

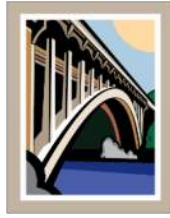
2020 Urban Water Management Plan

CITY OF
FOLSOM
DISTINCTIVE BY NATURE

ADOPTED JUNE 8, 2021

CITY OF FOLSOM, CALIFORNIA





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2020 Urban Water Management Plan

ADOPTED JUNE 8, 2021

Prepared by Water Systems Consulting, Inc.



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Acronyms and Abbreviations

2020 UWMP	2020 Urban Water Management Plan
AB	Assembly Bill
AF	Acre Foot
AFY	Acre Feet per Year
ARBS	American River Basin Study
AWWA	American Water Works Association
BASIN	American River Basin
BO	Build Out
CFS	Cubic Feet per Second
CIMIS	California Irrigation Management Irrigation System
CITY	City of Folsom
CSCGMP	Central Sacramento County Groundwater Management Plan
CWC	California Water Code, California Water Commission
CVP	Central Valley Project
DMM	Demand Management Measure
DRA	Drought Risk Assessment
DUs	Dwelling Units
DWR	California Department of Water Resources
Easton Project	Easton Place/Glenborough Development
EID	El Dorado Irrigation District
EIR	Environmental Impact Report
ETO	Reference Evapotranspiration
FOLSOM RESERVOIR	Folsom Lake Reservoir
FOLSOM SERVICE AREA	Includes Folsom West, Folsom East, Nimbus and Folsom Plan Area Service Areas
FOLSOM WTP	Folsom Water Treatment Plant
GET	Groundwater Extraction and Treatment
GIS	Geographic Information System
GMP	Groundwater Management Plan
GPCD	Gallons per Capita per Day
GSA	Ground Water Sustainability Agencies
GSWC	Golden State Water Company
GPM	Gallons per Minute
KWH	Kilowatts Hours
M&I SHORTAGE POLICY	Reclamation's Municipal and Industrial Water Shortage Policy

MG	Million Gallons
NASb	North American Groundwater Subbasin
PSA	Purveyor Specific Agreement
PET	Potential Evapotranspiration
Reclamation	U.S. Department of the Interior, Bureau of Reclamation
RHNP	Regional Housing Needs Plan
RWA	Regional Water Authority
SACOG	Sacramento Area Council of Governments
SASb	South American Subbasin SASb
SBX7-7	Senate Bill 7 of Special Extended Session 7
SCGA	Sacramento Central Groundwater Authority
SCWA	Sacramento County Water Agency
SCWC	Southern California Water Company-Folsom Division
SGA	Sacramento Groundwater Authority
SGMA	Sustainable Groundwater Management Act
SJWD	San Juan Water District
SJWD Agreement	San Juan Water District and City Wholesale Water Supply Agreement
SJWD Demand Forecast	San Juan Water District 25-Year Demand Forecast and Capacity Analysis
SRCSD	Sacramento Regional County Sanitation District
SWE	Snow Water Equivalent
TAF	Thousand Acre-Feet
UWMP	Urban Water Management Plan
UWMPA	Urban Water Management Planning Act
WEP	Water Efficiency Program
WFA	Water Forum Agreement
WSCP	Water Shortage Contingency Plan
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

Chapter 1 Introduction

The City of Folsom (City) was founded along the banks of the American River in 1856. The City was incorporated in 1946 and has been a water supplier for nearly 160 years. The earliest water customers in the area had gold mining and agricultural interests. Over time, as rural communities transitioned to urban settlements, the City has become almost exclusively an urban water supplier¹. Folsom Dam and Folsom Lake Reservoir (Folsom Reservoir), both of which are part of the Central Valley Project (CVP), share part of the City's boundary. Folsom Dam regulates runoff from about 1,875 square miles of drainage area and the Folsom Reservoir provides flood control, water supply, hydropower, and recreation opportunities for the Sacramento area. The reservoir is the primary diversion point for all surface water supplies delivered throughout the City's water service area. Folsom is located about twenty-three miles east of downtown Sacramento on the northeast edge of Sacramento County. As of 2020, the City serves about 20,000 acre feet per year (AFY) to a water service area population of approximately 69,500 through nearly 22,000 metered connections.

IN THIS CHAPTER

- UWMP Overview
- Lay Description
- UWMP Organization
- UWMPs and Grant or Loan Eligibility

The City has prepared this 2020 Urban Water Management Plan (2020 UWMP or UWMP) to comply with the Urban Water Management Planning Act (UWMPA) requirements for urban water suppliers. In conjunction with preparing the 2020 UWMP, the City also prepared their Water Storage Contingency Plan (WSCP), which is a separate document but included within this UWMP. The WSCP is a detailed plan for how the City intends to respond to foreseeable and unforeseeable water shortages.

The 2020 UWMP is an update to the City's 2015 UWMP and presents new data and analysis as required by California Department of Water Resources (DWR) and the California Water Code (CWC) since 2015. It is also a comprehensive water planning document which describes existing and future supply reliability, forecasts future demands, presents demand management progress, and identifies local and regional cooperative efforts to meet projected water use that is linked with the City's land use planning documents, including the General Plan and Specific plans as discussed in more detail in UWMP Sections 2.1, 3.3 and 3.4.

