I. Amendment to General Plan Background Report Chapter 3, Section 3.1

3.1 Introduction

This chapter provides the land use context for the General Plan by describing existing land use conditions, plans, and policies that have a bearing on land use in the City of Stockton. The chapter begins with a description of the existing City of Stockton General Plan and existing land use diagram, zoning, and existing land use. The chapter continues with a discussion of adjacent city plans and a summary of regional, state, and federal plans that may have an effect on land use planning in the City of Stockton.

This chapter covers the following topic areas related to land use:

- Existing Stockton General Plan and Zoning Ordinance (Section 3.2)
- Existing Land Use (Section 3.3)
- Other City, County, and Regional Plans (Section 3.4)
- Urban Growth Strategy (Section 3.5)
- AB 162 requires the Land Use Element of the General Plan to identify areas subject to flooding. Chapter 11, Hazards and Safety, contains the current (2015) Department of Water Resources (DWR) Awareness Floodplain maps.

II. Amendment to General Plan Background Report Chapter 3, Section 3.2

3.2 Land Use Planning History

History Of Land Use Planning In Stockton

With the establishment of a City Planning Commission in September 1929, land use planning in Stockton formally began. One of the Commission's first tasks was to develop a master plan which would serve as the basis for a zoning ordinance for the City. The following year the City hired Harlan Bartholomew and Associates to develop such a plan. This began a relationship between this planning firm and the City that was to last for over a decade. The plan and implementing zoning ordinance were prepared in a year and a half and were approved by the Planning Commission in July 1932. However, the plan and ordinance generated intense public controversy and were not adopted by the City Council until March 1934. Even then, the debate did not end. Opponents of the plan circulated a petition and qualified the zoning ordinance for the ballot under the referendum process. At a showdown election

A Master Plan and implementing Zoning Ordinance were approved in March 1934.

to ensure that the implementation of state and federal air pollution mandates in the Central Valley is tailored to local conditions and is responsive to local needs.

The San Joaquin Valley Air Pollution Control District (District) PM10 Plan (Plan) is designed to meet the requirements of the federal Clean Air Act (CAA) for areas classified as serious non attainment of the national ambient air quality standards (NAAQS) for PM10, which is measured and expressed as the amount of particles 10microns (μm) in diameter or less contained in a cubic meter of air (μg/m3). The Plan contains all required components and demonstrates attainment of the federal PM10standards at the earliest possible date. The Plan is divided into eight chapters. Supporting documents to sections of these chapters are provided as appendices or as reference documents.

3.2 Disadvantaged Unincorporated Communities

There are hundreds of disadvantaged unincorporated communities (DUCs) throughout California, including more than 200 in the San Joaquin Valley alone. Many of these communities are geographically isolated islands. The living conditions in many of these communities suggest a distinct lack of public and private investment that threatens the health and safety of the residents and fosters economic, social, and educational inequality. Many of these communities lack basic infrastructure, including streets, sidewalks, storm drainage, clean drinking water, and adequate sewer service. In response to these conditions, the State Legislature passed Senate Bill 244 (SB 244) in 2011 with the intent of addressing the legal, financial, and political barriers that contribute to inequality and infrastructure deficits in DUCs. Accounting for these communities in the long-range planning process, as required by SB 244, is one way to ensure a more efficient system for delivery of services and infrastructure, including water, wastewater, storm drainage, and structural fire protection. Furthermore, investment in these services and infrastructure will result in the enhancement and protection of public health and safety for residents of these communities.

SB 244 Requirements: City, County, LAFCo

The requirements of SB 244 apply differently to cities, counties, and local agency formation commissions (LAFCos). These differences reflect the distinct physical and social settings of cities and counties and the different institutional authorities and responsibilities of cities, counties, and LAFCos.

Cities and Counties

The requirements for cities and counties focus on their compliance with State Planning and Zoning Law, and particularly on general plans. SB 244 added the following requirements to Government Code Section 65588 concerning general plan land use elements:

> In the case of a city, an identification of each unincorporated island or fringe community within the city's sphere of influence. In the case of a county, an identification of each legacy community within the boundaries of the county, but not including any area within the sphere of influence of any city. This identification shall include a description of the community and a map designating its location.

For each identified community, an analysis of water, wastewater, stormwater drainage, and structural fire protection needs or deficiencies.
An analysis, based on then existing available data, of benefit assessment districts or other financing alternatives that could make the extension of services to identified communities financially feasible.

SB 244 also added Section 65302.10 to the Government Code to define the terms used in the legislation as they relate to cities and counties. According to the legislation, the key terms are defined as follows:

1. "Community" means an inhabited area within a city or county that is comprised of no less than 10 dwellings adjacent or in close proximity to one another.

"Disadvantaged unincorporated community" means a fringe, island, or legacy community in which the median household income is 80 percent or less than the statewide median household income.
"Unincorporated fringe community" means any inhabited and unincorporated territory that is within a city's sphere of influence.
"Unincorporated island community" means any inhabited and unincorporated territory that is surrounded or substantially surrounded by one or more cities or by one or more cities and a county boundary or the Pacific Ocean.
"Unincorporated legacy community" means a geographically isolated community that is inhabited and has existed for at least 50 years.

Local Agency Formation Commissions

For LAFCO purposes, the definition of a DUC differs from those for cities and counties. SB 244 identifies a DUC for LAFCO purposes as an inhabited territory, as defined by Section 56046 of the Government Code (i.e., 12 or more registered voters), that constitutes all or a portion of a "disadvantaged community" as defined by Section 79505.5 of the Water Code (i.e., a community with an annual median household income that is less than 80 percent of the statewide annual median household income). SB 244 requires that, in conjunction with sphere of influence reviews or updates occurring after July 1, 2012, LAFCOs include determinations concerning the present and planned capacity of public facilities and adequacy of public services for DUCs within or adjacent to the sphere of influence of any city or special district. This includes evaluation of sewer, water, and structural fire protection needs or deficiencies; it does not explicitly include drainage. SB 244 defines DUCs slightly differently for LAFCOs than it does for cities and counties. SB 244 also includes procedural requirements related to approval of proposed annexations contiguous with DUCs.

In December 2012, San Joaquin LAFCo updated its Policies and Procedures to comply with the requirements of SB 244. The update consisted of identifying a series of DUCs within the Stockton Metropolitan Area and adopting policy language addressing these communities. According to the policy, San Joaquin LAFCo shall not approve an annexation of 10 acres or more that is adjacent to a disadvantaged unincorporated community unless a concurrent application of all or part of the DUC has also been filed. The policy excepts areas for which an application has been made in the past five years and areas where a majority of the registered voters within the DUC are opposed to annexation.

In developing its modified Sphere of Influence policies, San Joaquin LAFCO identified five DUCs within or adjacent to the City of Stockton's SOI: August CDP; Garden Acres CDP; Kennedy CDP; French Camp CDP; and Taft Mosswood.

DUC Identification

SB 244 outlines the general characteristics of DUCs, but does not provide guidance on how to identify them. To assist local governments in addressing the requirements of SB 244, the Governor's Office of Planning and Research (OPR) published a technical advisory memo in February 2013. The memo recommends data sources for identifying the income status of communities and mapping sources for identifying "communities" as defined by SB 244. It also referenced methodological guidance prepared by PolicyLink in collaboration with California Rural Legal Assistance. Based on the guidance provided by OPR and Policy, the City of Stockton identified DUCs in the Stockton area by focusing on a combination of income status and parcel density. Following are brief descriptions of the steps the City followed to identify these communities.

Income Status

To identify communities that meet the income status defined by SB 244, the City relied on the 2000 Census for income data because it disaggregated data to the Census block group level. The City also reviewed the 2010 Census and more recent American Community Survey (ACS) data, but the 2010 Census did not include income data and the ACS sample sizes were too small to produce reliable data for unincorporated areas. In 2000, the median household income of California was $47,493, so the City included in its analysis any census block group with a median income of less than $37,994 (i.e., 80 percent of the statewide median). In doing so, the City isolated census blocks in unincorporated areas within the City's sphere of influence.

Parcel Density

After isolating the census blocks that met the income threshold, the City proceeded with a parcel density analysis to identify "communities" as defined by SB 244. This analysis focused on identifying closely-settled places, rather than spread-out rural or semi-rural communities. The City identified areas with a density of at least 250 parcels per square mile, which is comparable to the density of Census Designated Places (unincorporated communities tracked by the Census Bureau). Within these areas, the City then screened to areas with at least 10 dwellings "adjacent or in close proximity to one another" as described by SB 244. In doing so, the City eliminated non-residential areas; areas less than three-quarters of an acre with only one or two houses; and any obvious narrow "slivers" that were a result of GIS layer overlap (e.g., along city limits and census tract overlaps).

Communities Identified

The City identified 3 types of DUCs in its analysis: Census Designated Places (CDPs), Island, and Fringe Communities.

The CDPs that the City identified are derived from San Joaquin County LAFCo's DUC analysis.

The Island Communities are located within the city boundaries and Sphere of Influence.

The Fringe Communities are located outside of city boundaries, but within the Sphere of Influence.

Table 3-9 lists the DUCs in the Stockton area by type, size (in acres), and the number of parcels in each community.

Table 3-9. City of Stockton DUCs

Name	Type	Size (acres)	Parcels
1. August CDP	CDP	805	2,137
2. French Camp CDP	CDP	2,006	606
3. Garden Acres CDP	CDP	1,652	2, 901
4. Kennedy CDP	CDP	774	888
5. Taft Mosswood CDP	CDP	310	493
6. Boggs Tract	Island	100	325
7. East Alpine Community	Island	4	10
8. East Interstate Community	Island	51	212
9. Fremont St Community	Island	194	221
10. Holt Ave/Pershing Ave Community	Island	79	252
11. Mariposa Road Community	Island	35	223
12. N. West Lane/Harding Way Community	Island	52	232
13. N. West Lane/ Alpine Ave Community	Island	45	195
14. Pershing Ave Community	Island	110	473
15. Waller-Childress Community	Island	35	34
16. Waterloo Road Community	Island	33	106
17. West Interstate 5 Community	Island	85	22
18. Charter Way Community	Fringe	654	775
19. State Route 88 Community	Fringe	281	143
20. Sunny Road Community	Fringe	59	47

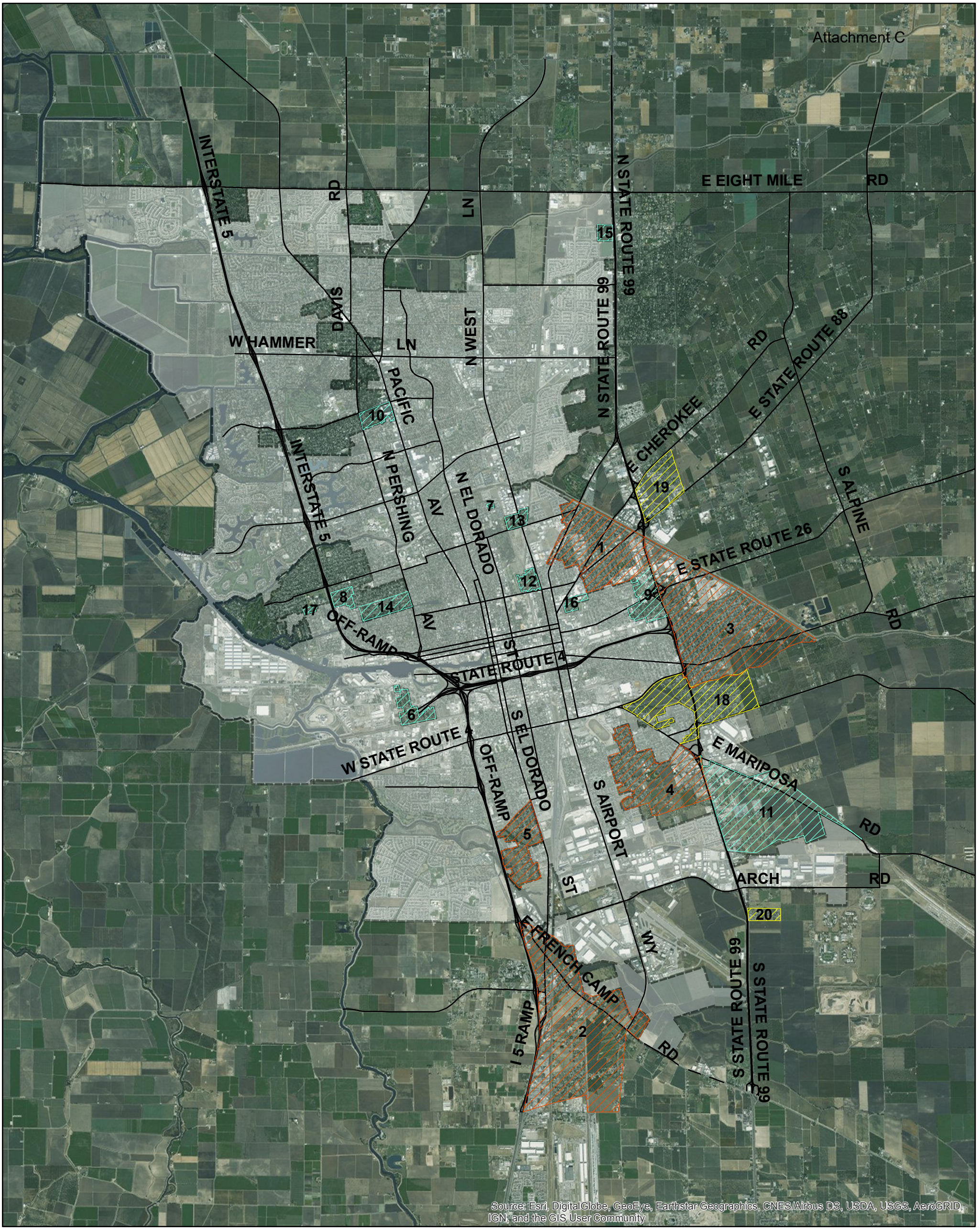


Figure X-X:
Disadvantaged Unincorporated Communities

Map date: October 21, 2016

Source: City of Stockton; San Joaquin County; United States Census, 2000.

DUCs (CDP)
1. August
2. French Camp
3. Garden Acres
4. Kennedy
5. Taft Mosswood

DUCs (Island)
6. Boggs Tract
7. East Alpine Community
8. East Interstate 5 Community
9. Fremont St. Community
10. Holt Ave/Pershing Ave Community
11. Mariposa Road Community
12. N. West Lane/Harding Way Community
13. N. West Lane / Alpine Ave Community
14. Pershing Ave Community
15. Waller-Childress Community
16. Waterloo Road Community
17. West Interstate 5 Community

DUCs (Fringe)
18. Charter Way Community
19. State Route 88 Community
20. Sunny Road Community

City Limits

0 0.75 1.5 3 Miles

N

Please see next page.

Infrastructure Analysis

Once DUCs have been identified, SB 244 requires an analysis of infrastructure services for each DUC. This section first provides an overview of service providers in the Stockton Metropolitan Area and then describes public services within each of the DUCs in the Stockton area consistent with the requirements of SB244.

Overview of Service Providers in Stockton Area

Water

Water service providers in the Stockton Metropolitan Area include the City of Stockton Municipal Utilities Department (COSMUD), California Water Service Company (Cal Water), and San Joaquin County Maintenance Districts (SJMCDs) covering Lincoln Village and Colonial Heights. These providers deliver a combination of treated surface water supplied by the Stockton East Water District (SEWD), Delta Water Supply Project (DWSP) water from the San Joaquin River, and pumped groundwater.

Sewer

Wastewater collection and treatment facilities in the Stockton Metropolitan Area consist of the Stockton Regional Wastewater Control Facility (RWCF) and the City of Stockton Wastewater Collection System Facilities. The RWCF provides primary, secondary, and tertiary treatment of municipal wastewater from throughout the city. The RWCF has a designed flow capacity of 55 mgd and average daily flow rate of 31.7 mgd. Treated effluent from the RWCF is dechlorinated and discharged to the San Joaquin River.

The City's wastewater collection system is divided into 15 designated sub-areas or "systems." Pump stations are located throughout the city and are integral to the wastewater collection system. Most of the pump stations discharge to pressure sewers that convey flow under pressure either directly to the RWCF or to a downstream gravity sewer.

Storm Drainage

Storm drainage services for the Stockton Area are provided by the City of Stockton and San Joaquin County. Data for this part of this analysis came from consultation with County of San Joaquin staff.

Fire Protection

Fire protection services for the Stockton Area are provided by City of Stockton Fire Department, French Camp-McKinley Fire District, Eastside Rural County Fire Protection District, Montezuma Fire Protection District, and Waterloo-Morada Fire Protection District. Data for this part of this analysis came from consultation with fire department staff.

CDP Communities

1. August CDP

The August Community is made up of 2,137 parcels totaling approximately 805 acres.

Water – Water is provided to this area by California Water Service as part of the Central Stockton Storage and Distribution system. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton and Cal Water, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

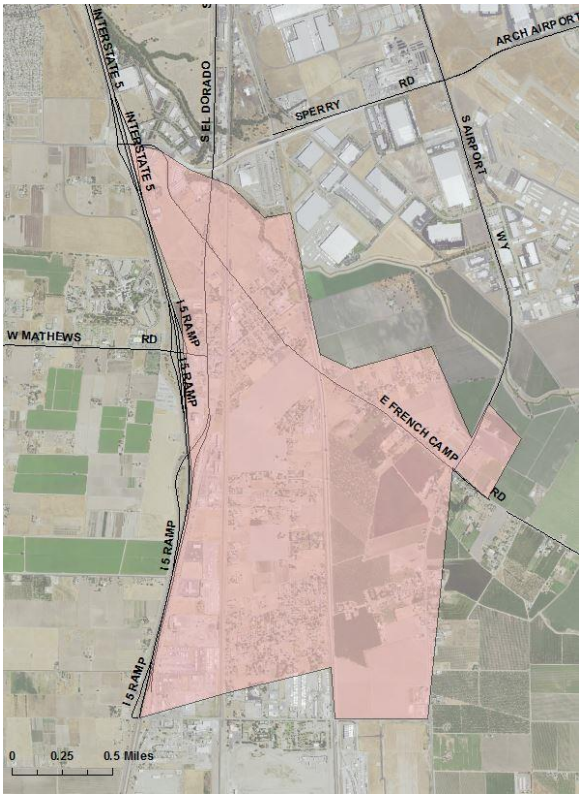
Sewer – Sewer system services are provided to this area by the City of Stockton's Sewer System 4 and 9. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Roadside ditches are used to manage stormwater for the community. There are no drainage deficiencies in this area.

