken from the map above and provides a better view of the area that is pertinent to San Joaquin County.

This data is for planning information only.

Figure 15 Flood Control Projects and Agencies



Larger map to the right is taken from the map above and provides a better view of the area that is pertinent to San Joaquin County.

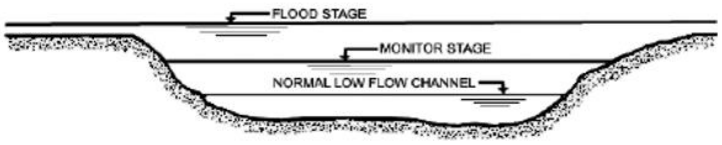
This data is for planning information only.

ATTACHMENT D: RIVER STAGE DEFINITIONS

These definitions are used by the California Department of Water Resources (DWR) Flood Operations Center in Sacramento in correspondence and alerts provided to local governments are posted on the California Data Exchange Center (CDEC) and National Oceanic and Atmospheric Administration (NOAA) Webpages.

NON-LEVEED STREAM

Figure 16 Non-leveed Stream - Monitor and Flood Stages



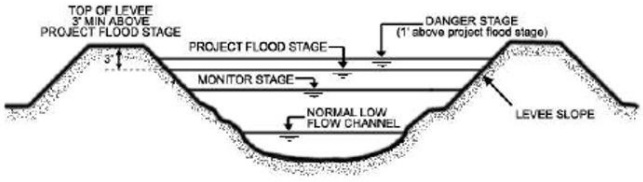
CROSS SECTION - TYPICAL NON-LEVEED STREAM

Monitor Stage: The Stage at which initial action must be taken by concerned interests (i.e., livestock warning, removal of equipment from lowest overflow areas, or simply general surveillance of the situation). This level may produce over-bank flows sufficient to cause minor flooding of low-lying lands and local roads.

Flood Stage: The Stage at which over-bank flows are of sufficient magnitude to cause considerable inundation of land and roads and/or threat of significant hazard to life and property.

LEVEED STREAM

Figure 17 Leveed Stream - Monitor, Project Flood and Danger Stages



CROSS SECTION-TYPICAL LEVEED STREAM

Monitor Stage: The Stage at which patrol of flood control project levees by the responsible Levee Maintaining Agency (LMA) becomes mandatory, or the Stage at which flow occurs into bypass areas from project overflow weirs.

Project Flood Stage: The Stage at which the flow in a flood control project is at maximum design capacity (U.S. Corps of Engineers, “Project Flood Plane”). At this level there is a minimum freeboard of 3 feet to the top of the levees.

Danger Stage: The Stage at which the flow in a flood control project is greater than maximum design capacity and where there is extreme danger with threat of significant hazard to life and property in the event of levee failure. This is generally one foot above project flood stage.