1.1 Lay Description

The City's 2020 UWMP documents the City's water management planning efforts to ensure adequate water supply to meet demands over the next 25 years. As required by the UWMPA, the City's 2020 UWMP specifically assesses the availability of supplies to meet future demands during normal, single-dry, and multiple dry years through 2045. As detailed in Chapter 4, the City projected demands in 2045 to be 25,519 AFY which will be met by the City's supply of 38,350 AFY. During normal, single-dry, and multiple dry years, the City has adequate supply to meet demands, as detailed in Chapter 7. Through the Drought Risk Assessment (DRA), it was determined the City's existing supplies will meet 2021-2025 demands in drought conditions without the need to implement their WSCP.

¹ The City's boundaries are not coterminous with the City's water service areas.

1.2 UWMP Organization

This UWMP is organized as follows:

- Chapter 1 – Introduction
- Chapter 2 – Plan Preparation
- Chapter 3 – System Description
- Chapter 4 – Water Use Characterization
- Chapter 5 – SBX7-7 Baseline and Targets
- Chapter 6 – Water Supply Characterization
- Chapter 7 – Water Service Reliability and Drought Risk Assessment
- Chapter 8 – Water Shortage Contingency Plan
- Chapter 9 – Demand Management Measures
- Chapter 10 – Plan Adoption, Submittal, and Implementation

1.3 UWMPs and Grant or Loan Eligibility

In order for an urban water supplier to be eligible for any water management grant or loan administered by DWR, the agency must have a current UWMP on file that has been determined by DWR to address the requirements of the UWMPA. A current UWMP must also be maintained by the water supplier throughout the term of any grant or loan administered by DWR. An UWMP may also be required in order to be eligible for other funding, depending on the conditions that are specified in the funding guidelines. As documented in Section 5.2, the City has met its 2020 Urban Water Use Target.



Chapter 2 Plan Preparation

This plan was prepared based on guidance from DWR’s Urban Water Management Plan Guidebook 2020 and the 2020 DWR UWMP Checklist (Appendix A). In addition, as required by the California Water Code (CWC), standardized tables for the reporting and submittal of UWMP data have been prepared and are also included in Appendix A. All required SBX7-7 tables are included in Appendix B.

2.1 Previous Reports

The City’s 2020 UWMP has been prepared using related planning documents and previous reporting, including, but not limited to:

- City of Folsom 2015 UWMP
- City of Folsom 2016 Water Master Plan Update
- City of Folsom, Bureau of Reclamation Five-Year Water Management Plan Update, Dec 2012
- City of Folsom 2035 General Plan
- City of Folsom Housing Element 2021-2029 (Public Draft)
- Sacramento County General Plan of 2005—2030
- Regional Water Authority Integrated Regional Water Management Plan
- Sacramento Groundwater Authority, Groundwater Management Plan – 2014
- Central Sacramento Basin Groundwater Management Plan – 2006
- San Juan Water District 25-Year Demand Forecast and Capacity Analysis – June 2020

2.2 Basis for Preparing a Plan

The City provides water to a service area that includes most areas within City limits as well as unincorporated areas within Sacramento County. Table 2-1 through Table 2-3 summarize relevant data regarding the City’s system, plan identification and the City’s identification.

IN THIS CHAPTER

- Previous Reports
- Basis for Preparing a Plan
- Coordination and Outreach
- Coordination with Other Agencies



Table 2-1. Public Water System Information

PUBLIC WATER SYSTEM NUMBER	PUBLIC WATER SYSTEM NAME	NUMBER OF MUNICIPAL CONNECTIONS 2020	VOLUME OF WATER SUPPLIED 2020
CA3410014	City of Folsom Main	20,987	18,718
CA3410030	City of Folsom Ashland	1,074	1,180
TOTAL:		22,061	19,898

Table 2-2. Plan Identification

TYPE OF PLAN	MEMBER OF RUWMP	MEMBER OF REGIONAL ALLIANCE	NAME OF RUWMP OR REGIONAL ALLIANCE
Individual UWMP	No	No	-

Table 2-3. Agency Identification

TYPE OF SUPPLIER	YEAR TYPE	FIRST DAY OF YEAR		UNIT TYPE
Retailer	Calendar Years	DD	MM	Acre Feet (AF)

2.3 Coordination and Outreach

The UWMPA requires a water purveyor to coordinate the preparation of its UWMP with other appropriate agencies and organizations in and around its service area. This includes coordination with other water suppliers that share a common source, water management agencies, and relevant public agencies. The coordinated efforts were conducted to: (1) inform the agencies of the City's efforts and activities; (2) gather high quality data for use in developing this UWMP; and (3) coordinate planning activities with other related regional plans and initiatives.

The City has shared water interests with several other entities due to its water supply agreements and interconnections. These neighboring entities include Sacramento County, San Juan Water District, and El Dorado Irrigation District. These entities, including adjacent water suppliers, were sent 60-day notices of UWMP preparation and encouraged to attend the public hearing prior to the adoption of the 2020 UWMP. The City coordinated preparation of its UWMP with the entities listed in Table 2-4. Copies of the various notifications are included in Appendix C.