Fire - Fire services for this area are provided by Eastside Rural County Fire Protection District which contracts with the City of Stockton Fire Department. The area has access to fire hydrants. There are no fire service deficiencies in this area.

2. French Camp CDP

The French Camp Community is made up of 606 parcels totaling approximately 2,006 acres.



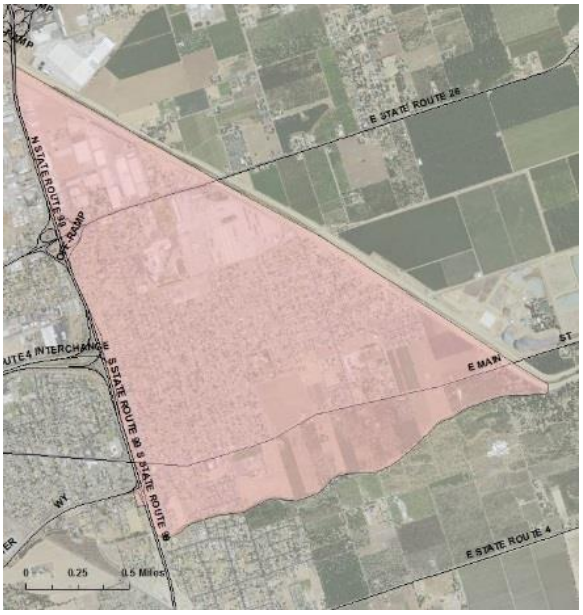
Water – Water is provided to this area by the City of Stockton from groundwater wells and surface water. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

Sewer – Sewer system services are provided to this area by the City of Stockton Sewer System or by individual septic systems. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Roadside ditches are used to manage stormwater for the community. There are no drainage deficiencies in this area.

Fire – Fire services for this area are provided by the French Camp-McKinley Fire District which contracts with the City of Stockton Fire Department. French Camp Proper has access to fire hydrants and water on the fire trucks and the French Camp Rural has access to fire tenders and water on the fire trucks. There are no fire service deficiencies in this area.

3. Garden Acres CDP



The Garden Acres Community is made up of 2,901 parcels totaling approximately 1,652 acres.

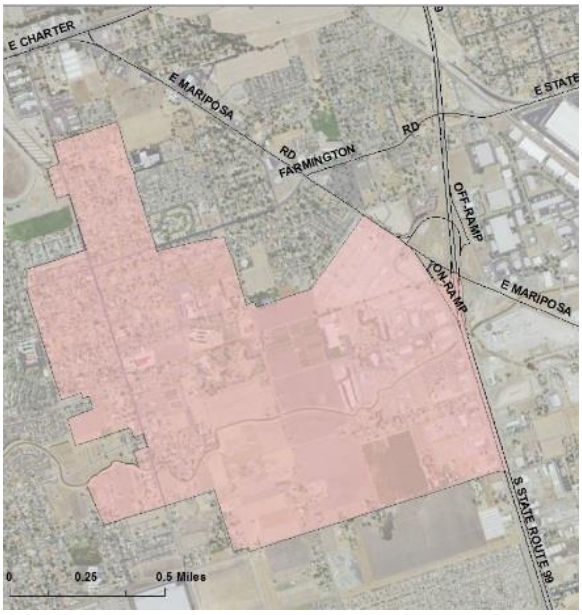
Water – Water is provided to this area by California Water Service as part of the Central Stockton Storage and Distribution system. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton and Cal Water, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

Sewer – Sewer system services are provided to this area by the City of Stockton Sewer Systems 4 and 6. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Storm drain services are provided by San Joaquin County through an underground storm main and roadside ditches. There are no drainage deficiencies in this area.

Fire – Fire services for this area are provided by Eastside Rural County Fire Protection District which contracts with the City of Stockton Fire Department. The area has access to fire hydrants. There are no fire service deficiencies in this area.

4. Kennedy CDP



The Kennedy Community is made up of 888 parcels totaling approximately 774 acres.

Water – Water is provided to this area by California Water Service as part of the Central Stockton Storage and Distribution system. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton and Cal Water, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

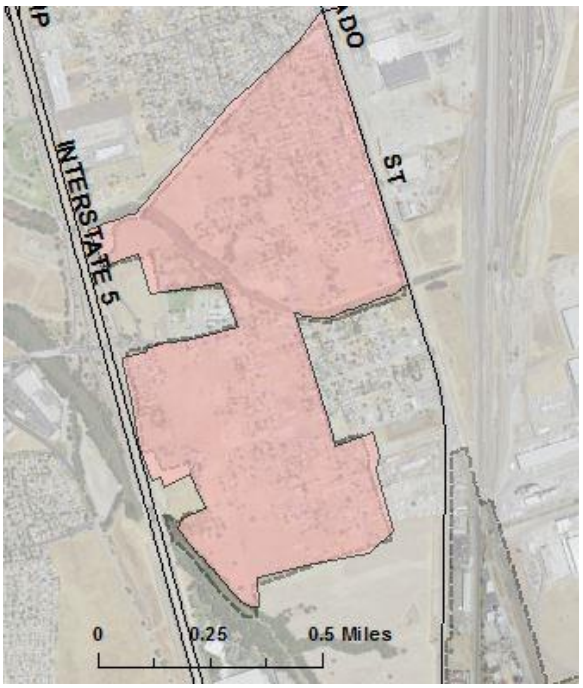
Sewer – Sewer system services are provided to this area by the City of Stockton's Sewer Systems 6, 7, and 8. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Storm drain services are provided by San Joaquin County through an underground storm main. There are no storm drain deficiencies in this area.

Fire – Fire services for this area are provided by the Montezuma Fire Protection District which contracts with the City of Stockton Fire Department. The area has access to fire hydrants. There are no fire service deficiencies in this area.

5. Taft Mosswood CDP

The Taft Mosswood Community is made up of 493 parcels totaling approximately 310 acres.



Water – Water is provided to this area by California Water Service as part of the Central Stockton Storage and Distribution system. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton and Cal Water, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

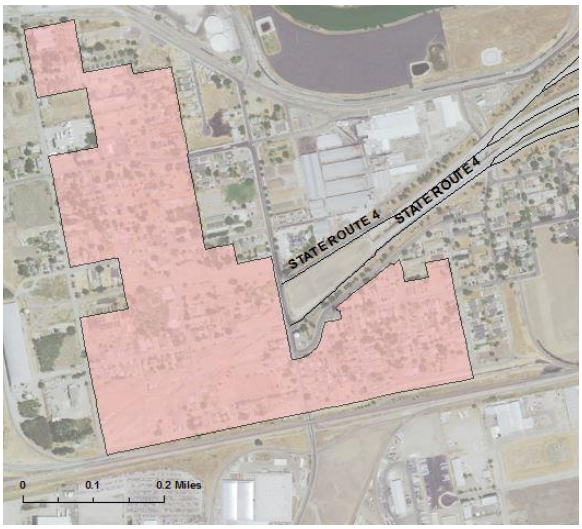
Sewer – Sewer system services are provided to this area by the City of Stockton's Sewer System 7. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Roadside ditches are used to manage stormwater for the community. There are no drainage deficiencies in this area.

Fire – Fire services for this area are provided by the French Camp-McKinley Fire District which contracts with the City of Stockton Fire Department. The area has access to fire hydrants and all the fire trucks carry water on board. There are no fire service deficiencies in this area.

Island Communities

6. Boggs Tract



The Boggs Tract Community is made up of 325 parcels totaling approximately 100 acres.

Water – Water is provided to this area by California Water Service as part of the Central Stockton Storage and Distribution system. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton and Cal Water, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

Sewer – Sewer system services are provided to this area by the City of Stockton's Sewer System 5. According to the 2035 Stockton General Plan, the sewers on the southern and eastern ends of the property are in need of improvements. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Storm drain services are provided by San Joaquin County through an underground storm main. There are no storm drain deficiencies in this area.

Fire – The City of Stockton Fire Department provides fire protection with the operation of Station #2, located in Stockton. There are no fire service deficiencies in this area.

7. East Alpine Community

The East Alpine Island Community is made up of 10 parcels totaling approximately 4 acres.

Water – Water is provided to this area by California Water Service as part of the Central Stockton Storage and Distribution system. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton and Cal Water, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

Sewer – Sewer system services are provided to this area by the City of Stockton's Sewer System 2. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Storm drain services are provided by the City of Stockton through an underground storm main. There are no storm drain deficiencies in this area.

Fire – The City of Stockton Fire Department provides fire protection with the operation of Station #9, located in Stockton. The area has access to fire hydrants. There are no fire service deficiencies in this area.

8. East 5 Interstate Community

The East Interstate Community is made up of 212 parcels totaling approximately 51 acres.

Water – Water is provided to this area by California Water Service as part of the Central Stockton Storage and Distribution system. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton and Cal Water, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

Sewer – Sewer system services are provided to this area by the City of Stockton Sewer System 3. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Storm drain services are provided by San Joaquin County through an underground storm main. There are no storm drain deficiencies in this area.

Fire – The City of Stockton Fire Department provides fire protection with the operation of Station #6, located in Stockton. The area has access to fire hydrants. There are no fire service deficiencies in this area.

9. Fremont St Community

The Fremont Street Fringe Community is made up of 221 parcels totaling approximately 194 acres.

Water – Water is provided to this area by California Water Service as part of the Central Stockton Storage and Distribution system. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton and Cal Water, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

Sewer – Sewer system services are provided to this area by the City of Stockton Sewer System 4 and 6. According to the 2035 Stockton General Plan Infrastructure Evaluation, there is a force main installation planned on and south of Fremont Street. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Roadside ditches are used to manage stormwater for the community. There are no drainage deficiencies in this area.

Fire – The City of Stockton Fire Department provides fire protection with the operation of Station #12, located in Stockton. The area has access to fire hydrants. There are no fire service deficiencies in this area.

10. Holt Ave/Pershing Ave Island Community

The Holt Ave/Pershing Ave Island Community is made up of 252 parcels totaling approximately 79 acres.

Water – Water is provided to this area by the City of Stockton from groundwater wells and surface water. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

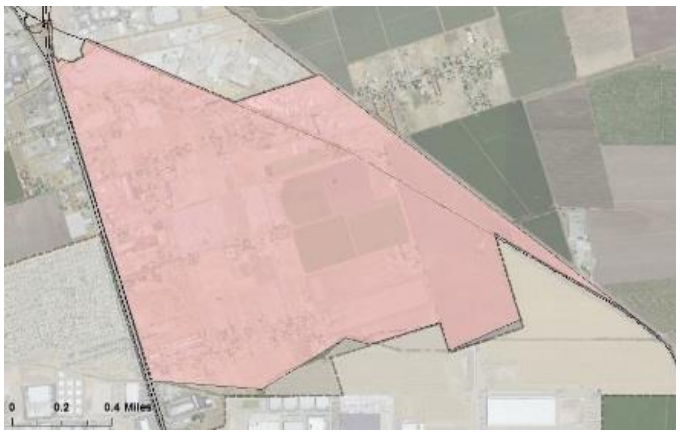
Sewer – Sewer system services are provided to this area by the City of Stockton Sewer System 2. According to the 2035 Stockton General Plan Infrastructure Evaluation, there is a sewer line that is in need of improvement in the southern portion of the community. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Storm drain services are provided by San Joaquin County through an underground storm main. There are no storm drain deficiencies in this area.

Fire – The City of Stockton Fire Department provides fire protection with the operation of Station #4, located in Stockton. The area has access to fire hydrants. There are no fire service deficiencies in this area.

11. Mariposa Road Island Community

The Mariposa Road Community is made up of 223 parcels totaling approximately 35 acres.



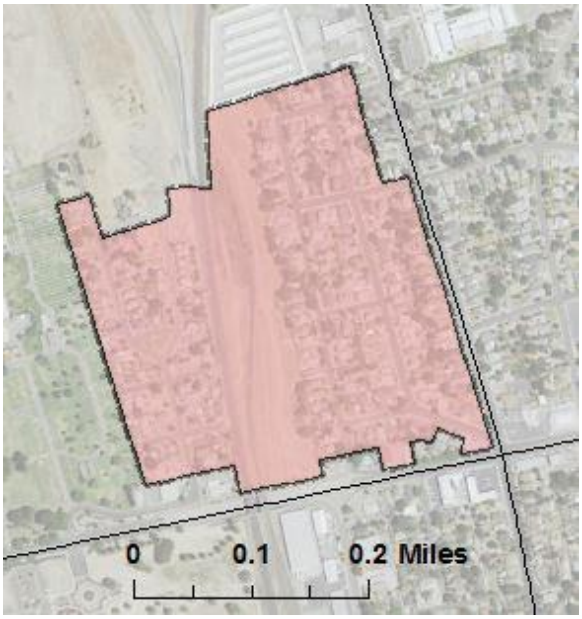
Water – Water is provided to this area by California Water Service and the City of Stockton. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton and Cal Water, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

Sewer – Sewer system services are provided to this area by the City of Stockton's Sewer Systems 7 and 8. According to the 2035 Stockton General Plan, the sewers on the southern and eastern ends of the property are in need of improvements. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Roadside ditches are used to manage stormwater for the community. There are no drainage deficiencies in this area.

Fire – The City of Stockton Fire Department provides fire protection with the operation of Station #13, located in Stockton. The area has access to fire hydrants. There are no fire service deficiencies in this area.

12. N. West Lane/Harding Way Island Community



The N. West Lane/Harding Way Island Community is made up of 232 parcels totaling approximately 52 acres.

Water – Water is provided to this area by California Water Service as part of the Central Stockton Storage and Distribution system. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton and Cal Water, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

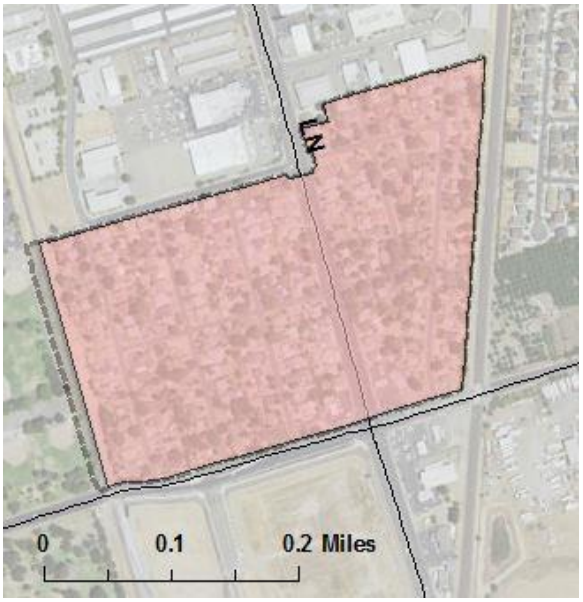
Sewer – Sewer system services are provided to this area by the City of Stockton's Sewer System 3. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Storm drain services are provided by the City of Stockton through an underground storm main. There are no storm drain deficiencies in this area.

Fire – The City of Stockton Fire Department provides fire protection with the operation of Station #11, located in Stockton. The area has access to fire hydrants. There are no fire service deficiencies in this area.

13. N. West Lane/Alpine Ave Island Community

The N. West Lane/Alpine Ave Island Community is made up of 195 parcels totaling approximately 45 acres.



Water – Water is provided to this area by California Water Service as part of the Central Stockton Storage and Distribution system. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton and Cal Water, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

Sewer – Sewer system services are provided to this area by the City of Stockton's Sewer System 3. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Storm drain services are provided by the City of Stockton through an underground storm main. There are no storm drain deficiencies in this area.

Fire – The City of Stockton Fire Department provides fire protection with the operation of Station #9, located in Stockton. The area has access to fire hydrants. There are no fire service deficiencies in this area.

14. Pershing Ave Island Community

The Pershing Ave Island Community is made up of 473 parcels totaling approximately 110 acres.

Water – Water is provided to this area by California Water Service as part of the Central Stockton Storage and Distribution system. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton and Cal Water, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

Sewer – Sewer system services are provided to this area by the City of Stockton Sewer System 3. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Storm drain services are provided by San Joaquin County through an underground storm main. There are no storm drain deficiencies in this area.

Fire – The City of Stockton Fire Department provides fire protection with the operation of Station #2, located in Stockton. The area has access to fire hydrants. There are no fire service deficiencies in this area.

15. Waller-Childress Community

The State Route 99 Island Community is made up of 34 parcels totaling approximately 35 acres.

Water – Water is provided to this area by the City of Stockton from groundwater wells and surface water. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

Sewer – Sewer system services are provided to this area by the City of Stockton's Sewer System 10. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Roadside ditches are used to manage stormwater for the community. There are no drainage deficiencies in this area.

Fire - Fire services for this area are provided by the Waterloo Morada Fire District. The area does not have access to fire hydrants, but has access to fire tenders and water on the fire trucks. There are no fire service deficiencies in this area.

16. Waterloo Road Island Community

The Waterloo Road Island Community is made up of 106 parcels totaling approximately 33 acres.

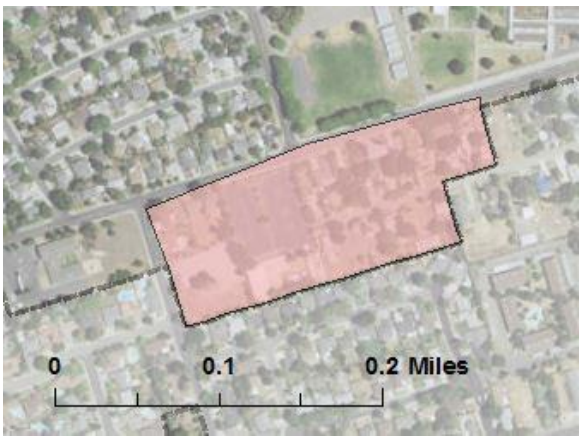
Water – Water is provided to this area by California Water Service as part of the Central Stockton Storage and Distribution system. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton and Cal Water, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

Sewer – Sewer system services are provided to this area by the City of Stockton's Sewer Systems 4 and 6. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Storm drain services are provided by San Joaquin County through an underground storm main. There are no storm drain deficiencies in this area.

Fire – The City of Stockton Fire Department provides fire protection with the operation of Station #9, located in Stockton. The area has access to fire hydrants. There are no fire service deficiencies in this area.

17. West Interstate 5 Island Community



The West Interstate 5 Island Community is made up of 22 parcels totaling approximately 805 acres.

Water – Water is provided to this area by California Water Service as part of the Central Stockton Storage and Distribution system. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton and Cal Water, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

Sewer – Sewer system services are provided to this area by the City of Stockton's Sewer System 3. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Storm drain services are provided by San Joaquin County through an underground storm main. There are no storm drain deficiencies in this area.

Fire – The City of Stockton Fire Department provides fire protection with the operation of Station #13, located in Stockton. The area has access to fire hydrants. There are no deficiencies in this area. There are no fire service deficiencies in this area.

Fringe Communities

18. Charter Way Community

The Charter Way Island Community is made up of 775 parcels totaling approximately 654 acres.

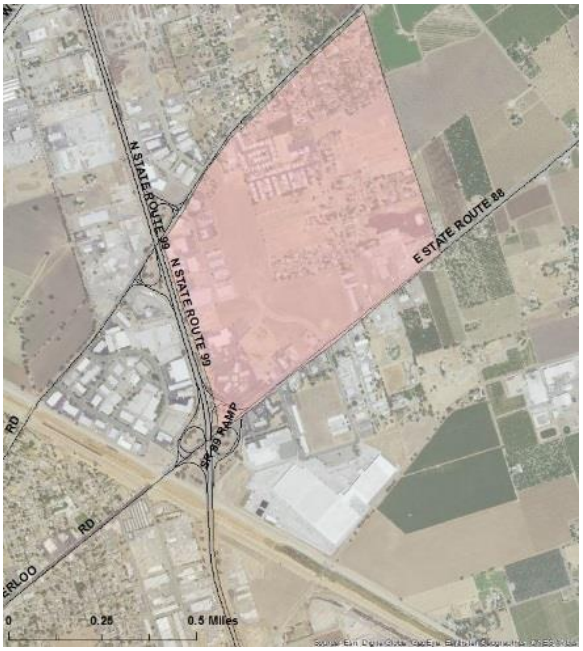
Water – Water is provided to this area by California Water Service as part of the Central Stockton Storage and Distribution system. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton and Cal Water, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

Sewer – Sewer system services are provided to this area by the City of Stockton's Sewer Systems 4,6, and 7. According to the 2035 Stockton General Plan Infrastructure Evaluation, there are force main and gravity trunk installations planned between State Route 4 and Charter Way. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Storm drain services are provided by San Joaquin County through an underground storm main. There are no storm drain deficiencies in this area.

Fire – The City of Stockton Fire Department provides fire protection with the operation of Station #12, located in Stockton. There are no fire service deficiencies in this area.

19. State Route 88 Fringe Community



The State Route 88 Fringe Community is made up of 143 parcels totaling approximately 281 acres.

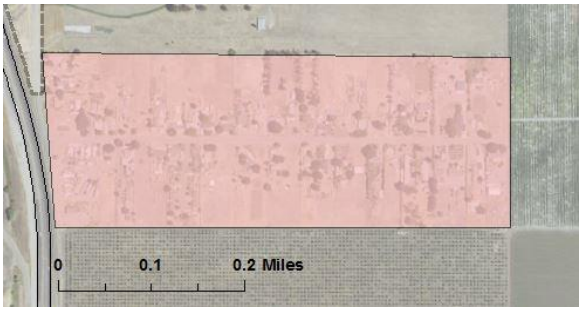
Water – Water is provided to this area by California Water Service as part of the Central Stockton Storage and Distribution system. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton and Cal Water, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

Sewer – Sewer system services are provided to this area by the City of Stockton Sewer System 9. According to the 2035 Stockton General Plan Infrastructure Evaluation, there are planned node and gravity trunk improvements throughout most of the area. There are no deficiencies in sewer services in this area.

Drainage – Storm drain services are provided by San Joaquin County through an underground storm main. There are no storm drain deficiencies in this area.

Fire – The City of Stockton Fire Department provides fire protection with the operation of Station #4, located in Stockton. The area has access to fire hydrants. There are no fire service deficiencies in this area.

20. Sunny Road Community



The Arch Road Fringe Community is made up of 47 parcels totaling approximately 59 acres.

Water – Water is provided to this area by the City of Stockton from groundwater wells and surface water. As documented in Draft 2015 Urban Water Management Plans prepared for the City of Stockton, the facilities serving the DUCs have sufficient capacity and access to high-quality water supplies to address current and projected demands. There are no deficiencies in water services in this area.

Sewer – Sewer system services are provided to this area by the City of Stockton's Sewer System 8. According to the 2035 Stockton General Plan, the sewers on the southern and eastern ends of the property are in need of improvements. The City of Stockton Regional Wastewater Control Facility (RWCF) has met and expects to continue to meet annual wastewater collection and treatment demands within the SOI in compliance with the Central Valley Regional Water Quality Control Board and NPDES permit. There are no deficiencies in sewer services in this area.

Drainage – Roadside ditches are used to manage stormwater for the community. There are no drainage deficiencies in this area.

Fire – Fire services for this area are provided by the Montezuma Fire Protection District which contracts with the City of Stockton Fire Department. The area does not have access to fire hydrants, but has access to fire tenders and water on fire trucks. There are no fire service deficiencies in this area.

Potential Funding Sources

As summarized above, there are no communities that have infrastructure deficiencies or needs. If there are deficiencies that arise in the future, there are funding sources available. Primary funding sources for local government infrastructure improvements include taxes, bonds, grants, and exactions. However, these financing mechanisms may be difficult to use because they require voter approval. For this reason, grants are often used for infrastructure improvements to reduce the cost burden for tax payers.

In addition to local infrastructure funding mechanisms, there are also funding sources offered by the federal and state government that address existing deficiencies and/or expansion of infrastructure for new development. A summary of each program is provided below:

Community Development Block Grants (CDBG) – The Community Development Block Grant program is an annual funding mechanism offered by the United States Housing and Urban Development Department. These versatile grants often fund the construction of projects such as water and

sewer facilities, recreation facilities, street maintenance, as well as other public work projects.

Community Facilities Direct Loan and Grant Program - This program offered by the United States Department of Agriculture Rural Development provides affordable funding to develop essential community facilities in rural areas. An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of the community in a primarily rural area, and does not include private, commercial or business undertakings. USDA provides grants to assist in the development of essential community facilities in rural areas and towns with populations up to 20,000.

Integrated Regional Water Management (grants) – This funding program is offered by the California Department of Water Resources. DWR's IRWM Grant Programs are managed within the Division of IRWM, Financial Assistance Branch, with assistance from DWR's regional offices. The IRWM Grant Programs include IRWM funding for planning, disadvantaged community involvement, implementation, and companion grant programs that support sustainable groundwater planning and water-energy programs and projects.

Proposition 84 - The Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act provides funding from the State Water Resources Control Board. Proposition 84 allows the funding to be utilized for capital costs on projects that pertain to protecting river, lakes, and streams from excessive stormwater runoff. Such projects that can be funded could be related to the collection of stormwater, and treatment of water to reduce the likelihood of ground contamination.

Conclusion

Although there are several communities in and around Stockton that meet the State definition of a disadvantaged unincorporated community, the City serves most of these communities with City services. The analysis showed that there are no deficiencies within any of the communities and that all of the infrastructure services are sufficient. If there are infrastructure deficiencies in the future, there are funding opportunities available to improve them, as described above.

10.4 Recreation Programs

Existing Recreational Programs

The City Parks and Recreation Department offers a wide variety of recreational programs and hosts several recreational events. Programs are designed to meet the recreational needs of residents of all ages.

Programs offered by the department are discussed in detail in Chapter 7.

Recreational Needs

In addition to the planned City parks, there have been several public requests made for the provision of new recreational activities that reflect recent trends in recreation. Examples include requests for the construction of climbing walls, paint ball facilities, and skate parks. Although the public has made these requests, the City has only been able to develop one skate park to date located at Anderson Park. This facility features a moon, small bowl, offset steps, half-pipe, rail, fun box, and various other skate features.

There have been several public requests made for the provision of new recreational activities that reflect recent trends in recreation.

The Parks and Recreation Department's ability to meet these and other recreational needs of residents in the Study Area depends in large part on economic conditions. Since the last General Plan was adopted, the Recreation Division of the Parks and Recreation Department was declared a Special Revenue Fund (RSRF) by the City Council. The RSRF organizes and implements all recreation programs and is funded by an annual contribution from the City's General Fund and revenue generated through activity fees. As a result of this new operating philosophy, the department manages its budget closely and not allowing for any budget overruns. Consequently, there is less flexibility in the allocation of funding for improvements.

10.5 Waterways

According to a survey map prepared for the Bay Area and Gold Country in 1849 Sacramento and Stockton were shown as the gateway settlements to key waterways, the Sacramento River and San Joaquin River systems. These cities continue to be powerfully strategic positions relative to California's natural resource wealth due in large part to their direct access to these waterways which eventually lead to the San Francisco Bay.

This section provides an overview of waterways in Stockton, including groundwater conditions. ~~Flooding issues are addressed in Chapter 10: Hazards and Safety.~~ ~~There are three ways of looking at the waterways in Stockton. There is the Delta; natural rivers and creeks; and manmade canals, channels, sloughs and ditches.~~ Consistent with State law (AB 162), ~~The following chapter~~this section provides a description of rivers, creeks, ~~these various types of waterways~~streams, flood corridors, riparian habitat, and other lands that may accommodate floodwater for the purposes of groundwater recharge and stormwater management that exist in Stockton (see Figure 10-3). Flooding issues are addressed more broadly in Chapter 11: Public Health and Safety.

Existing Conditions

Delta

The Stockton Deep Water Channel, which runs through the Delta and the San Joaquin River, is used as a navigational channel by large commercial ships which stop at the Port of Stockton

The extensive Delta waterway system is one of the state's most valuable fresh water resources. Over 700,000 acres of agricultural land and 700 miles of interlacing waterways form the Sacramento-San Joaquin Delta. As the San Joaquin River and its tributaries thread their way through the Delta, they provide and unusual area of scenic value and also sustain many wildlife varieties of commercial and recreational importance. The largest striped bass spawning grounds along the Pacific Coast are located in the Delta. The Stockton Deep Water Channel, which runs through the Delta and the San Joaquin River, is used as a navigational channel by large commercial ships which stop at the Port of Stockton. The various waterways in the Delta are used extensively for boating, water-skiing, swimming, hunting, and fishing.

Natural Waterways

The San Joaquin River is the principal artery for several rivers and streams that flow from the east out of the Sierra Nevada and northward towards the Delta. Its main headwater tributaries, the south and middle forks, rise in glacial lakes in the southern Sierra Nevada. They join at approximately 3,600 feet from the main stem. Upstream from the City of Stockton, the river is joined by a number of tributaries that flow from the east and west. The tributaries that flow from the east and join the main stem are:

The San Joaquin River is the principal artery for several rivers and streams that flow from the east out of the Sierra Nevada and northward towards the Delta.

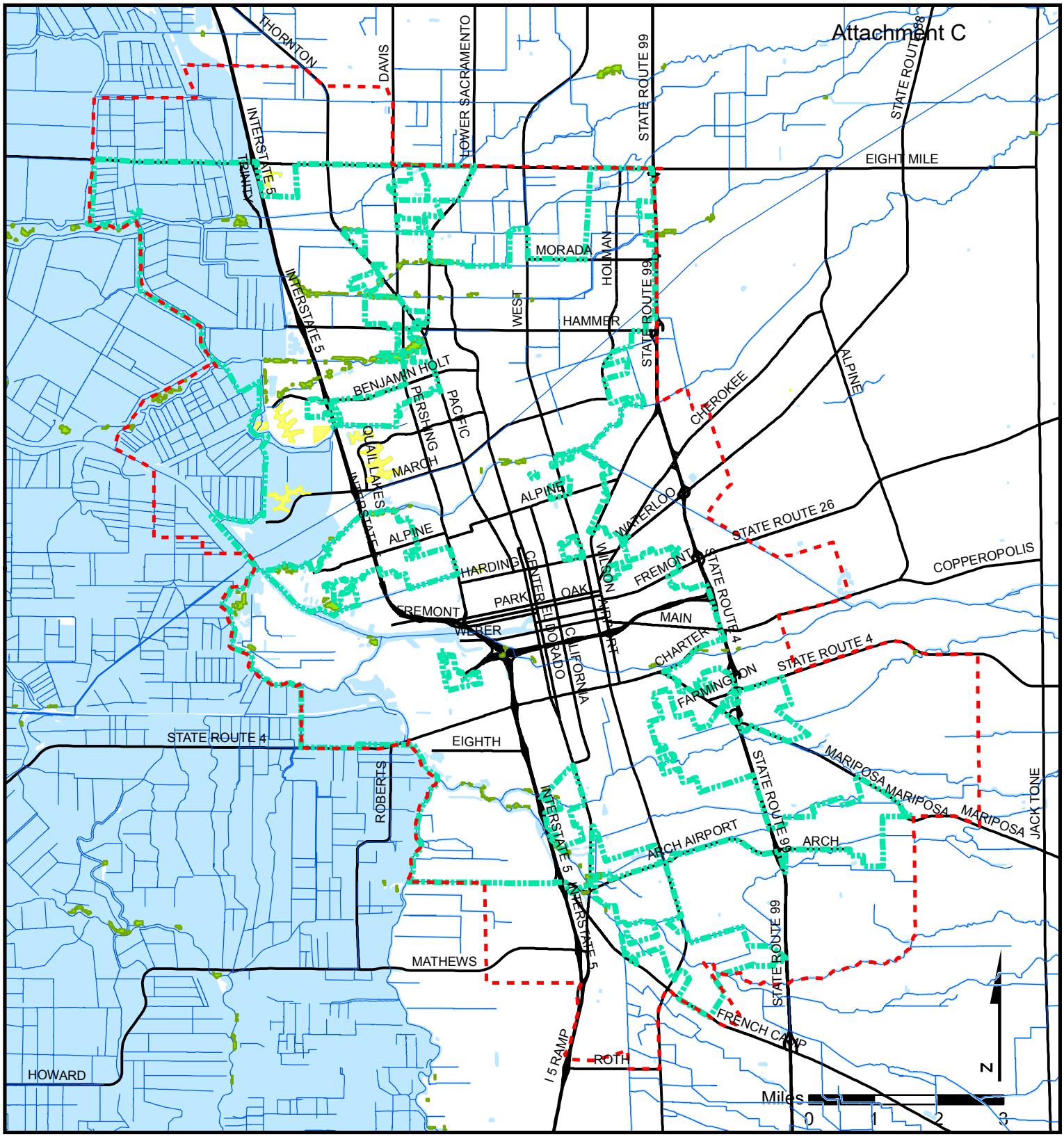
- Pixley Slough. Pixley Slough connects to the San Joaquin River in the northernmost part of the Study Area just south of Eight Mile Road.
- Bear Creek. Bear Creek connects to the San Joaquin River in the northern part of the Study Area.
- Five Mile Slough. Five Mile Slough connects to the San Joaquin River in an area north of the Calaveras River.
- Calaveras River. The Calaveras River, as it traverses through the Study Area, is a highly modified and regulated water system that connects with the San Joaquin River near the southwestern section of the City.
- Mormon Slough. Mormon Slough is the southern branch and main distributary branch of the Calaveras River and carries most of the River's usual flow.
- Walker Slough. Walker Slough is the tidewater terminus of Duck Creek, which lies to the east.
- French Camp Slough. French Camp Slough is the tidewater termini of Little Johns Creek, which lies to the east.
- Little Johns Creek. Little Johns Creek ties into French Camp Slough to the west. The creek was once connected to Duck Creek. It has since been modified by control structures and agricultural operations and is therefore no longer connected.

Floodwater Accommodation

Assembly Bill 162 (AB 162) requires the Conservation Element of the General Plan to identify rivers, creeks, streams, flood corridors, riparian habitat, and other land that may accommodate floodwater for purposes of groundwater recharge and stormwater management. The intent is to conserve areas used for groundwater recharge and stormwater management and to minimize urban development in these areas. The Recreation and Waterways Chapter of the Background Report is the ~~C~~chapter in which the City has decided to include information pertinent to waterways, due to the extent of recreational waterway usage.

Figure 10-3 shows the major rivers, creeks, streams, flood corridors, riparian habitat, and other land that may accommodate floodwater for purposes of groundwater recharge and stormwater management.

Please see next page.



Legend

- City Limits
- Sphere of Influence
- MajorStreets
- Streams and Rivers
- Lakes
- Riparian Habitat
- Wetlands

Source: City of Stockton, 2016; US Fish and Wildlife Service, 2016; California Department of Fish and Wildlife, 2016.

Figure 10-3 Flood Water Accomdations

CITY OF STOCKTON

an airport. These regulations require that the FAA be notified of certain proposed construction or alteration of objects, whether permanent, temporary or of natural growth, within a specified vicinity of an airport

The State of California regulates airports under the authority of the State Aeronautics Act (Public Utility Code Sections 21670, et seq.). The State of California regulates airports under the authority of the Airport Land Use Commission Law, Chapter 4, and Article 3.5, California Public Utilities Code. This law is implemented through Airport Land Use Commissions (ALUC), which are required in every county with a public use airport or with an airport served by a scheduled airline. Under the provisions of the Law, the ALUC has certain responsibilities conferred upon it and specific duties to perform.