Table 2-4. Public and Agency Coordination

COORDINATING AGENCIES	DEMAND COORDINATION	SENT COPY OF PUBLIC DRAFT UWMP	SENT 60-DAY NOTICE	NOTICE OF INTENTION TO ADOPT
Sacramento County (Office of Planning and Environmental)		✓	✓	✓
United States Bureau of Reclamation - CVP		✓	✓	✓
San Juan Water District	✓	✓	✓	✓
Golden State Water Company			✓	✓
Placer County Water Agency			✓	✓
Regional Water Authority			✓	✓
Sacramento County Water Agency			✓	✓
Sacramento Central Groundwater Authority			✓	✓
El Dorado Irrigation District			✓	✓
El Dorado Water Agency			✓	✓
City of Roseville			✓	✓
Fair Oaks Water District			✓	✓
Orangevale Water District			✓	✓
Citrus Heights Water District			✓	✓
Sacramento Suburban Water District			✓	✓
Sacramento Water Forum			✓	✓
Environmental Council of Sacramento			✓	✓
General Public				✓

2.3.1 Coordination with Other Agencies

In an ongoing practice, the City has been actively involved with multiple agencies prior to and during the preparation of the plan. These agencies include the Sacramento Water Forum, Sacramento Groundwater Authority, Sacramento Central Groundwater Authority, and the Regional Water Authority. These agencies and how their work affects the City's planning efforts are discussed in further detail in the following sections.

2.3.1.1 Regional Water Authority

The Regional Water Authority (RWA) is a joint powers authority that serves and represents the interests of 20 water providers in the greater Sacramento, Placer, El Dorado, and Yolo County regions. The Authority's primary mission is to help its members protect and enhance the reliability, availability, affordability, and quality of water resources. RWA has launched significant programs and services on a regional scale, including: (1) A water efficiency program designed to help local purveyors implement best management practices on a regional basis; (2) implementation of the American River Basin Regional Conjunctive Use Program to build and upgrade water facilities throughout the region to better manage surface and groundwater resources; and (3) development of an Integrated Regional Water Management Planning Program to continually identify the regional projects and partnerships that will help the region best meet its future water needs.

2.3.1.2 Water Forum

Community leaders, along with water managers from Sacramento, Placer, and El Dorado counties negotiated the Water Forum Agreement (WFA), which is a comprehensive package of linked actions that will achieve two coequal objectives: (1) Provide a reliable and safe water supply for the Sacramento region's long-term growth and economic health; and (2) Preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River. The City is a signatory to the WFA. Pursuant to the WFA provisions, the City has also developed best management practices that are consistent with the Demand Management Measures in the 2020 UWMPA.

2.3.1.3 Sacramento Groundwater Authority

The City entered into a Joint Powers Agreement with the City of Citrus Heights, the City of Sacramento, and the County of Sacramento to create the Sacramento Groundwater Authority (SGA) in 1998 as a collaborative and inclusive approach to sustainable groundwater management. Formation of SGA notably preceded California's 2014 Sustainable Groundwater Management Act (SGMA)², which requires the formation of local groundwater sustainability agencies to assess conditions in their local water basins and adopt locally-based management plans. SGA is a joint powers authority created to collectively manage groundwater resources in the North American Subbasin (NASb), which includes Sacramento County north of the American River. In 2014, SGA adopted a groundwater management plan (GMP), a revision of the 2003 GMP, that identifies management objectives for the North Area Groundwater Basin and includes several components aimed at monitoring and managing groundwater levels and quality in that basin.³ The SGA is discussed in further detail in Section 6.1.3.3.

² The SGA preceded California's landmark 2014 Sustainable Groundwater Management Act and was recognized as a model program by one of the primary authors of the SGMA (Sacramento Business Journal, 2014).

³ A copy of the plan is available at <https://www.sgah2o.org/programs/groundwater-management-program/groundwater-management-plan/>

2.3.1.4 Sacramento Central Groundwater Authority

The City entered into a Joint Powers Agreement with the City of Elk Grove, the City of Rancho Cordova, the City of Sacramento, and the County of Sacramento to create the Sacramento Central Groundwater Authority (SCGA) in 2006 as a collaborative and inclusive approach to sustainable groundwater management. Formation of the SCGA notably preceded California's 2014 SGMA⁴, similar to the SGA. SCGA is a joint powers authority created to collectively manage groundwater resources in the South American Subbasin (SASb), which includes Sacramento County south of the American River. In 2006, SCGA adopted a GMP that identifies management objectives for the SCGA boundary in the SASb. Currently, SCGA along with the other GSAs in the SASb are completing the Groundwater Sustainability Plan that will include the overall management of the basin by creating a plan to manage the basin within the State-mandated requirement of SGMA. The SCGA is discussed in further detail in Section 6.1.3.4. Sacramento Central Groundwater Authority

2.3.2 Wholesale and Retail Coordination

The City purchases wholesale water from San Juan Water District (SJWD) for the Ashland Service Area, which is located within City boundaries. The City has coordinated with SJWD on demand projections for the Ashland Area.

⁴ The SGA preceded California's landmark 2014 Sustainable Groundwater Management Act and was recognized as a model program by one of the primary authors of the SGMA (Sacramento Business Journal, 2014).

Chapter 3 System Description

3.1 General Description

The City is a public agency that provides potable water directly to its residential and business customers. The City's boundaries are not coterminous with the City's water service area. The City's water system is divided into five (5) distinct water service areas. The water service areas are listed below:

- Folsom West Service Area
- Folsom East Service Area
- Nimbus Service Area
- Folsom Plan Area Service Area
- Ashland Service Area

The Folsom West and East Service Areas are located north of U.S. Highway 50 and are generally bracketed by the City boundary on the east and Lake Natoma on the west. The north side of these service areas is Folsom Reservoir, Folsom Prison, and the Ashland and American River Canyon areas. These service areas are within the City.