Airport safety zones protect people by limiting development around airports.

Airport safety zones are established to minimize the number of people subjected to potential aircraft accidents by limiting the type of development that is allowed around airports through zoning regulations. The zoning regulations are implemented by the ALUC.

Electromagnetic Fields
Electromagnetic fields (EMFs) are imperceptible energy emissions located at the low end of the electromagnetic spectrum, produced by alternating current as it passes through electric wires. EMFs are comprised of two components, an electrical charge and a magnetic attraction. Low-frequency EMFs are less damaging to living tissue cells than higher-frequency forms of radiation such as x-rays, microwaves, or ultraviolet rays, which contain greater amounts of energy.

Recently, public health concerns have been raised regarding EMFs emanating from high tension power lines and other public electrical facilities. Although there has been a great deal of research dedicated to the study of EMFs over the past several years, the research has yielded no definitive conclusions.

11.6 Flood Hazards

Introduction

This section describes the existing flood hazards within the Policy Area (and surrounding area when relevant for context), as well as the flood protection measures provided by Federal, State, and local programs. ~~deals primarily with the assessment of flood hazards in the Study Area.~~ Details on the storm drainage system within the Study Area can be found in Section 12.4, "Stormwater Drainage."

Methods

This flood control section was prepared through review of:

- San Joaquin County, Flood Insurance Study, Federal Emergency Management Agency, ~~April 2, 2002~~October 16, 2009.

- The Sacramento and San Joaquin River Basins Comprehensive Study, U.S. Army Corps of Engineers, December 2002.
- San Joaquin County, Local Hazard Mitigation Plan, January 2011.
- Technical Memorandum #1, Hydrology, San Joaquin Area Flood Control Agency, HDR Engineering, Inc., January 1998.
- Technical Memorandum #2, Hydraulics, San Joaquin Area Flood Control Agency, HDR Engineering, Inc., February 1998.
- General Design Document, Stockton Metropolitan Area, Bear Creek, Mormon Slough and Mosher Slough Levee Systems, San Joaquin Area Flood Control Agency, April 2003.
- North Littlejohns Creek Drainage Study, San Joaquin County Flood Control & Water Conservation District, Ensign & Buckley Consulting Engineers, May 1993.

Key Terms

- **Channel Capacity.** The flow rate that the drainage channel will carry when accounting for required freeboard and environmental or legal considerations.
- **Drainage Channel.** An open channel such as a swale, constructed channel, or natural drainage course that may convey, store and treat runoff.
- **Exceedance Probability.** The probability that a precipitation or runoff event of a specified size will be equaled or exceeded in any one year.
- **Federal Emergency Management Agency (FEMA).** The federal agency that regulate floodplains and manages the nation's flood insurance program.
- **Freeboard.** The vertical distance between the maximum design water surface of a channel and the top of bank provided to account for differences between predicted and actual water surface elevations and/or to provide an allowance for protection.
- **Frequency.** How often an event will occur expressed by the return period or by exceedance probability.
- **Floodplain.** Land adjacent to a stream, slough or river that is subject to flooding or inundation from a storm event. FEMA defines the floodplain to be the area inundated by the 100-year flood.
- **Floodplain Management.** The implementation of policies and programs to protect floodplains and maintain their flood control function.
- **Levee.** A dike or embankment constructed to confine flow to a stream channel and to provide protection to adjacent land. A levee designed to provide 100-year flood protection must meet FEMA standards.
- **Level of Protection.** The amount of protection that a drainage or flood control measure provides.
- **One Hundred Year (100-year) Runoff.** The storm runoff that has a one percent (1 percent) chance of occurring in any given year.

- **Return Period.** The long-term average number of years between occurrences of an event being equaled or exceeded.
- **Ten-Year (10-year) Runoff.** The storm runoff that has a ten (10 percent) chance of occurring in any given year.

Regulatory Setting

Various Federal, State, and local agencies work to identify and manage lands vulnerable to flooding, and to design, construct, and maintain flood protection facilities. As a result of damaging floods nationwide in 2005 and concerns over levee safety, California has enacted extensive legislation to improve flood protection, with particular emphasis on the Sacramento and San Joaquin Drainage District. Many of the mandates from recent legislation are currently (2016) evolving; therefore, the discussion of specific legislation with relevance to the Stockton General Plan cross references the overseeing agencies since continuing regulatory change can be expected.

Flood hazard assessment, designation, and related land use management guidelines include Federal, State, and local requirements. Key agencies, legislation, and regulations affecting flood hazards in Stockton are summarized below.

~~The following standards, criteria and permits govern flood control:~~

Federal Regulations

- **U.S. Army Corps of Engineers.** The U.S. Army Corps of Engineers (USACE) is the Federal agency that studies, constructs, and operates regional-scale flood protection systems in partnership with State and local agencies. In California, flood management is performed through a combination of projects operated by USACE, the Bureau of Reclamation, the State, local maintaining agencies, and private proponents, all under official USACE flood management plans.

  On April 8, 2015, the USACE Sacramento District released a draft plan, the Lower San Joaquin River Draft Feasibility Report, to reduce flood risk in North and Central Stockton. The plan proposes improvements of approximately 23 miles of levee, including cutoff walls, new levees, adding erosion protection, and adding closure structures at Fourteenmile Slough and the Smith Canal. Other projects with USACE involvement in collaboration with the San Joaquin Area Flood Control Agency (SJAFCA) are discussed on page 11-95.

  Laws and regulations related to USACE functions are described below:

- **Flood Control Acts.** The following Flood Control Acts affect the Stockton area:
  - The Flood Control Act of 1936 was enacted as part of the Federal New Deal legislation to stimulate the national economy during the Great

Depression. This act declared flooding to be a menace to the national welfare and directed the Federal government (USACE and the U.S. Department of Agriculture) to improve, or participate in improving, navigable waters or their tributaries if the benefits would exceed costs, and if the lives and social security of people would be adversely affected. The legislation also enabled the Federal government to enter into contracts with states or other local agencies for flood management projects.

- The Flood Control Act of 1944 was passed (and amended in 1950) to formally assign the duties of flood management and navigation to USACE, and for Federal authorization of projects on the Sacramento and San Joaquin rivers and tributaries.

- **Operations and Maintenance Controls, Flood Control Projects.** The maintenance and operation of Federal project levees is discussed in Title 33, Section 208.10, of the Code of Federal Regulations (33 CRF 208.10), Local Flood Protection Works, Maintenance and Operation of Structure and Facilities. This regulation outlines Federal regulatory requirements for the maintenance and operation of structures and facilities that compose the State/Federal flood protection system. It, along with Section 14 of the Rivers and Harbors Appropriation Act (Title 33, Section 408 of the U.S. Code), is the basis for requiring permission from USACE before any major change in maintenance and operations at Federal project levees and other facilities, such as pumping plants, can occur. It also specifies the responsibilities of the maintaining superintendent, necessary inspections, operations and maintenance reporting requirements, maintenance requirements, and high-water/flood operations for local maintenance of Federal structures and flood facilities.

- **Water Resources Development Acts.** Several Water Resources Development Acts have been enacted, which affected funding and environmental goals for USACE flood management projects.

  - The Water Resources Development Act (WRDA) of 1986 was the first major "omnibus" projects authorization bill for USACE in 16 years and authorized more than 270 USACE projects for study or construction. It also contained environmental provisions addressing issues such as mitigation, enhancement, and modification of USACE projects to improve the environment and authorized more than $500 million in fish and wildlife mitigation/enhancement features. The WRDA of 1986 directed the Secretary of the Army to issue new guidelines for crediting against the nonfederal share of project costs for flood work carried out by local interests. Prior cost-share provisions for a cash contribution of 5 percent of the cost of the project and the requirement for local provisions of lands, easements, rights-of-way, relocations and disposals (LEERD) remain unchanged. The WRDA of 1986 set a 25 percent minimum to 50 percent maximum contribution with LEERD and the cash contribution credited toward this percentage cost share.

- The WRDA of 1990 added environmental protection as a primary mission of USACE. The WRDA of 1990 amended the WRDA of 1986 to treat as construction the costs of planning and engineering for projects for which nonfederal interests contributed 50 percent or more of the cost of the feasibility study.
- The WRDA of 1996 amended cost sharing requirements. Nonfederal sponsors are required to contribute a minimum of 35 percent to a maximum of 50 percent.
- The WRDA of 1999 amended the Flood Control Act of 1936 to authorize funds contributed by states and other political subdivisions for environmental restoration work, in addition to flood management.

- **Federal Emergency Management Agency (FEMA).**-FEMA is responsible for maintaining minimum F~~f~~ederal standards for floodplain management within the United States and territories of the United States. FEMA plays a major role in managing and regulating floodplains, which are defined as lowland and relatively flat areas adjoining inland and coastal waters that are subject to a one percent or greater chance of flooding in any given year (100-year floodplain).

- **National Flood Insurance Act of 1968.** The National Flood Insurance Program (NFIP) is a program created by the Congress of the United States in 1968 through the National Flood Insurance Act of 1968. This insurance is designed to provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods. In January 2014, the United States Senate passed the Homeowner Flood Insurance Affordability Act of 2014. That bill would delay the increases in flood insurance premiums that were part of the Biggert-Waters Flood Insurance Reform Act of 2012.

  The National Flood Insurance Program (NFIP) offers flood insurance to homeowners, renters, and business owners in participating communities. These communities agree to adopt and enforce ordinances that meet or exceed requirements established by FEMA to reduce the risk of flooding. FEMA administers the National Flood Insurance Program that delineates areas subject to flood hazard on Flood Insurance Rate Maps (FIRMs)~~FIRM~~s for each participating community. The FIRMs show Special Flood Hazard Areas (areas subject to inundation by a flood that has a 1-percent-chance or greater of being equaled or exceeded in any given year). The FIRM zones within the policy area are identified on the FIRM map shown in Figure 11-8 and are defined by FEMA as follows:

  - Zone A: Areas subject to inundation by the 1-percent-annual-chance flood event generally determined using approximate methodologies. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown. Mandatory flood

insurance purchase requirements and floodplain management standards apply.

- Zone AE: Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. Base Flood Elevations (BFEs) are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply.
- Zone AH: Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are between one and three feet. Base Flood Elevations (BFEs) derived from detailed hydraulic analyses are shown in this zone. Mandatory flood insurance purchase requirements and floodplain management standards apply.
- Zone AO: River or stream flood hazard areas, and areas with a one percent or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from one to three feet. These areas have a 26 percent chance of flooding over the life of a 30-year mortgage.

The areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood, are also labeled in Figure 11-8 and show the 500-year flood zone. The 100-year flood is the national minimum standard to which communities regulate their floodplains through the National Flood Insurance Program.

- **Flood Insurance Reform Act of 2012 (Biggert-Waters Act).** In 2012, Congress passed this act, which calls on FEMA to make a number of changes to the way the NFIP is run. The legislation requires the NFIP to raise flood insurance rates to reflect true risk, make the program more financially stable, and change how FIRM updates impact policyholders. The changes will mean premium rate increases for policyholders over time.

State Regulations

- **California Department of Water Resources.** The Department of Water Resources (DWR) was created after severe flooding occurred across Northern California in December 1955. DWR established the Division of Flood Management in November 1977, although flood forecasting and flood operations were integral functions of DWR and its predecessor agencies (e.g., Department of Public Works) for about a century. Today, the functions of statewide flood forecasting, flood operations, and other key flood emergency response activities are the primary missions of the Division's Hydrology and Flood Operations Office. As mandated by the California Water Code, DWR has responsibility for the supervision of dams and reservoirs, which is delegated to the Division of Safety of Dams.

  DWR's Division of Flood Management, through its Central Valley Flood Planning Office, and the FloodSAFE Program Management Office are

carrying out the work of the agency's FloodSAFE California Program, which partners with local, regional, State, Tribal, and Federal officials in creating sustainable, integrated flood management and emergency response systems throughout California. Flood control legislation of 2007 and 2008 directed DWR to prepare a flood control system status report for the State Plan of Flood Control (SPFC) and Central Valley Flood Protection Board (CVFPP).

- **Central Valley Flood Protection Board.** The Central Valley Flood Protection Board (CVFPB) was authorized by Sections 8520-9110 of the California Water Code and established in 1911. To carry out the primary State interest described in Section 8532 of the California Water Code, the CVFPB may do any of the following:
  - Acquire either within or outside the boundaries of the drainage district, by purchase, condemnation, or by other lawful means in the name of the drainage district, all lands, rights-of-way, easements, property, or material necessary or requisite for the purpose of bypasses, weirs, cuts, canals, sumps, levees, overflow channels and basins, reservoirs, and other control works, and other necessary purposes, including drainage purposes.
  - Construct, clear, and maintain bypasses, levees, canals, sumps, overflow channels and basins, reservoirs, and other flood control works.
  - Construct, maintain, and operate ditches, canals, pumping plants, and other drainage works.
  - Make contracts in the name of the drainage district to indemnify or compensate any owner of land or other property for any injury or damage caused by the exercise of the powers conferred by this division, or arising out of the use, taking, or damage of any property for any of the purposes of this division.
  - Collaborate with State and Federal agencies, if appropriate, regarding multiobjective flood management strategies that incorporate agricultural conservation, ecosystem protection and restoration, or recreational components.

- **California Central Valley Flood Protection Act of 2008.** In 2007, the California Legislature passed a package of several related flood bills (AB 162, AB 70, AB 5, AB 156, SB 5, and SB 17), which included a requirement to prepare a Central Valley Flood Protection Plan (CVFPP). Additional requirements for the CVFPP were added in the California Central Valley Flood Protection Act of 2008 (Senate Bill 5), which defined objectives, codified in California Water Code Section 9616, for reducing the risk of flooding in the Central Valley. The 2007 and 2008 legislation requires DWR to prepare, and update every five years, the CVFPP. The plan is intended to describe both structural and nonstructural means for improving the performance of the levees, weirs, bypasses, reservoirs, and other State Plan of Flood Control facilities.

The Central Valley Flood Protection Act requires that urban and urbanizing areas within the planning area make certain findings related to the provision of a minimum 200-year level of flood protection before making certain land use decisions. The legislation also requires each city and county within the Sacramento-San Joaquin Valley to amend its general plan to include data, analysis, goals, and policies for protection of lives and property, and related feasible implementation measures.

- **Assembly Bill 162.** Assembly Bill 162 (AB 162) signed into law in October 2007 made changes to local planning to incorporate improvements in increasing attention to flood-related matters and providing protection from flooding. AB 162 adds to issues that must be addressed in the land use and conservation elements of general plans, and expanding the flood management requirements of the mandatory safety element. It also authorizes COGs, or HCD when a jurisdiction is not a member of a COG, to exclude land that is determined to be insufficiently protected from flood hazards from the land inventory when determining land available to meet the regional housing needs.

  The provisions from AB 162 relevant to Stockton are:

  - Requires cities and counties to identify in the land use element of their general plan those areas subject to flooding, according to flood plain mapping prepared by FEMA or DWR. It would also require that the next time the housing element is revised after January 1, 2008, the following also be undertaken:
    - The conservation element must identify rivers, creeks, streams, flood corridors, riparian habitat, and land that may accommodate floodwater for the purposes of groundwater recharge and stormwater management.
    - The safety element must include information regarding flood hazards and must establish a set of comprehensive goals, policies, and objectives, based on specified information for the protection of the community from unreasonable flood risks.
    - Identify new information not available during the last update of the safety element that would provide criteria for cities and counties that have flood plain management ordinances to comply with the provisions of this law.
  - Requires cities and counties within the boundaries of the Sacramento and San Joaquin Drainage District to submit the draft safety element or amended safety element to the CVFPB and to every local agency that provides flood protection to the land covered by the safety element. Further requires:
    - That the plans be submitted at least 90 days prior to the adoption of the plan;

- That the CVFPB and local agencies provide comments to the city or county no more than 60 days after receiving the draft; and
- Requires that the city or county consider the recommendations made by the CVFPB and local agencies or provide findings that describe the reasons why the recommendations were not accepted.

- Requires cities and counties within the Sacramento and San Joaquin Drainage District to refer their general plans to the CVFPB, in addition to the other State, local, and Federal agencies required by the Planning and Zoning Law.
- Requires councils of governments, while developing methodologies for distributing existing and projected regional housing needs within the cities and counties in their jurisdiction, to exclude lands not adequately protected from floods in their determination of lands suitable for urban development.

- **Assembly Bill 70 (AB 70).** Assembly Bill 70 (AB~~B~~ 70) applies to local jurisdictions that approve new development in previously undeveloped areas protected by a state flood control project. The law states that the local jurisdiction may share liability for any flood damage that occurs to properties in that development unless they take reasonable precautions to protect that development. In this case, reasonable precautions means that they implement reasonable and feasible actions to mitigate the potential property damage to the new development from any flood risks about which they are aware at that time of approval.

- **FloodSAFE California.** The 2008 draft FloodSAFE Strategic Plan is the most recent plan available. FloodSAFE is guiding the development of regional flood management plans, which encourage regional cooperation in identifying and addressing flood hazards. Regional flood plans include flood hazard identification, risk analyses, review of existing measures, and identification of potential projects and funding strategies. The plans emphasize multiple objectives, system resiliency, and compatibility with State goals and Integrated Regional Water Management Plans (IRWMP). DWR has the lead role to implement FloodSAFE and will work closely with state, tribal, Federal, and local partners to help improve integrated flood management systems statewide.

  The FloodSAFE Program is designed to help improve integrated flood management statewide with a significant emphasis on the Central Valley, where communities and resources face high risk of catastrophic damage. The FloodSAFE Program is designed with the recognition that eliminating unacceptable risks of flood damage statewide will take decades.

  Achieving the FloodSAFE Vision will require significant resources, and DWR does not have sufficient funds to achieve FloodSAFE objectives without substantial Federal and local cost participation. Most of the State's

funds currently available to help implement FloodSAFE are provided by Propositions 1E and 84. The legislature allocated these bond funds for specific purposes and regions, placing a high priority on improving flood protection and preparedness in the Central Valley and Delta as soon as possible due to the high potential of loss of life and property.

FEMA is a sponsor for the California Levee Database (CLD). The CLD is a GIS resource tool for storing and retrieving statewide levee attribute information and technical resources data for levee evaluation. Within FloodSAFE, the Central Valley Floodplain Evaluation and Delineation (CVFED) Project will provide 100-, 200-, and 500-year floodplain maps as well as datasets that meet FEMA, USACE, and DWR standards. The information collected by CVFED can be used for FEMA's Digital Flood Insurance Rate Map (DFIRM) production, USACE Flood Damage Reduction Feasibility Studies, and DWR planning studies.

- **Water Code Sections 9602 and 9621.** The 200-year floodplain is defined by Water Code Section 9602 as the minimum urban level of flood protection in the Sacramento-San Joaquin Valley. Water Code Section 9621 requires counties to collaborate with cities to develop flood emergency plans.

- **Government Code Sections 65302 and 65860.** Under these statutes, cities and counties are required to amend the land use, conservation, and safety elements of their general plans to address flood risks. The code requires annual review of the land use element for areas identified by FEMA or DWR floodplain mapping. The code also stipulates that the safety element must establish a set of comprehensive goals, policies, objectives, and feasible implementation measures to protect communities from the unreasonable risks of flooding. Zoning ordinances must then be amended for consistency with the modified general plans.

- **Government Code Sections 65865, 65962, and 66474.** These statutes pertain to areas within a flood hazard area and serve to limit their development, except where certain findings can be made related to provision of a 200-year level of flood protection in urban and urbanizing areas or a 100-year level of flood protection in nonurbanized areas.

- **Local Flood Protection Act of 2008.** This act allows, but does not require, a local agency to prepare a local plan for flood protection. If developed, these local plans should be consistent with the CVFPP.

- **State of California Building Code.** The State of California Building Code (CBC) contains requirements for constructing structures in flood hazard areas. Flood hazard areas are established as areas of special flood hazard as identified by the Federal Emergency Management Agency's Flood Insurance Study (FIS) as adopted by the local authority having jurisdiction where the project is located, as amended or revised with the

accompanying Flood Insurance Rate Map (FIRM). The CBC contains standards for the construction of new buildings, structures, and portions of buildings and structures, including substantial improvements and restoration of substantial damage to buildings and structures. These structures are to be designed and constructed to resist the effects of flood hazards and flood loads.

Local Regulations

- **San Joaquin County Flood Control and Water Conservation District.** The San Joaquin County Flood Control and Water Conservation District (District) was formed in 1956 to construct, operate, maintain, and plan flood control, water supply, drainage, and groundwater recharge projects for the protection of life, property, and health of San Joaquin County residents and to ensure economic, environmental, and social viability of the County. The San Joaquin County Board of Supervisors serves as the governing board for the District and the District is staffed by the San Joaquin County Department of Public Works.

- **San Joaquin County and City of Stockton.** As jurisdictions participating in the Federal flood insurance program, San Joaquin County and the City of Stockton are responsible for implementing FEMA floodplain management regulations.

- **Sacramento-San Joaquin Delta Flood Response Group 2007 Agreement.** In addition to various ordinances to preserve floodplain functions and minimize flood hazards, the County is active in emergency response and preparedness related to flooding. San Joaquin County is one of five counties participating in the Sacramento-San Joaquin Delta Flood Response Group 2007 agreement. The other counties participating are Sacramento County, Yolo County, Solano County, and Contra Costa County. The goal of the agreement is to improve regional flood response through planning and coordination of resources. Each county is tasked with identifying all key stakeholders that would have an active role during a catastrophic emergency response in the Delta, surveying existing plans and initiatives pertaining to emergency response in the Delta to determine the extent of planning efforts, and developing bench marks, milestones, and deliverables to address and coordinate efforts together with all agencies and organizations involved with the Delta response effort. Overall, the goal of the group is to promote a seamless coordination of an emergency response effort in the Delta.

- **San Joaquin County Local Hazard Mitigation Plan.** San Joaquin County has prepared a post-disaster Local Hazard Mitigation Plan (LHMP) (January 2011) to reduce repetitive damages caused by hazards such as storms or flood events. The LHMP meets State and Federal requirements to mitigating disaster damages both prior to and following a disaster. It includes guidance for actions during restoration, repairs, or new

development of property or structures related to actual or potential disaster events. The City of Stockton is a participating jurisdiction in the County Hazard Mitigation Plan.

- **Flood Contingency Mapping Project.** San Joaquin County initiated a Flood Contingency Mapping Project in 1998 to cover all areas of the county protected by levees that might be affected by a levee break. Each map is designed to cover a single tract, island, or a group of reclamation districts on a common section of waterway. Grouping of reclamation districts that have interdependent facilities allows for coordinated decision-making and resolution of possibly conflicting flood fight strategies prior to a flood event. The County Office of Emergency Services (OES) works with local engineering firms and the reclamation districts to develop the maps. Maps include: existing dry land levees, low points, and estimated water depths in the event of a flood; and structures, schools, pumping stations, significant levee structures (e.g. drains, flood gates, pipes), access roads, and water access sites (e.g. ferry landings and boat ramps). The mapping includes detailed flood contingency planning for each area using all potential flood event scenarios and response plans are printed directly on the maps. The Flood Contingency Maps are made available on the County website at http://www.sjmap.org/oesfcm/

- **San Joaquin Area Flood Control Agency.** The San Joaquin Area Flood Control Agency (SJAFCA) is a Joint Powers Authority with the ability to finance and manage flood control projects initiated between the City of Stockton, San Joaquin County, and the San Joaquin County Flood Control and Water Conservation District. It was created in 1995 in response to notification by FEMA that most of the City of Stockton and surrounding County areas would be mapped into the 100-year flood zone under new FIRMs, which would require certain building restrictions and increase the number of property owners required to purchase flood insurance unless improvements were constructed that would restore a 100-year level of flood protection. The first directive of SJAFCA was to finance and construct the Flood Protection Restoration Project consisting of floodwall, levee improvements, new levees, floodway widening, bridge modifications, and new detention basins within the City of Stockton and adjoining County areas. The Flood Protection Restoration Project was completed in 1998. Since that time SJAFCA has worked with the Sacramento District of the Corps on a final audit of the total reimbursement amount to determine any refunds due to property owners affected by the improvement assessments and construction.

  The SJAFCA has a number of current (2016) projects. In November 2014, the SJAFCA produced the 2014 Lower San Joaquin River and Delta South Regional Flood Management Plan; the planning process for this project is funded by DWR through a California bond measure approved in 2006. In February 2015, the SJAFCA collaborated with the US Army Corps of Engineers to draft the San Joaquin River Basin Lower San Joaquin River

Feasibility Study, aimed at determining the needed improvements for flood protection. Other current (2016) projects include the Smith Canal Project, constructing a gate to bring levees up to Federal standards; FEMA Levee Accreditation Projects, collecting local technical data to submit to FEMA for certification; and the Bear Creek and Calaveras River Systems Levee Re-certification Project, surveying, mapping, and preparing certification packages to submit to FEMA for 56 miles of levees that no longer hold valid levee certifications.

- **City of Stockton Development Code.** The Stockton City Council adopted Development Code Amendments to Titles 15 and 16 on May 24, 2016. The amendments brought the Development Code into compliance with State law (Senate Bill 5) and ensure consistency with the 2015 General Plan. SB 5 introduced new flood risk considerations, discussed under State Regulations, California Central Valley Flood Protection Act of 2008 (page 11-90).

- **Special Districts.** Reclamation and Levee Districts are special districts responsible for reclaiming and/or maintaining land subject to frequent overflow or flooding via systems of levees, dikes, pumps, and ditches within both urban and rural lands. Most reclamation districts (RDs) were established when local landowners first started agricultural production many decades ago. The USACE was the Federal regulatory agency responsible for constructing the levee system. Most of the Central Valley levee system constructed in the early to mid-1900s by the USACE was turned over to the local RDs to maintain. Maintenance and improvement of Delta levees has been the responsibility of the local reclamation districts for the last 130 years.

  RDs are charged with preventing flooding of the land in their jurisdiction, which requires maintenance of levee structures and/or other facilities such as pump stations. California RDs tend to operate under their own authority; however, if the CVFPB determines that an RD is not adequately maintaining its levee system, it can authorize DWR to establish a maintenance area and take responsibility of the levee. Typically, RDs are overseen by elected board members and the costs to maintain the levees are covered by property taxes. The financing abilities of RDs has been limited relative to needs, although some funds have been made available by the State for the last few decades. Under emergency situations RDs are supported by county, State, and Federal agencies, but receive their authorization to operate under their own authority through the DWR and the USACE.

  RDs specific to Stockton are discussed in more detail on page 129 and shown in Figure 11-15.

Environmental Setting

Flooding has serious implications for public safety, including possible loss of life, displacement or complete destruction of buildings, siltation, temporary loss of utilities, road and bridge damage, loss of goods and services, mobilization of hazardous materials, and the threat of waterborne diseases. Flooding can result in regional and statewide impacts (e.g., economic activity and water supply).

This section describes the existing flood hazards within the Policy Area, as well as the flood protection measures provided by Federal, State, and local programs. The information for this section comes from a variety of documents, including the San Joaquin County Local Hazard Mitigation Plan, the Sacramento and San Joaquin River Basins Comprehensive Study Interim Report (Reclamation Board and Corps 2002), and the subsequent Central Valley Flood Protection Plan (DWR 2012).

Historic Flooding

This section describes major flooding that has occurred in and immediately around Stockton. In November and December of 1950, approximately 13,820 acres of the Delta flooded, causing flooding in many surrounding locations, including washing out the Southern Pacific Railroad tracks and State Highway 50 west of Stockton. In December 1955 and January 1956, the eastside tributaries of the San Joaquin River experienced extensive flooding, damaging several areas including the city of Stockton. During April through July 1958 approximately 250,000 acres from Stockton to Fresno along the San Joaquin River flooded, with some low-lying areas flooded until July due to high snowmelt. Figure 11-7 shows the number of times floods have occurred in the Stockton area.

Prior to 1998, the flood potential in the ~~City~~ city was significant and large areas of the ~~C~~city were designated to be in the 100-year floodplain. The Locally Constructed Flood Control Project of the San Joaquin Area Flood Control Agency (SJAFCA) sponsored the construction of flood protection facilities on Bear Creek, Pixley Slough, Upper Mosher Creek, the Mosher Diversion, Little Bear Creek, Mosher Slough, the Calaveras River, Stockton Diverting Canal, and Mormon Slough. These projects provided FEMA 100-year protection to large parts of the ~~City~~city. As a result of the SJAFCA work, FEMA reissued the flood maps for the ~~City~~ city showing that significant portions of ~~that~~ the land had been removed from the floodplain, labeled in Figure 11-8 as Protected by Levees.~~.~~

For a broader discussion of flooding history within the statewide context, Attachment C of DWR's California Flood Future provides a history of flood management in California (DWR 2013). Attachment C is available at the following URL:
http://www.water.ca.gov/sfmp/resources/Attachment_C_History.pdf

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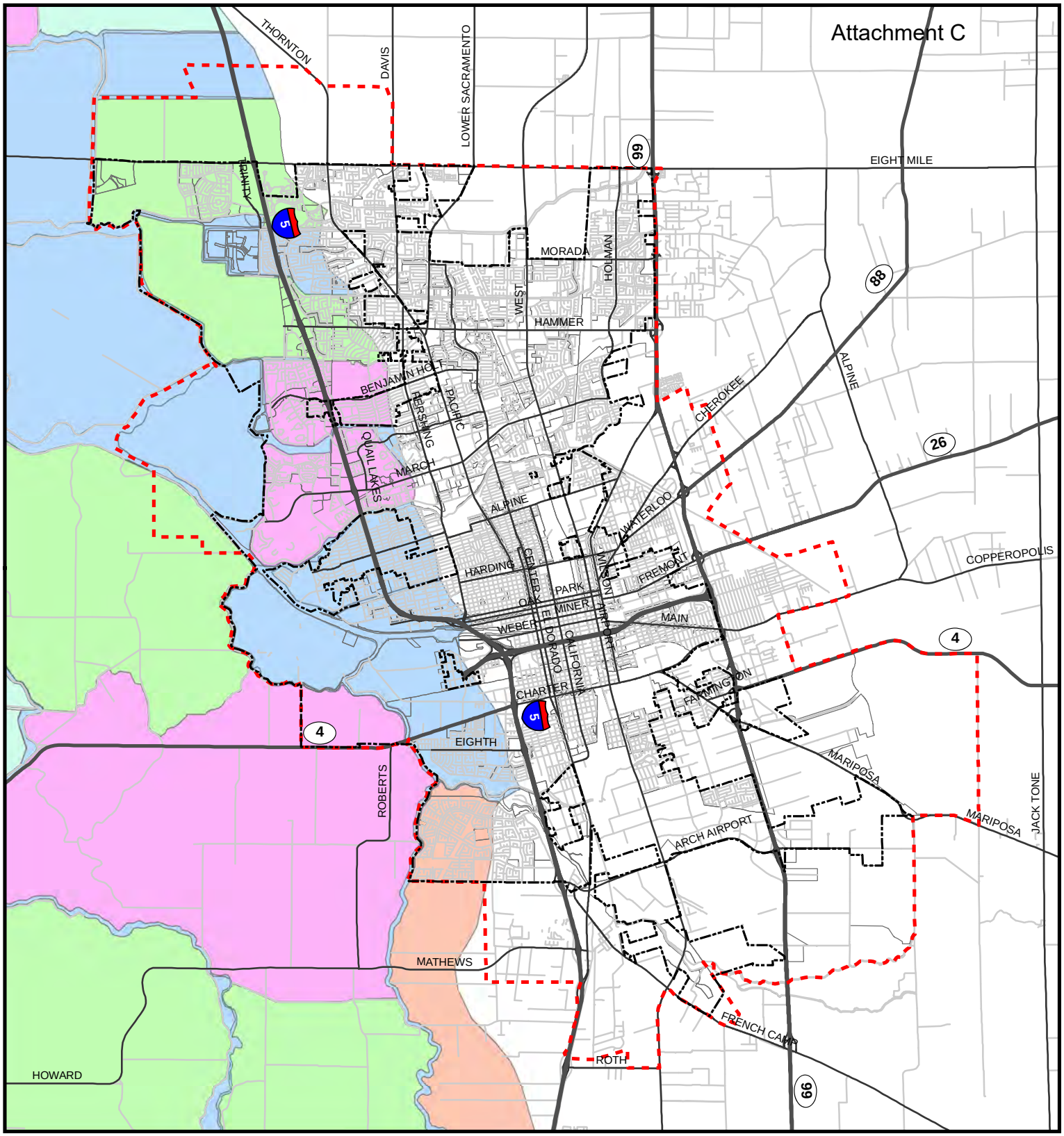

Legend

City Limits

Sphere of Influence

Highways

Major Streets

Local Roads

Number of Years Inundated Since 1900

0	3	6
1	4	7
2	5	8

Miles

0 1 2 3

N

Source: California Department of Water Resources, 2007.

Figure 11-7 Historic Inundation of Delta Islands

CITY OF STOCKTON

Please see next page.

~~Floodplains in the City of Stockton (City) are shown on the FEMA floodplain maps prepared for the federal flood insurance program. The current maps for the City were issued in April 2002. Figure 11-7 shows the approximate floodplains based on the FEMA maps.~~

Existing Flood Risks

The City of Stockton is situated just east of the Sacramento–San Joaquin Delta, a low-lying region of sloughs and channels connecting the rivers with Suisan Bay and San Francisco Bay. Delta channels are the receiving waters for the channels carrying storm runoff from the city. Water levels in the Delta and the lower reaches of the San Joaquin River are directly influenced by tidal elevations. Also, reclamation of Delta land over the years by constructing levees around many tracts or islands, has reduced the available floodplain and increased the flooding potential. The flood risk in the city is largely influenced by water surface elevations in the San Joaquin River and in Delta channels.

Flood elevations in the channels carrying the city's drainage runoff are influenced by the elevation of the water surface in the Delta and are progressively higher proceeding upstream. Land along the channels and along the San Joaquin River is protected from flooding by levees constructed to confine water within the channel banks. As long as levees are not over-topped and maintain their structural integrity, flooding is considered to be very unlikely. Should a major storm event cause levees to be over topped or if a levee fails, flooding would occur. Flooding also can occur when runoff exceeds the capacity of local systems and cannot drain adequately.

Levees and other flood control infrastructure function to protect areas by conveying floodwaters past locations without flooding. Regional dams also provide protection by incorporating flood storage capacity and managing the rate of releases downstream. Most of the area's existing flood control facilities along local and regional rivers were constructed and are now maintained to provide mandated levels by the USACE of flood protection. Changing regulations from the Federal and State governments, however, will necessitate additional improvements for some levees and will require property owners to purchase flood insurance as more lands are designated as high-risk areas.

Potential projects have been identified that would reclaim floodplain land along North Little Johns Creek. With stringent environmental regulations in place and City and public goals to preserve natural creeks, extensive construction and channelization within creek channels is not a viable solution.

The Smith Canal Project is currently (2016) being implemented, which will place a gate and a new pump station at the mouth of Smith Canal, next to the San Joaquin River. The project will remove thousands of properties in the city of Stockton from a high-risk flood zone and prevent thousands more from being

placed in a high-risk flood zone. It will also reduce the cost of flood insurance or remove the requirement altogether for properties in the affected area.

While it is true that much of the city is now protected from riverine flooding during a 100-year event, there are potential problems with a lower frequency of occurrence that should be understood. These include structural failures of levees and upstream water control dams. A risk of flooding remains during large flood events in the San Joaquin River and from Delta flooding accompanied by high tides. Levee failures are a constant threat in any system that is dependent on constructed levees for flood protection. Extreme events such as upstream dam failures could also cause flooding in the city.