The Nimbus Service Area is located south of Folsom East Service Area, south of U.S. Highway 50, west of Prairie City Road. The Nimbus area is in an unincorporated area of Sacramento County that is included in the City's water service area.

The Folsom Plan Area Service Area is located south of Highway 50 from Prairie City Road to the Sacramento County and El Dorado County border. The majority of the Folsom Plan Area is served by the City. For the small remaining portion of the Folsom Plan Area along the Sacramento County and El Dorado County border, the City has water asset and delivery arrangements with El Dorado Irrigation District (EID) for water service. Since this small area of the Folsom Plan Area is not served by the City, it is not included in this UWMP.

The Ashland Service Area is located between the Folsom Prison area and American River Canyon area. The City purchases wholesale water from SJWD for the Ashland Area, which is also within the City's boundaries. The City in turn provides retail water service to the customers in the Ashland Area.

There are two areas within the City's boundary that are not served by the City. The American River Canyon Area is directly supplied by SJWD. The Folsom State Prison has its own onsite 3.5 MGD water treatment plant. Since these areas are not served by the City, they are not included in this UWMP.

For the purpose of this UWMP, the Folsom West, Folsom East, Nimbus, and Folsom Plan Area Service Area will be referred to as the "Folsom Service Area," since these areas are supplied by the City's surface water. The Ashland Service Area will remain separate and will be referred to by its name, since it is supplied by purchased water. The City's water service areas are shown in Figure 3-1.

IN THIS CHAPTER

- General Description
- Service Area Climate
- Service Area Population and Demographics
- Land Uses Within Service Areas
- Water Delivery System

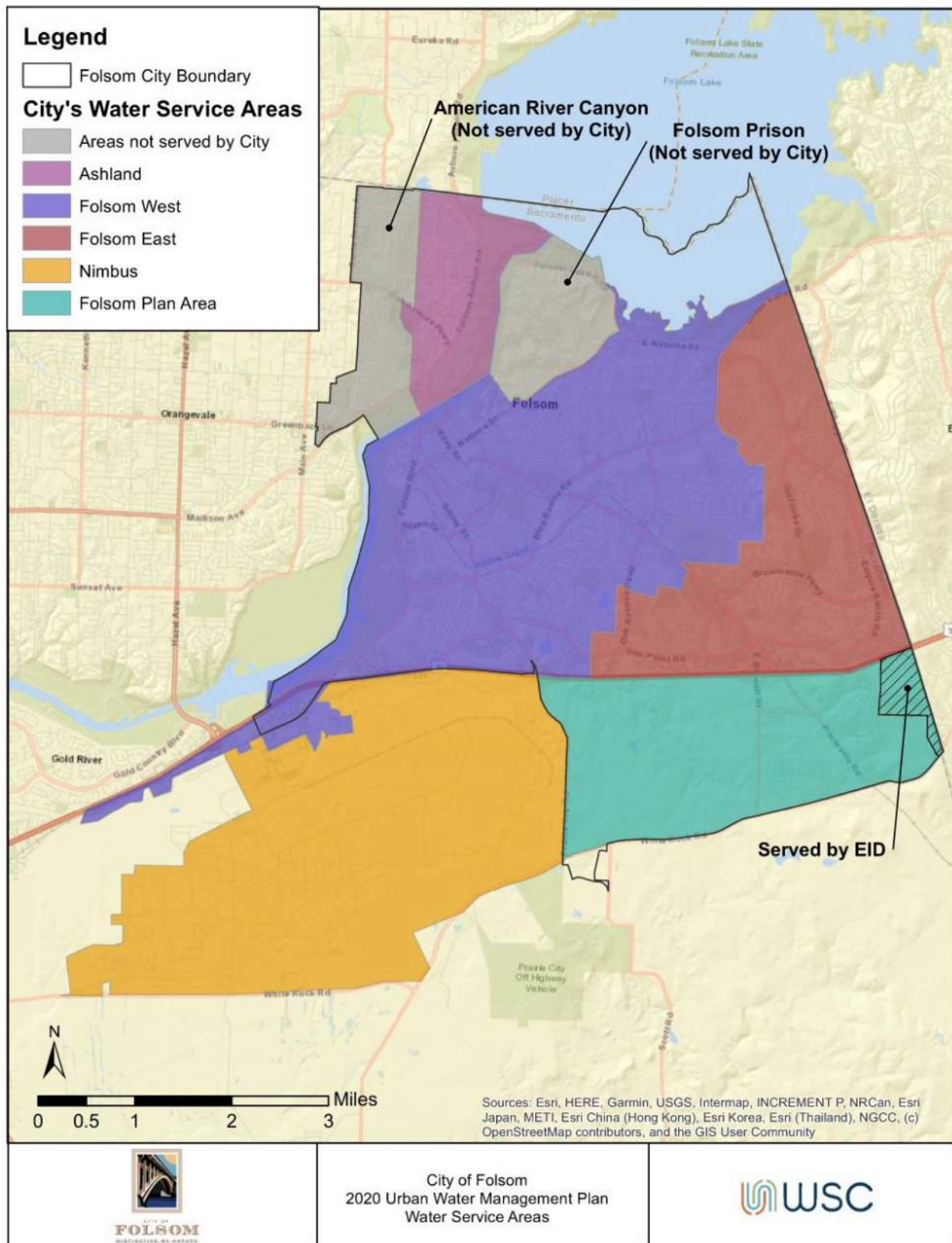


Figure 3-1. City's Water Service Areas

3.2 Service Area Climate

The City has cool and humid winters with hot and dry summers. The rainy season typically begins in November and ends in March, with the lowest humidity occurring in the summer months.