Due to the current drought (2016), some areas of California are subject to an increased threat of wildfires, and land affected by fires can have a heightened risk of flood. Wildfires and the associated flooding risk are not a concern in Stockton.

100-Year Flood Zone

A 100-year flood is defined as a flood event that has a one-percent chance of occurring in any given year. It is important to note that the delineation of areas within the 100-year flood zone represents a statistical probability for the long-term average occurrence of flooding. Actually, flooding can occur in a 100-year flood zone more often or less often than once in a hundred years. Smaller floods have an even greater chance of occurring in any year and pose hazards as well. Areas that are flooded less often only become inundated as a result of more uncommon and extreme precipitation/runoff events. The boundaries of the 100-year flood zone are delineated by FEMA on the basis of hydrology, topography, and modeling of flow during predicted rainstorms. The analysis of predicted flooding does not account for the effects of continued land subsidence or the rise in sea level associated with climate change.

Official flood zone maps are maintained by the Federal Emergency Management Agency (FEMA). FEMA determines areas subject to flood hazards and designates these areas by relative risk of flooding on a map for each community, known as the Flood Insurance Rate Map (FIRM). A 100-year flood is considered for purposes of land use planning and protection of property and human safety.

FEMA-designated 100-year and 500-year flood zones in Stockton were updated under the Map Modernization Program and became effective on February 18, 2009. Figure 11-8 shows the FIRM flood hazard zones within the city and identifies the 100-year flood hazard zone areas. Figure 11-9 shows the flood hazard zone areas overlaid on the City's Land Use Diagram. The specific FIRM zones are discussed in detail under "Regulatory Context" within the discussion of the Federal National Flood Insurance Act of 1968.

~~Floodplains in the City of Stockton (City) are shown on the FEMA floodplain maps prepared for the federal flood insurance program. The current maps for the City~~

~~were issued in April 2002. Figure 11-7 shows the approximate floodplains based on the FEMA maps.~~

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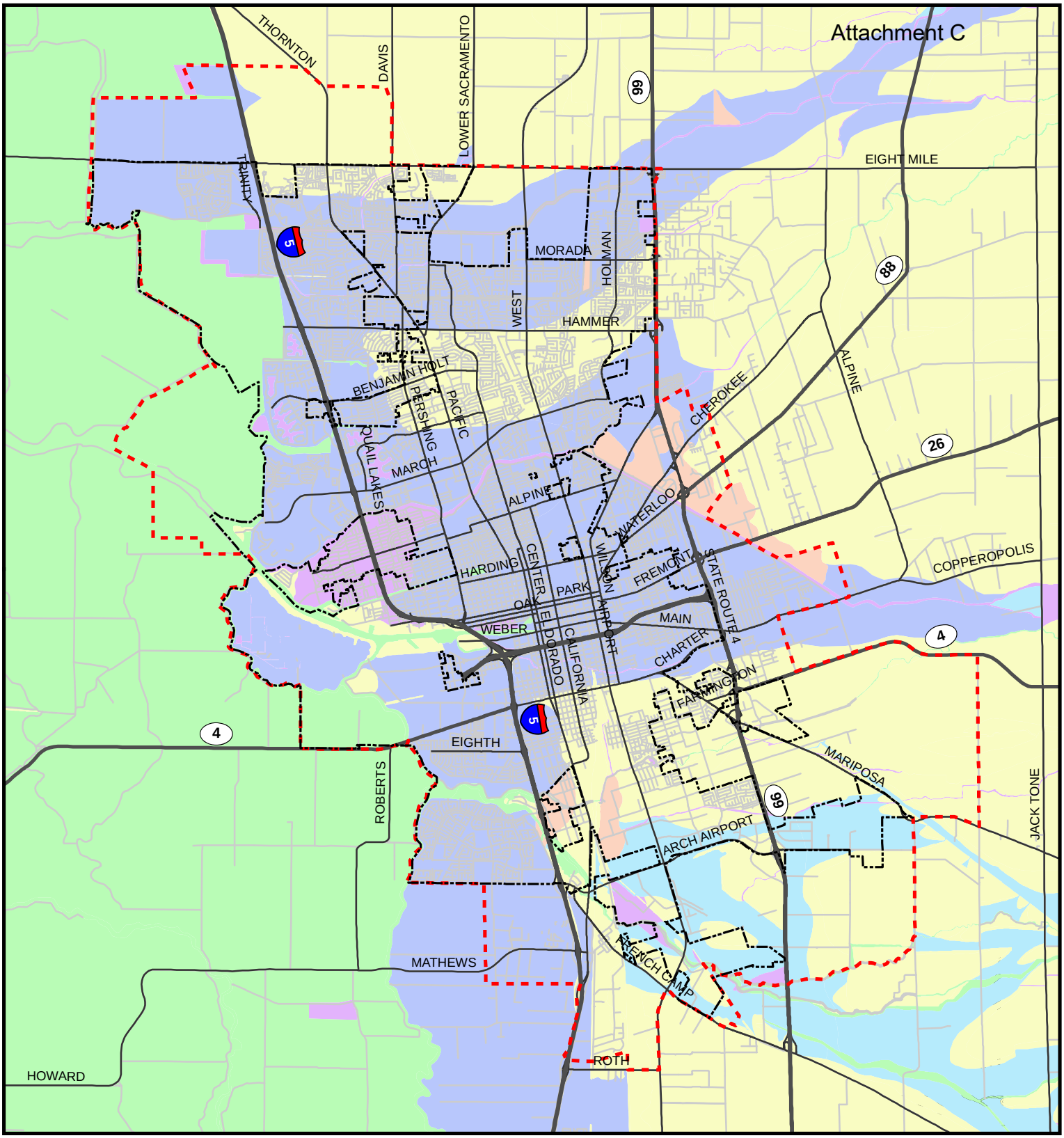


Legend

- City Limits
- Sphere of Influence
- Highways
- Major Streets
- Local Roads
- A - areas with a 1% annual chance of flooding (100-year)
- AE - areas with a 1% annual chance of flooding, base flood elevations
- AH - areas with a 1% annual chance of shallow flooding usually in the form of a pond
- AO - river or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow
- 0.2% annual chance of flooding, or more minimal
- 0.2% annual chance of flooding due to levee protection

Miles 0 1 2 3

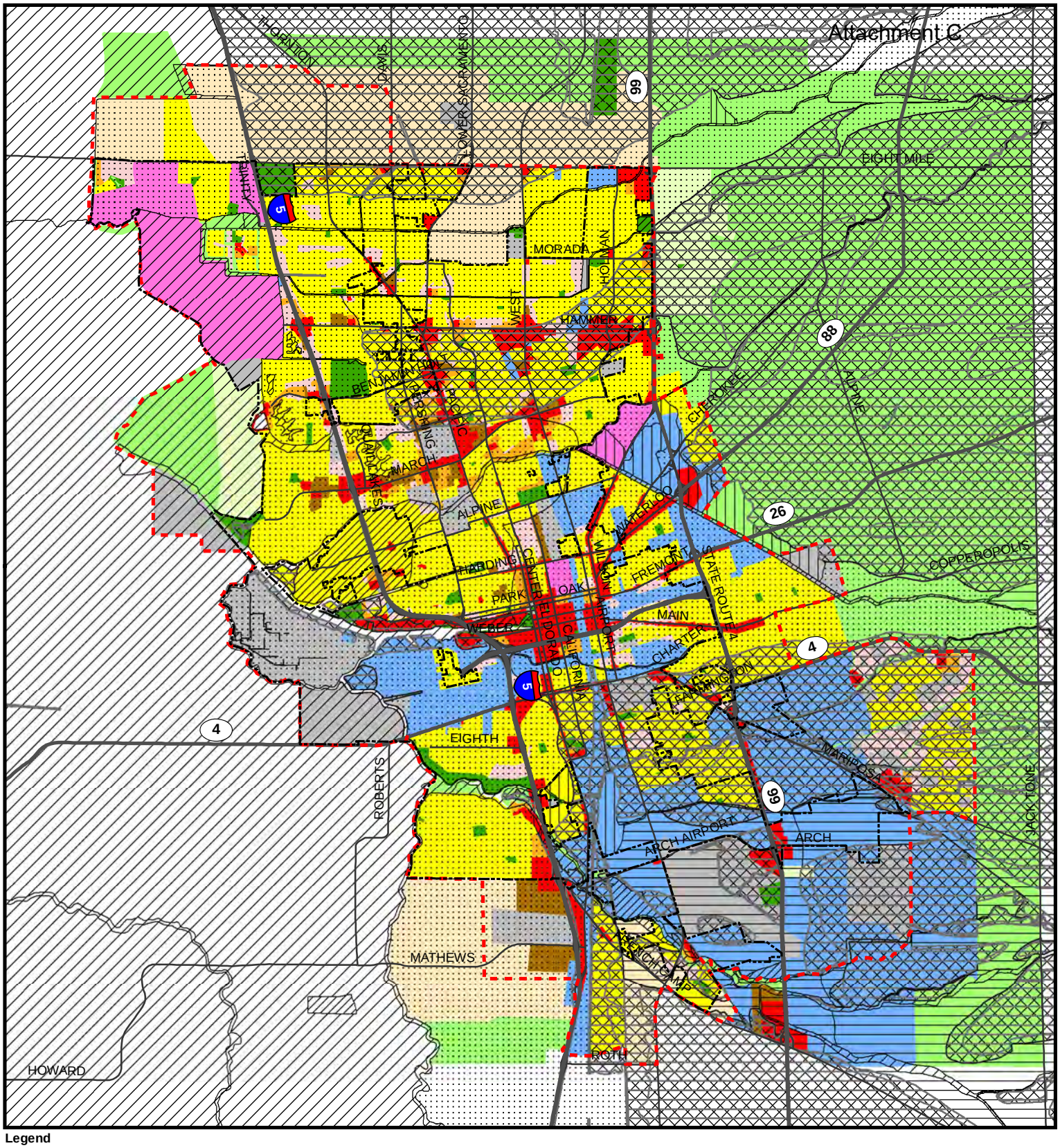
N

Source: City of Stockton, 2016; FEMA, 2009.

Figure 11-8 FEMA Designations

CITY OF STOCKTON

Please see next page.



Legend

- City Limits
- Sphere of Influence
- Highways
- Major Streets

Flood Hazard Zones

- A - areas with a 1% annual chance of flooding (100-year)
- AE - areas with a 1% annual chance of flooding, base flood elevations
- AH - areas with a 1% annual chance of shallow flooding usually in the form of a pond
- AO - river or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow
- 0.2% annual chance of flooding, or more minimal
- 0.2% annual chance of flooding due to levee protection

General Plan 2035

- Administrative Professional
- Commercial
- High Density Residential
- Industrial
- Institutional
- Low Density Residential
- Medium Density Residential
- Mixed Use
- Open Space/Agriculture
- Parks and Recreation
- Residential Estate
- Village

N

Miles 0 1 2 3

Source: City of Stockton, 2016; FEMA, 2009.

Figure 11-9 FEMA Designations and General Plan 2035

CITY OF STOCKTON

Please see next page.

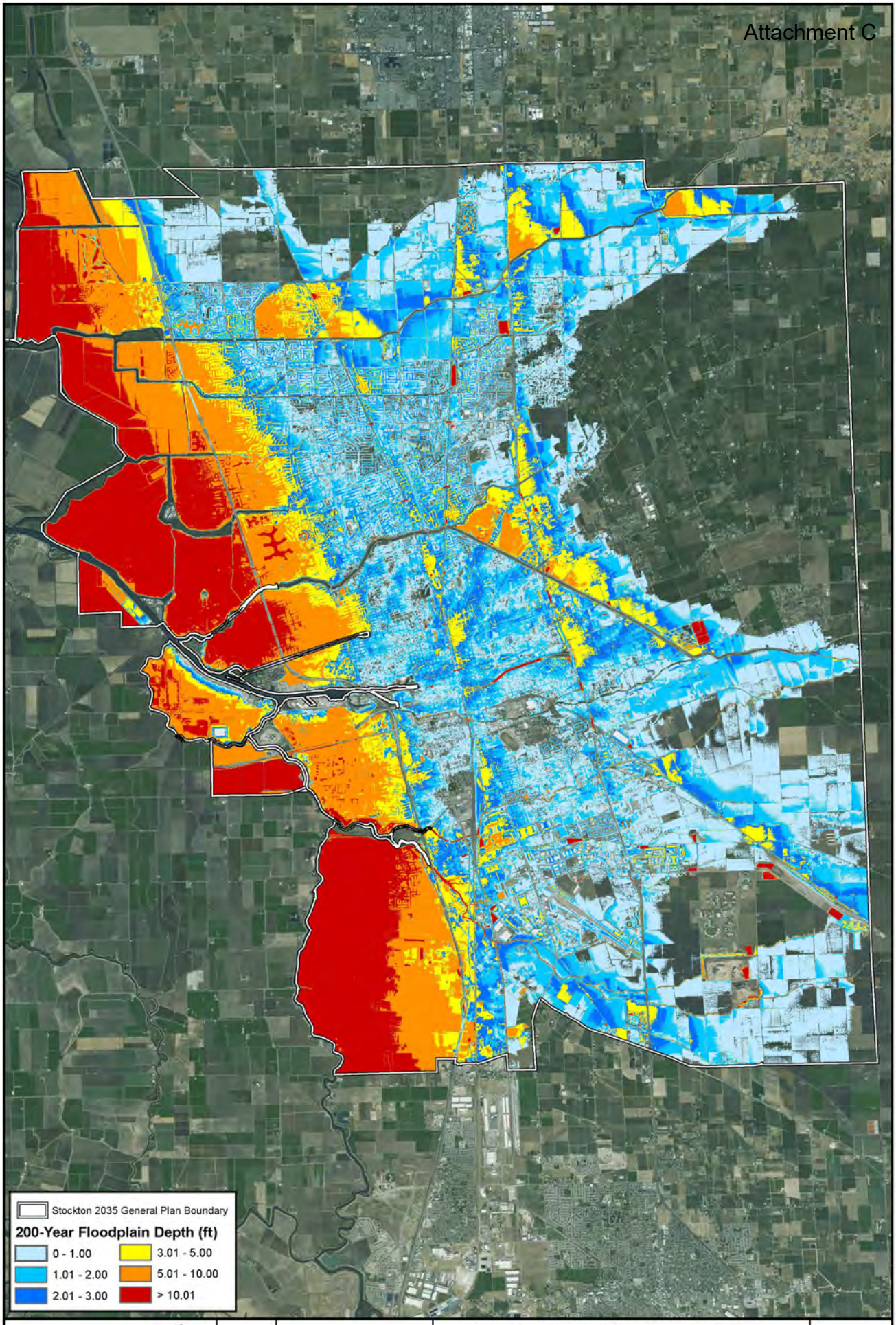
200-Year Flood Zone

SB 1278 (2012) and AB 1965 (2012) directed DWR to release floodplain maps for urban areas by July 2, 2013, to provide information on the water surface elevation of flooding in the event of failure of State Plan of Flood Control (SPFC) facilities during a 200-year event. These maps, developed pursuant to California Water Code Section 9610(d) do not affect FEMA's National Flood Insurance Program (NFIP) implementation or the target level of flood protection for USACE's Federal studies (DWR 2013). Referred to as the 200-year floodplain, this zone encompasses an area with a 0.5 percent annual chance of inundation.

The 200-year floodplain map for Stockton is shown in Figure 11-10.

Please see next page.

Attachment C



PETERSON . BRUSTAD . INC
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1180 Iron Point Rd., Suite 260
Folsom, CA 95630
Phone: (916) 608-2212
Fax: (916) 608-2232

NORTH

0 0.5 1 2 Miles

1 inch = 1.5 miles

MAY 05, 2015

SAN JOAQUIN COUNTY AND CITY OF STOCKTON

REFINED CVFED 200-YEAR FLOODPLAIN DEPTHS

Figure 11-10

Please see next page.

Designated Floodway Maps

The Designated Floodway refers to the channel of the stream and that portion of the adjoining floodplain reasonably required providing for the passage of a design flood; it is also the floodway between existing levees as adopted by the Central Valley Flood Protection Board (Board) or the Legislature. The Board, under Section 8609 of the Water Code, has the authority to designate floodways in the Central Valley. California Code of Regulations, Title 23, Waters, provide further details of the Board's regulatory authority. Specifically, Title 23, Article 5, Section 107 regulates uses in Designated Floodways. California Department of Water Resources (DWR) includes designated floodway maps on their internet file transfer site. The maps included for Stockton are located here: http://gis.bam.water.ca.gov/bam/

Floodplain Awareness Maps

The intent of the DWR Awareness Floodplain Mapping project is to identify all pertinent flood hazard areas that are not mapped under FEMA's National Flood Insurance Program (NFIP) and to provide the community and residents an additional tool in understanding potential flood hazards currently not mapped as a regulated floodplain. The awareness maps identify the 100-year flood hazard areas using approximate assessment procedures. These floodplains are shown simply as flood prone areas without specific depths and other flood hazard data.

The DWR Awareness Floodplain Map does not overlap with the city of Stockton, but Figure 11-11 shows the area surrounding the city where part of the nearby Floodplain Awareness Map is located.