Standard monthly average evapotranspiration (ET_o) data from 1988-2020 was obtained from the California Irrigation Management Information System (CIMIS) Station 131 located in Fair Oaks, California, which is just west of the City Service Area and about 4 miles from the City center. Evapotranspiration varies seasonally, and during a drought the significance of evapotranspiration is magnified because it continues to deplete surface and soil water supplies that are not being replenished by sufficient precipitation. The City closely monitors rates of ET_o. Average annual ET_o for the period 1998–2020 measured 50.7 inches.

Average precipitation and temperature data was also obtained from the CIMIS Station 131 in Fair Oaks. For the period 1998–2019, average annual rainfall was measured as 20.6 inches. The wettest months are December, January, and February, and the driest months are normally July and August.

From 1998–2019, the average daily maximum and minimum temperature was recorded by month. Typically, July and August are the hottest months of the year with an average daily temperature of approximately 76 degrees Fahrenheit, though daytime high temperatures average close to 93 degrees. December and January are generally the coolest months of the year, with an average annual temperature of about 48 degrees, with the average minimum dipping down to 39 degrees. ET_o, rainfall, and temperature data are provided in Table 3-1.

Table 3-1. Folsom Climate Data

MONTH	STANDARD MONTHLY AVERAGE ET_o (INCHES)	AVERAGE PRECIPITATION (INCHES)	AVERAGE TEMPERATURE (DEGREES)	AVERAGE MAXIMUM TEMPERATURE (DEGREES)	AVERAGE MINIMUM TEMPERATURE (DEGREES)
January	1.12	3.60	47.7	57.1	39.6
February	1.78	4.04	50.8	61.6	41.2
March	3.22	2.84	55.1	66.6	44.1
April	4.47	1.94	58.9	71.5	46.6
May	6.29	1.03	65.2	79.6	51.3
June	7.43	0.16	72.3	88.2	57.0
July	7.98	0.05	76.5	93.7	60.2
August	7.07	0.01	75.1	92.3	59.4
September	5.18	0.11	71.5	88.1	57.0
October	3.43	1.08	63.0	78.0	50.0
November	1.66	2.15	53.1	65.1	43.2
December	1.09	3.72	47.3	57.3	38.8
Annual	50.7	20.6	61.4	75.0	49.1

Source: CIMIS Data, Fair Oaks Station 131, 1998–2019

3.3 Service Area Population and Demographics

The population served by the City includes a mix of users and user classes. This includes residential, commercial, industrial, and public customers. The following sections discuss the City's water service population and demographics.

3.3.1 Service Area Population

Existing population estimates were determined using the DWR Population tool. The DWR Population Tool output is provided in Appendix G. The timing of the City's buildout will depend on a number of factors and market conditions. Most of the City's growth will be in the new developments south of U.S. Highway 50. The projected population was estimated by applying a persons per household number⁵ to the housing unit growth anticipated by the City.

The historic and projected population for the City's water service area is presented in Table 3-2 and Table 3-3 summarizes current and projected population per water service area. It is assumed buildout will occur in 2045.

Table 3-2. Historical and Projected Population

POPULATION	
2005	56,253
2010	61,187
2015	63,536
2020	69,517
2025	87,602
2030	98,114
2035	105,660
2040	110,114
2045	112,126

Table 3-3. Population per Water Service Area

SERVICE AREA	2020	2025	2030	2035	2040	2045
Folsom West	43,120	43,747	44,377	44,377	44,377	44,377
Folsom East	20,452	21,079	21,706	21,706	21,706	21,706
Folsom Plan Area	2,580	16,091	22,058	27,040	29,747	29,747
Nimbus	0	3,268	6,504	9,016	10,711	12,697
Ashland	3,365	3,417	3,469	3,521	3,573	3,599
City's Water Service Area	69,517	87,602	98,114	105,660	110,114	112,126

⁵ A persons per household number of 2.62 from the City of Folsom Housing Element (2021–2029) Public Draft was used in the projected population calculation.

3.3.2 Other Social, Economic, and Demographic Factors

According to the 2010 Census, the 19–64 age group makes up 60% of the City’s population, with persons under the age of 18 comprising 24.3% of the population. These two population groups combined comprise nearly 85% of the City’s population. The City’s median household income is \$94,642.

3.4 Land Uses within Water Service Areas

The City currently serves a variety of land uses including residential, industrial, retail, and commercial customers. The current and projected population shown in Table 3-2, above, reflects these land uses, with the increased population reflecting proposed development, as well as continued growth. The Folsom Specific Plan and the Easton Place/Glenborough (referred to as the Easton Project in this UWMP) developments are planned to be constructed in the Folsom Plan Area and Nimbus service areas, respectively. These developments are described below.

In 2012, the City annexed the Folsom Plan Area, which covers 3,513 acres along the southern edge of the City south of U.S. Highway 50, bounded by the Sacramento/El Dorado County boundary to the east and Prairie City Road to the west⁶. The Folsom Plan Area service area includes a mix of residential, commercial, and public uses.

The Easton Project is located in an unincorporated area of Sacramento County outside the City limits but within the City’s Nimbus service area since 1967.⁷ In 1994, Sacramento County designated the land Aerojet Special Planning Area, which allowed owners to submit land use master plans. The development is situated on approximately 1,380 acres south of U.S. Highway 50 and Folsom Boulevard east of Hazel Avenue. The Easton Project includes a mix of residential, commercial, and public uses.

Table 3-4 presents anticipated growth by land-classification for the Folsom Plan Area⁸ and Nimbus⁹ service areas. The Folsom Plan Area is currently being developed; therefore, values presented in Table 3-4 show the remaining anticipated growth dating back to November 2020.

Table 3-4. Proposed Developments Land Use

LAND USE	FOLSOM PLAN AREA		NIMBUS AREA - EASTON PROJECT	
	DWELLING UNITS	ACRES	DWELLING UNITS	ACRES
Multi-Family	4,813	-	2,597	-
Single Family	5,602	-	2,286	-
Commercial/Industrial		206		249
Schools		120		40
Parks		129		116
Municipal		0		26

⁶ The City completed the Folsom Plan Area Water Master Plan in October 2014.

⁷ See California Public Utilities Commission Decision No. 71889, dated January 24, 1967, which authorized the City to provide water service within the service area designated in the decision in connection with the acquisition by the City of certain water facilities and water supplies from Southern California Water Company.

⁸ Anticipated growth by land-classification was provided the Folsom Plan Area developer.

⁹ Anticipated growth by land-classification in the City’s 2010 UWMP was used for this UWMP.

3.5 Water Delivery System

The City obtains its surface water supply directly from a diversion point in Folsom Reservoir. The City's water service contracts allow it to develop an intake facility at the Folsom South Canal but the City has not yet done so. The City's water supply is described in greater detail in Chapter 6.

3.5.1 Potable Water Delivery System

For areas south of the American River, the City takes deliveries from the Natoma Pipeline, a 42-inch steel pressure pipe that originates at Folsom Dam. The Natoma Pipeline splits into two separate lines: one line to the Folsom Prison water treatment plant, and one line to the Folsom WTP. This water is measured through the Folsom Process Instrumentation and Analytics ultrasonic meters, a 36-inch (97 % accuracy) and a 24-inch (98.5 % accuracy).

At the inlet to the Folsom WTP, the raw water line splits. A portion of the raw water is delivered to the Willow Hill Reservoir through a 30-inch reinforced concrete pipeline equipped with a propeller meter. This portion of the water serves non-potable industrial uses on the Aerojet Industrial Property (Aerojet). Groundwater Extraction and Treatment (GET) A and B facilities are being used to serve most of Aerojet's needs. The balance of the water is delivered to the Folsom WTP through an ultrasonic meter (95% accuracy) and is treated. After treatment at the Folsom WTP, water is stored and pumped through a system of reservoirs and pumping stations to seven pressure zones.

For the Ashland Area, water is diverted from the Folsom Reservoir and piped to the Sydney N. Peterson WTP, which is owned and operated by SJWD. After treatment, water is stored in Hinkle Reservoir until SJWD releases and pumps it to the Ashland Area. While SJWD provides wholesale water supplies to the Ashland Area, it is conveyed to customers in the Ashland Service Area through City infrastructure, including service connections with meters. The wholesale water delivery from SJWD is measured through a 24-inch magnetic flowmeter with a $\pm 0.50\%$ accuracy.

3.5.2 Non-Potable Water Delivery System

The City previously delivered raw water supplies to Aerojet at its industrial facilities; however, remediated water derived from GET A and GET B is now directly plumbed into Aerojet facilities. Even though the City does not deliver remediated water to Aerojet, the City does have rights to the remediated water, which they can use as non-potable use within the City's water service area. This remediated supply could offset raw or potable water demands on the City's water system that are derived from its water rights and entitlements and delivered from Folsom Reservoir.

Chapter 4 Water Use

Characterization

This chapter describes historic and current water usage and the methodology used to project future demands within the City's water service area. The City services potable water to all customers in their service area except for Aerojet, which is serviced with non-potable water.

4.1 Past, Current, and Projected Water Use

4.1.1 Historical Water Use

As described in Chapter 3, the City currently serves a mostly built-out area of Sacramento County with a variety of residential and non-residential customers with varying uses. With completion of the meter program, the City can begin to better understand the characteristics of its customers' use. To assist with this understanding, the City maintains a database of meter use information, categorized by land use classification. Existing customers are categorized into a number of land use classifications in the meter database including but not limited to: single family residential, multi-family residential, commercial, industrial, schools, and municipal.

Table 4-1 summarizes the City's 2015–2020 water use. As shown in the table, water use in 2015 was lower as required by state water use reductions under the Governor's Emergency Order during the drought and water use increased in the following years, especially in 2017. The average total water use from 2015–2020 was 19,324 AFY.