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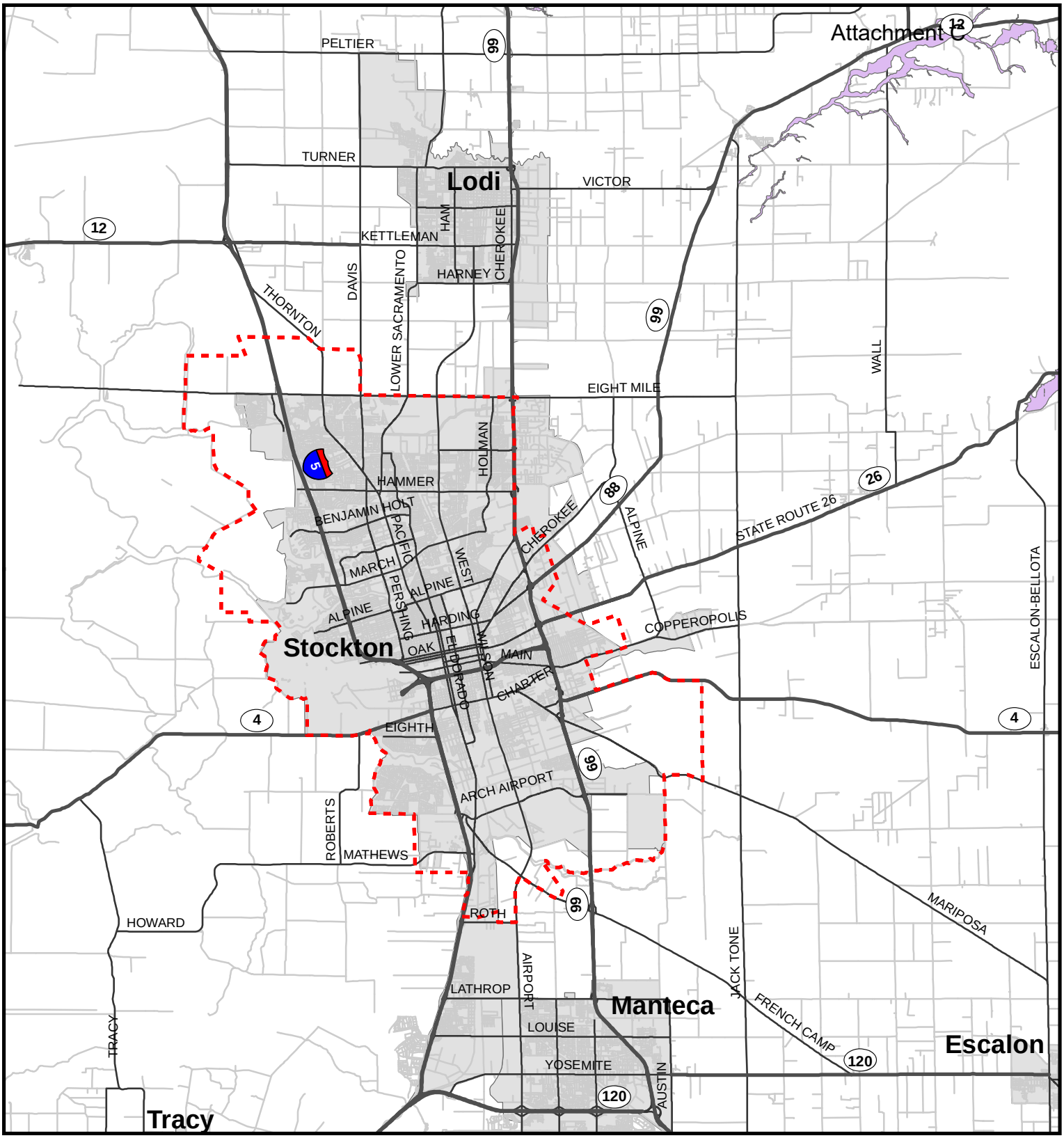


Miles
0 1.5 3 4.5

N

Legend

- Sphere of Influence
- City Limits
- Highways
- Major Streets
- Local Roads
- Awareness Floodplain

Source: City of Stockton, 2016; California Department of Water Resources, 2015; CalTrans 2009.

Figure 11-11 Awareness Floodplain

CITY OF STOCKTON

Please see next page.

San Joaquin County Flood Maps.

San Joaquin County and the City of Stockton provide general flood zone information as an advisory tool for flood hazard awareness. The City of Stockton website directs viewers to the "Flood Zone Viewer" on the San Joaquin County Public Works Department Website.

While the flood zone viewer does not necessarily identify all areas subject to flooding, it uses the Digital Flood Insurance Rate Map data received from FEMA. This digital data is produced in conjunction with the hardcopy FIRMs and generally matches the hardcopy maps. However, in all areas of discrepancy the hardcopy flood maps and flood profiles are the authoritative documents for the National Flood Insurance Program. These maps are available at the following URL: http://www.sjmap.org/floodzoneviewer/

The County also maintains for public viewing FEMA flood insurance rate maps for the entire county. These maps are available at the following URL: http://www.sjgov.org/pubworks/firmpanels

~~Remaining floodplain land is shown on Figure 11-7 and consists of Delta tracts, land along French Camp and Walker Sloughs and some minor flooding along Duck Creek. The most significant area of out-of-bank flooding occurs along North Littlejohns Creek.~~

~~Potential projects have been identified that would reclaim floodplain land along North Little Johns Creek. With stringent environmental regulations in place and City and public goals to preserve natural creeks, extensive construction and channelization within creek channels is not a viable solution.~~

~~While it is true that much of the City is now protected from riverine flooding during a 100-year event, there are potential problems with a lower frequency of occurrence that should be understood. These include structural failures of levees and upstream water control dams. A risk of flooding remains during large flood events in the San Joaquin River and from Delta flooding accompanied by high tides. Levee failures are a constant threat in any system that is dependent on constructed levees for flood protection. Extreme events such as upstream dam failures could also cause flooding in the City.~~

Levee Failure

Levee failure is always a potential problem. Periodic levee reconstruction and active levee maintenance programs help to control this risk. FEMA has certified and accepted most of the levees within the city as meeting minimum standards. Levees are always subject, however, to site specific structural failure, erosion, and damage from vegetation and rodents. Earthquakes also are a source of potential levee failure. Each of these potential levee failures has a relatively small, but real, probability of occurrence that would make it rare, but possible.

Levee Flood Protection Zone Maps

Levee Flood Protection Zone (LFPZ) maps were developed by DWR as required by Water Code Section 9130 to increase awareness of flood risks associated with State-Federal levees. The maps should not be confused with FEMA's FIRMs used for the National Flood Insurance Program. They are not showing the same type of flood hazard and they were prepared for different purposes. LFPZ maps estimate the maximum area that may be flooded, if a State-Federal levee fails, with flows at maximum capacity that may reasonably be conveyed. These maps specifically focus on flood risks associated with State-Federal levees. Lands within the Levee Flood Protection Zone may also be subject to flooding due to other factors including, but not limited to, levee failure at flows less than design capacity, overtopping of a levee, drainage problems, or other types of flooding from sources on the land side of the levee. Lands not mapped within a LFPZ may also be subject to flood risk. The LFPZ for the San Joaquin River Basin is available at DWR's website: http://www.water.ca.gov/floodmgmt/lrafmo/fmb/fes/levee_protection_zones.cfm

Dam Failure

Numerous dams near the city of Stockton provide beneficial water supply storage, hydroelectric generation, and flood control storage space. Dams are evaluated regularly to verify their structural integrity, including their resistance to stresses that could result from local or regional earthquakes. In the unlikely event of a dam failure, water from the associated reservoir could inundate areas in the city. Dam failure could occur as a result of various natural or human causes, related to design and structural engineering problems, or lack of maintenance. The resulting effects could include loss of life, damage to property, and other related hazards, along with displacement of residents and/or damage to water resource and other infrastructure facilities (e.g., irrigation, electric power generation or transmission, transportation).

New Hogan Dam on the Calaveras River upstream of the ~~City~~ city is an earth and rockfill dam owned by the U.S. Army Corps of Engineers. The reservoir behind the dam holds 325,000 acre-feet of water that could cause five to ten feet of flooding in large areas of the ~~City~~ city in the event of a catastrophic dam failure.

New Melones Dam on the Stanislaus River and Camanche Dam on the Mokelumne River, also of earth and rock fill, would flood the ~~City~~ city to significant depths if either of these dams were to fail. The Camanche Dam has the potential to flood a large area of the city of Stockton, from the northeastern quarter down to the southern edge. A failure of Camanche Dam or the Camanche North and South Dike systems would result in rapid inundation on the northeast portion of the county and city of Stockton, arriving at Clements and nearby communities in about one-half hour.

Large inundation areas and affected populations would result from failure of some of the major regional dams (e.g., New Hogan, San Luis, or New

Exchequer/Lake McClure), with greater effects on Delta island levees, but longer lead times prior to arrival of the flood.

The County Office of Emergency Services maintains inundation maps for each of these dams and others in the San Joaquin River Watershed, and a dam failure plan is integrated into the City's Emergency Operations Plan. The estimated areas of inundation from potential failures of each dam are illustrated in Figure 11-12 through Figure 11-14.

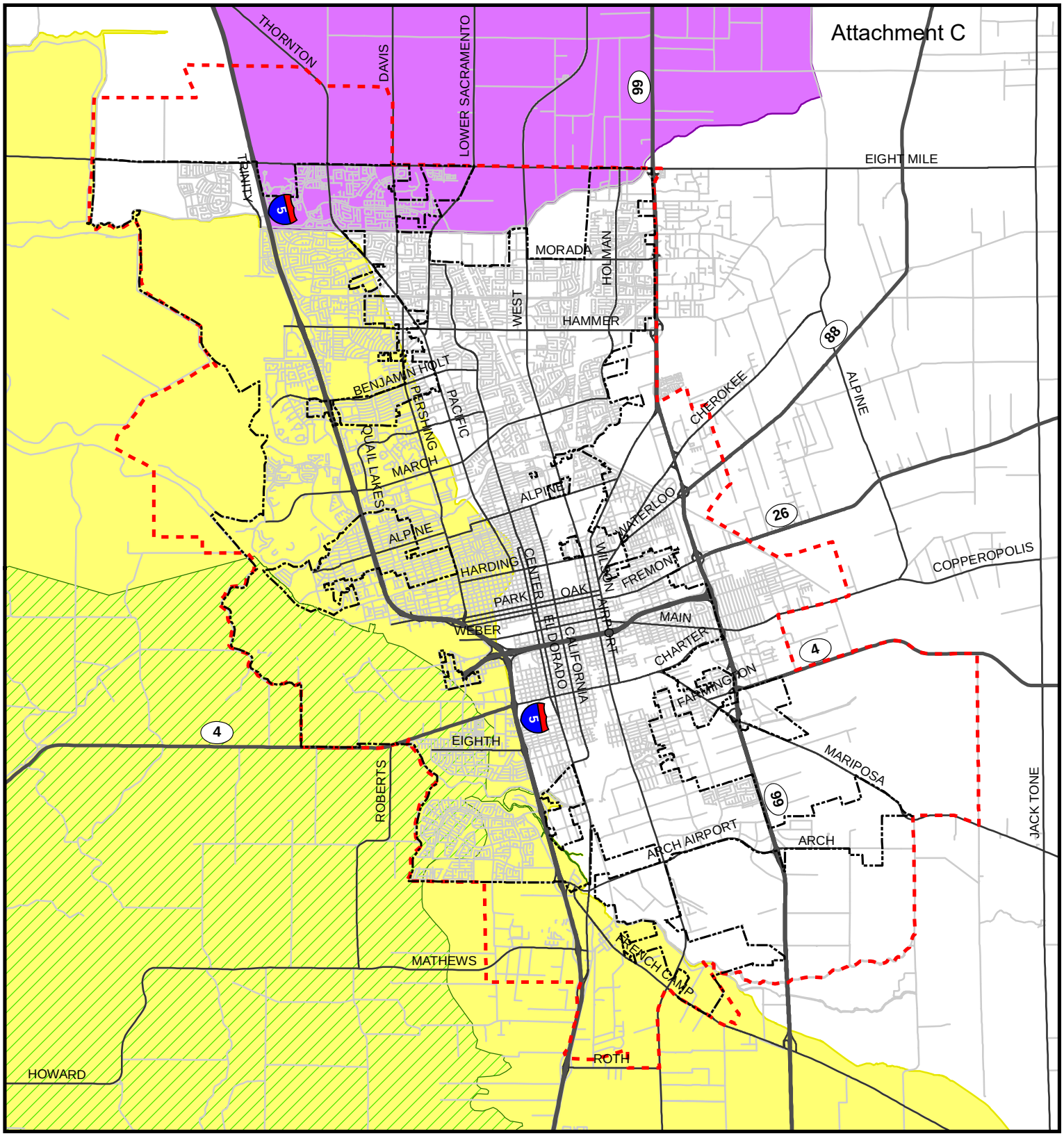
Table 11-16 lists major dams identified as having the potential to inundate portions of the city of Stockton in the event of a dam failure. Only two of these dams are located within San Joaquin County: Camanche and Camanche South Dikes.

Table 11-16. Dam Failure Inundation Data for San Joaquin County (includes City of Stockton)

Dam (Location)	River	Storage (AF)	Owner	Inundation Area [1] (square miles)	Pop Affected [1]
Dams with Potential to Flood the City of Stockton					
Camanche (San Joaquin)	Mokelumne River	17,120	East Bay M.U.D.	243	512,000
Camanche North Dikes (Calaveras)	Mokelumne River	14,800	East Bay M.U.D.	n/a	112,300
Camanche South Dikes (San Joaquin)	Mokelumne River	36,400	East Bay M.U.D.	n/a	126,000
New Exchequer (Lake McClure) (Merced)	Merced River	1,032,000	Merced I.D.	203	410,000
New Hogan (Calaveras)	Calaveras River	317,000	US Army Corps of Engineers	402	410,000
New Melones (Calaveras)	Stanislaus River	2,400,000	US Bureau of Reclamation	507	327,000
Pardee (Amador)	Mokelumne River	189,950	East Bay M.U.D.	117	126,000
Pine Flat Lake (Fresno)	Kings River	1,000,000	US Army Corps of Engineers	186	3,660
Salt Spring Reservoir (Amador)	Mokelumne River	139,400	P.G. & E.	131	54,000
San Luis (Merced)	San Luis Creek; CVP	2,041,000	US Bureau of Reclamation	309	165,000

1 Only affected areas or populations within San Joaquin County boundaries are reported herein, but values include areas and populations of incorporated cities; additional locations and populations outside the County may be affected by a dam

Source: Dam descriptions from the San Joaquin County Dam Failure Plan, December 2003. Inundation areas, communities and planning areas affected from GIS analysis of San Joaquin County data layers.



Legend

- City Limits
- Sphere of Influence
- Highways
- Major Streets
- Local Roads

Dam Inundation Areas

- Pardee
- New Exchequer (Lake McClure)
- New Melones

Miles 0 1 2 3

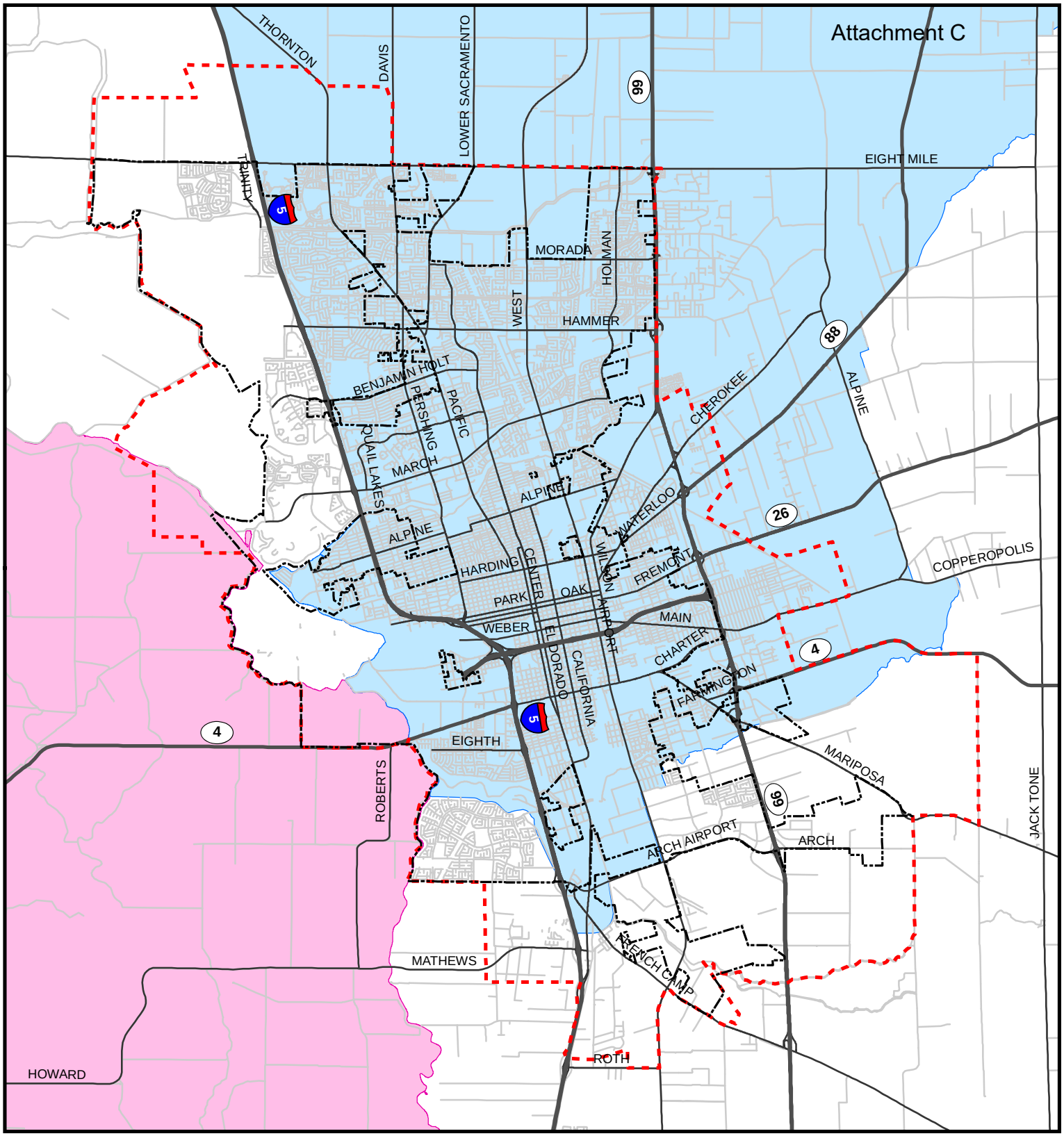
N

Source: San Joaquin County GIS, 2008.