IN THIS CHAPTER

- Past, Current, and Projected Water Use by Sector
- Water Use for Lower Income Households
- Climate Change Considerations
- Projected Future Conditions
- Water Delivery System

Table 4-1. Historical Water Use, AFY

SERVICE AREA	2015	2016	2017	2018	2019	2020
Folsom Service Area	15,771	17,814	19,190	18,117	17,567	18,560
Ashland Service Area	963	1,060	1,060	1,114	1,113	1,180
Raw Water	1,137	734	153	120	137	158
Total Water Use	17,871	19,608	20,404	19,351	18,817	19,898

4.1.2 Distribution System Water Losses

The City, like all water agencies, does have some water loss. Water loss is the difference between the amount of water produced and the amount of water billed to customers. The City has been conducting annual water audits of the water distribution system using the approach described in the American Water Works Association (AWWA) Manual M36 – Water Audits and Loss Control Programs (American Water Works Association 2016). The purpose of the audit is to quantify the City’s real losses (water physically lost from the system through leaks, breaks, theft, and other means) as well as apparent losses (water lost through meter under registration and data handling errors).

The 2016–2019 AWWA reporting worksheets were used to determine system water losses and can be found in Appendix D. By comparing 2020¹⁰ water production to water sales, annual water loss was calculated to be 12%. Table 4-2 summarizes the City’s system water losses. As presented in Table 4-2, the City’s system water losses have decreased significantly over the past five years. The City is using an estimation of 12% water loss in its future demand projections. Since establishing the City’s Water Loss Control Program in 2009, the City contracts third party city-wide comprehensive leak detection approximately every 3 to 5 years. The number of miles surveyed during each round of leak detection from 2011 to present ranges between 330 miles and 400 miles as development within Folsom continues. Additionally, the City’s Utility Maintenance Division performs yearly in-house leak detection.

Table 4-2. Distribution System Water Losses

	2016	2017	2018	2019	2020
System Water Loss, AFY	4,362	3,858	2,807	2,373	2,091
Percentage of Losses	29%	23%	17%	15%	12%

¹⁰ The City has not completed the 2020 AWWA Water Audit at the time of this UWMP.

4.1.3 Currents Water Use and Demand Factors

As stated previously, the City's customers and water use is categorized as the following classifications: single family residential, multi-family residential, commercial, industrial, schools, and municipal. Table 4-3 presented the 2020 water use per Customer Classification.

Table 4-3. 2020 Water Use by Customer Classification

CUSTOMER CLASSIFICATION	2020 WATER USE, AFY
Single Family Residential	9,457
Multi-Family Residential	1,721
Commercial/Industrial	4,736
Municipal	1,152
Schools	583
Water Losses	2,091
Raw Water	158
Total Water Use	19,898

Existing demand factors for each customer classification were determined using the City's 2018 meter data, dwelling units (DUs) for residential customers, and acreage of existing non-residential customers. The City believes the demand factors calculated using the 2020 meter data would be skewed because of the work-at-home restrictions put in place for 2020 due to the COVID-19 pandemic. Therefore, the City is using demand factors based on 2018 meter data, which better represents average use conditions.

Existing customers' future demand factors are assumed to change mostly from drivers such as general homeowner fixture replacements and upgrades, the City's conservation awareness and incentive programs, and other factors affecting a general increased awareness of water conservation. The existing customer's future demand factors reflect a 5% reduction from the current demand factors for all customer classifications. This reduction is reasonable as it reflects expected benefits of ongoing customer conservation efforts such as installation of efficient fixtures and irrigation systems.

Existing DUs for residential customers and acreage for non-residential customers, along with the existing customers current demand factors and future demand factors are presented in Table 4-4 for each water use sector.

Table 4-4. Current and Future Demand Factors for Existing Customers

CUSTOMER CLASSIFICATION	CURRENT DUS OR ACRES		CURRENT DEMAND FACTORS FOR EXISTING CUSTOMERS		FUTURE DEMAND FACTORS FOR EXISTING CUSTOMERS	
Single Family	19,129	DUs	0.45	AFY/DU	0.43	AFY/DU
Multi-Family	6,047	DUs	0.24	AFY/DU	0.23	AFY/DU
Commercial/ Industrial	1,565	Acres	2.78	AFY/Acres	2.64	AFY/Acres
Schools	428	Acres	1.99	AFY/Acres	1.89	AFY/Acres
Municipal/Parks	1,027	Acres	1.00	AFY/Acres	0.95	AFY/Acres

4.1.4 Projected Water Use

As discussed previously, the City is substantially built out in the Ashland, Folsom West, and Folsom East Service Areas, having little remaining undeveloped land, so limited growth is expected. The expected growth will occur as a result of isolated infill, lot split development projects, and a significant number of planned communities located south of U.S. Highway 50 in the Folsom Plan Area and Nimbus Service Areas.

Projected water use for the Folsom Service Area, was determined using land use projections. As stated previously, the Ashland Service Area is supplied by purchased water from SJWD. SJWD prepared the 25-Year Demand Forecast and Capacity Analysis (SJWD Demand Forecast) in June 2020¹¹. The SJWD Demand Forecast included projected water use for the Ashland Service Area through 2045 and these projections are used in this UWMP.

4.1.4.1 Ashland Service Area Water Use Projections

The Ashland area is predominantly built out and expected to be completely built out prior to 2045. The SJWD Demand Forecast determined projected water use for the Ashland Service Area using land use and connection data provided by the City and developed demand factors for existing and future customers for each customer classification. These demand factors were applied to the existing and proposed connections. Table 4-5 summarizes projected water use for the Ashland Service Area. Note that final demands were rounded to the nearest hundred in the SJWD Demand Forecast.