Figure 11-12 Dam Inundation Areas 1

CITY OF STOCKTON

Please see next page.



Source: San Joaquin County GIS, 2008.

Figure 11-13 Dam Inundation Areas 2

CITY OF STOCKTON

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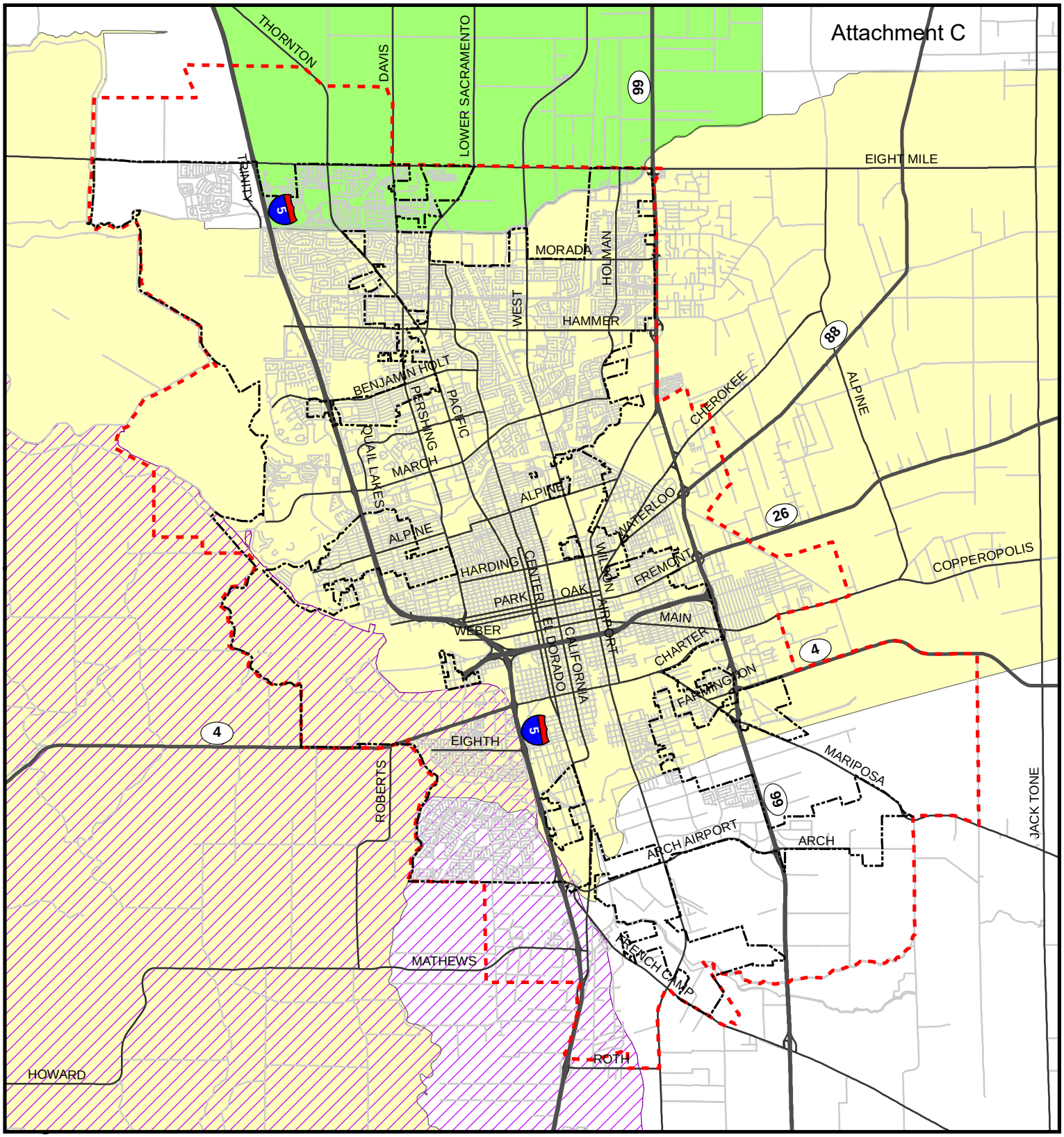


Source: San Joaquin County GIS, 2008.

Figure 11-14 Dam Inundation Areas 3

CITY OF STOCKTON

Please see next page.

Potential Future Flood Hazards from Climate Change

The scientific community is continually increasing its understanding of the effects of global climate change, including the potential for an increase in flood hazards from altered meteorology and sea level rise. State, regional, and local governments in California have also been developing their awareness of the potential statewide and region-specific risks. It is important, especially for areas protected from flooding by levees, to consider the potential for climate change to adversely affect flood risks.

According to the 2009 California Climate Adaptation Strategy, California's water systems are designed and currently operated to strike a balance between water storage for the dry months and flood protection during the winter and spring when heavy rainstorms, runoff, and snowmelt can cause downstream flooding. While some climate models predict an overall drying of California's climate, there are also predictions of continued risks from intense rainfall events that can generate more frequent and/or more extensive runoff and flooding in the future (Natural Resources Agency 2009).

In 2011, the California Ocean Protection Council adopted a resolution that included sea-level rise projections of 14 inches by 2050 and 55 inches by 2100, which are the averages of multiple models (COPC 2011). Sea-level rise could exacerbate flood risk in low-lying, levee-protected areas close to the Delta. Predictions of more extreme future flooding are echoed by the 2012 CVFPP; however, the CVFPP also explains that the development of climate-change influenced, flood hydrology modeling is a complicated exercise that must account for many uncertainties. DWR, in partnership with the USACE, is in the process of developing updated hydrologic modeling that includes the effects of climate change. This updated modeling will be used for technical evaluations leading to the 2017 update of the CVFPP (DWR 2012).

Floodplain Management

Regional

Regional flood management systems (i.e., operation of the upstream reservoirs in the Sacramento River and San Joaquin River Regions and their levee and bypasses) are critical for the control of flooding in the Delta, where the San Joaquin River passes the Vernalis gage and becomes tidally influenced. At Paradise Cut the San Joaquin River divides into several tributaries that meander throughout the Delta. During regional flood events, high flows from the Sacramento, Cosumnes, and Mokelumne rivers physically block and reduce the amount of flow that can drain out of the San Joaquin River, slowing ponding water in the south Delta.

San Joaquin River Flood Control System

The San Joaquin River Flood Control System (SJRFCS) includes: levees on the San Joaquin River; adjacent reaches tributaries and distributaries; and bypasses. The system extends from Gravelly Ford in Fresno County to the southern Delta and encompasses facilities in five counties, including Fresno, Sacramento, Yolo, San Joaquin, and Solano. The SJRFCS was visionary when conceived in the early 1900s, and allowed higher economic uses on lands previously subject to flooding. The SJRFCS was developed and constructed by the USACE and the Central Valley Flood Protection Board. Additional modifications were made in the mid-1980s. The Federally-constructed part of the project consists of about 100 miles of intermittent levees along the San Joaquin River, Paradise Cut, Old River, and the lower reaches of the Stanislaus and Tuolumne rivers. The levees vary in height from about 15 feet at the downstream end to an average of 6 to 8 feet over much of the project. In the San Joaquin County reach, project facilities are maintained by local reclamation districts. The SJRFCS has supported the economic prosperity of the Central Valley and fostered more intensive land uses within areas that are still physically vulnerable to flood risks. This area is also one of the fastest growing parts of California, with much of the urban growth planned to occur in flood prone areas.

Sacramento River Flood Control Project

The Sacramento River Flood Control Project includes levees on the Sacramento River, levees on some tributaries, and leveed bypasses. The system extends from Ord Ferry in Glenn County to the northern Delta with outlying facilities upstream. The system was developed by the USACE and the Central Valley Flood Protection Board. It is financed by the Federal government, the State, and local agencies and is maintained by the Department of Water Resources, reclamation districts, and other local agencies.

Federal Project Levees

The Federal Project levees in San Joaquin County include: levees along the lower San Joaquin River; its tributaries within the Delta; and levees along the Mokelumne River, Calaveras River, Bear Creek, Mormon Slough, Lone Tree Creek, and Littlejohns Creek. About 85.6 miles of Project levees are in the County, outside the Delta, but these comprise less than 15 percent of the total levee miles in San Joaquin County.

Levee Evaluation Program

The USACE Engineering Manual (EM) 1110-2-1913 guides the design and construction of levees. The manual is anticipating upcoming changes that will include evaluation of levees (2015).

DWR runs a statewide Levee Evaluation Program, which was initiated in 2006 and concluded in 2015. The program evaluation was divided into two parts, the

Urban Levee Evaluation Project (ULE) and the Non-Urban Levee Evaluation Project (NULE). Together, these projects evaluated over 1,900 miles of levees. Evaluations included levees in and around the city of Stockton, and the DWR website provides evaluation reports on each of the evaluated levees, accessible at the following link: http://www.dwr-lep.com/report-table/#12/37.9974/-121.2527

Delta Levee System

Of the 1,100 miles of levees in the entire Delta, 385 miles are "project levee" improved and are included in the Sacramento and San Joaquin Federal Flood Control Projects (USACE 2006). The Project levees in the Delta are mostly along the Sacramento and San Joaquin Rivers. Non-project levees generally are not subject to "project levee" standards for flood control, seismic hazards, and other levee design criteria. In the portion of the Delta within San Joaquin County there are about 510 miles of levees, including 122.6 miles of Project levees and 387.7 miles of Non-Project levees.

Many of the levees in the Delta were built from local peat material over 100 years ago without benefit of modern engineering or technology, and their own weight has gradually compressed the marsh soils underlying them. In addition, the drained organic soils within the protected island tracts have oxidized and been eroded by wind, resulting in land surface lowering (subsidence). Land subsidence within the San Joaquin County Delta islands ranges from less than one foot along the northeast, southeast, and southwest margins, but many areas have experienced four to five feet of subsidence. The lowering of the island land surfaces has not only destabilized the levees themselves, but increases the depth of flood waters Delta levees today are now commonly 15 to 20 feet high, and often protect island interiors that are 10 to 15 feet below sea level.

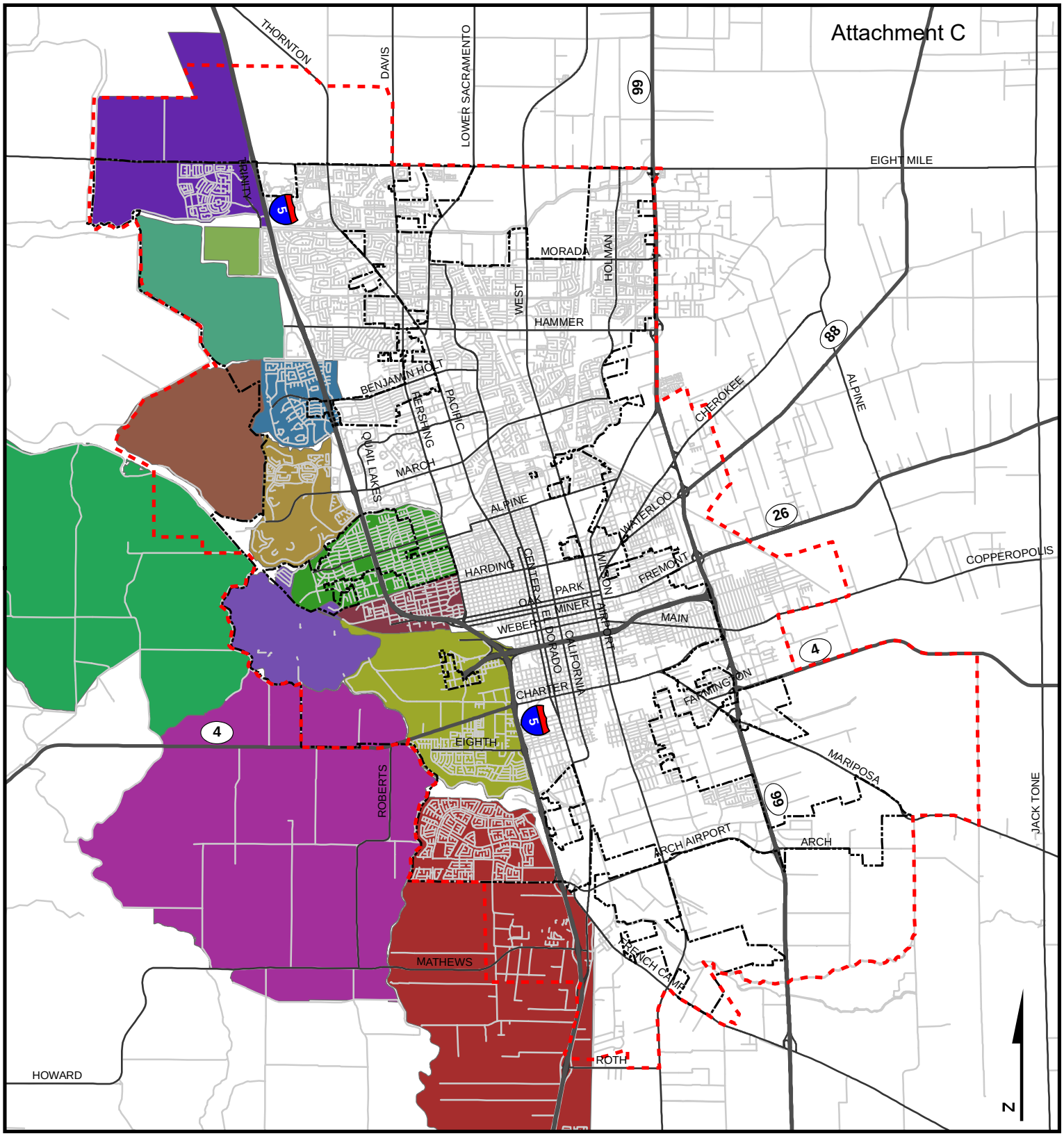
The Delta levees are under constant stress from daily tidal fluctuations and periodic flow events. The Delta levees are increasingly threatened by subsidence, deterioration, and changes in hydrology and sea level rise. Due to the substantial regional earthquake hazards, Delta levees are also threatened by seismic events. In 2006 USACE the USACE Public Law 84-99 identified an immediate need to improve levees that may cause levee failures under normal water levels.

County

All of the major rivers and some of the lesser creeks in San Joaquin County have levees. Flood control features outside the Delta are maintained by the San Joaquin Area Flood Control Agency (SJAFCA), the San Joaquin Flood Control and Water Conservation District, the County, and/or local districts (e.g., Lockeford Levee District). Within areas designated as Reclamation Districts (RDs), the local RDs maintain all levees. There are 52 RDs total in San Joaquin County, 12 of which overlap with the city of Stockton (Figure 11-15). The RDs that overlap with the city of Stockton are: RD 2042 Bishop Tract, RD 2115 Shima Tract, RD 2119 Wright-Elm West, RD 1608 Lincoln Village West, RD 2074 Sargent-Bar, RD 1614 Smith Tract, RD 403 Rough and Ready, RD 828 Weber Tract, RD 404 Boggs

Tract, RD 524 Middle Roberts Island, RD 17 Mossdale, and RD 2126 Atlas Tract. RD 684 Lower Roberts Island is not within the Stockton city limits but is within the sphere of influence; it is also shown in Figure 11-15.

For context, the RDs in the county vary in area from 27.1 square miles (RD 17 Mossdale, which includes a southernmost part of the city of Stockton) to under 0.1 square mile (RD 2116 Holt Station). Several of the RDs maintain over 20 miles of levees (RDs 1&2 Union Island, RD 38 Staten Island, RD 548 Terminous). RDs with Project levees are concentrated in the San Joaquin River corridor in the south Delta, and five of the RDs have more than 10 miles of Project levees (RD 773 Fabian, RD 17 Mossdale, RD 2062-2107 Stewart Mossdale, 2064 River Junction, and RD 2040 Victoria Island). Historically, RD levees were funded by the local landowners, but some financial support has been provided by the State's subvention programs administered by DWR. Even with assistance from the State, many of the RDs have struggled to maintain and improve levees (USACE 2006).



Legend

- Sphere of Influence
- City Limits
- Highways
- Major Streets
- Local Roads

Districts

- 1608 Lincoln Village West
- 1614 Smith Tract
- 17 Mossdale
- 2042 Bishop Tract
- 2074 Sargent-Bar
- 2115 Shima Tract
- 2119 Wright-Elm West
- 2126 Atlas Tract
- 403 Rough and Ready
- 404 Boggs Tract
- 524 Middle Roberts Island
- 828 Weber Tract
- 684 Lower Roberts Island

Source: SJC GIS, July 2008.

Figure 11-15 Reclamation Districts

CITY OF STOCKTON

Please see next page.

Local

The City of Stockton works collaboratively with local, County, State, and Federal agencies to manage floodwaters in three different stages, including the prevention of flooding, addressing a flooding disaster should it occur, and cleaning up damages from a flood in its aftermath.

Floodplain management in the City of Stockton is addressed collaboratively by three agencies: the City of Stockton; San Joaquin County; and the San Joaquin Area Flood Control Agency (SJAFCA). In the event of a flood emergency, San Joaquin County Office of Emergency Services (OES) leads and coordinates efforts with departments and in the City of Stockton. Additionally, San Joaquin County received a grant from DWR to assist cities in developing Dam Failure Annex Plans; Stockton's Dam Failure Annex Plan is complete, but is continuously being updated.

By nature of flooding, waters are not contained to jurisdictional boundaries. In the event of a flood, if flood water surpasses the Stockton city limits, then San Joaquin County will set up unified commanding. Special Districts located in the city will coordinate efforts with the City, which then coordinates efforts with the County. The County also serves as a conduit from City to State and Federal emergency response.

In the aftermath of a flood, the nature of the flood and its reach determines responsibility for addressing damages.

~~Figure 11-7. [HAZ MAT FIGURE]~~

~~TO BE PROVIDED~~