¹¹ The 25-Year Demand Forecast and Capacity Analysis was prepared by Tully and Young for SJWD in June 2020.

Table 4-5. Ashland Service Area Projected Water Use¹

CUSTOMER CLASSIFICATION		2025	2030	2035	2040	2045
Existing Customers	Single Family	590	590	571	571	571
	Multi-Family	234	234	234	234	234
	Commercial	78	78	78	78	78
	Landscape	70	70	70	70	70
	Subtotal	972	972	953	953	953
	Non-revenue water	146	146	143	143	143
Total Existing Customer Demand		1,118	1,118	1,096	1,096	1,096
Future Customers	Single Family	2	4	5	7	11
	Multi-Family	2	5	7	9	9
	Subtotal	4	9	12	16	20
	Non-revenue water	1	1	1	1	1
	Total Future Customer Demand	5	10	13	17	21
Total Water Demand		1,123	1,128	1,109	1,113	1,117

¹: All project water uses are provided in AFY.

4.1.4.2 Folsom Service Area Land Use Projections

The potable demand projections through 2045, which is also the City's projected buildout year, were developed using the land use-based projection methodology for the City's water service area, except for the Ashland Service Area. This method allows different demand factors to be applied to current and future land use types. The land use types correspond to the water use customer classification. Future land use types represent future customers and developments that are expected to be more water efficient than existing land uses and buildings due to the California plumbing code and use of higher efficiency appliances and landscapes.

The future land use data was sourced from the City's Geographic Information System (GIS), data from the City's Community Development Department, and developer information. DUs and acreages were estimated in 5-year increments based on developer construction estimates and anticipated growth provided by the City. Table 4-6 lists future residential DUs and non-residential acreage for the City's water service area through 2045.

Table 4-6. Future Projected Growth

CUSTOMER CLASSIFICATION	2025	2030	2035	2040	2045
Single Family, DUs	3,778	5,940	7,341	8,171	8,171
Multi-Family, DUs	3,125	4,975	6,454	7,324	8,092
Commercial/ Industrial, Acres	164	375	490	578	628
Schools, Acres	28	96	144	152	160
Municipal/Parks, Acres	46	111	165	242	270

4.1.4.3 Folsom Service Area Future Demand Factors

Future demand factors for new customers include the impact of conservation, California plumbing code, and use of higher efficiency appliances and landscapes. These savings were included in the future demand factors, which were applied to the future development for each customer classification. Future customer demand factors reflect a 10% reduction from the current demand factors for all customer classifications. Future demand factors are presented in Table 4-7.

Table 4-7. Future Demand Factors for New Customers

CUSTOMER CLASSIFICATION	FUTURE DEMAND FACTORS	
Single Family	0.41	AFY/DU
Multi-Family	0.22	AFY/DU
Commercial/ Industrial	2.50	AFY/Acres
Schools	1.79	AFY/Acres
Municipal/Parks	0.90	AFY/Acres

4.1.4.4 Future Conservation

In 2018, following the unprecedented drought, California Legislature established a framework centered on “Making Water Conservation a California Way of Life” to help the State better prepare for droughts and climate change by establishing statewide water efficiency standards and incentivizing recycled water¹². The resulting legislation of SB 606 and Assembly Bill (AB) 1668, along with future regulations, will impact water providers over the coming years, requiring indoor, outdoor, and commercial, industrial, and institutional water use goals, water loss standards, annual water budgets, and documented preparation for long-term water shortages. All the water use goals together will form a total urban water use objective specific for each water agency. DWR has provided recommended standards for indoor residential water use, and other urban water use goals are currently being developed and are expected to be released in late 2021. The State Water Board is anticipated to adopt the element that includes the total water use objective in 2022, and agencies will begin reporting their water use compared to their urban water use objective beginning in 2024, with compliance anticipated by 2027. Because most of the water use goals are unknown, and none has been adopted by the State, the City’s total urban water use objective is unknown and was not incorporated into the demand projections above. However, the City is tracking the water use efficiency standards and goals and is aware it may need to implement additional conservation above what is presented in these projections to meet its total urban water use objective as mandated by the State in the future.

The City is also developing a Water Use Efficiency Technical Memorandum (TM) that will evaluate indoor, outdoor, and water loss regulations, and alternatives for tracking and monitoring water use targets. The TM is expected to be finalized in the summer of 2020.

¹² “Making Water Conservation a California Way of Life” was prepared by the State Water Resource Control Board, November 2018.

4.1.4.5 Demand Projections

Water demand projections within the City's water service area reflect the combination of continued conservation by existing customers and the addition of new customers. Table 4-8 presents the expected demand for each 5-year increment through 2045.

Table 4-8. City's Water Service Area Water Demand Projections, AFY

CUSTOMER CLASSIFICATION	2025	2030	2035	2040	2045
Single Family	9,710	10,587	11,156	11,494	11,498
Multi-Family	2,056	2,458	2,780	2,970	3,136
Commercial/ Industrial	4,544	5,072	5,359	5,579	5,703
Schools	859	981	1,067	1,081	1,096
Municipal/Parks	1,017	1,076	1,124	1,193	1,219
Potable Water Demand	18,185	20,175	21,486	22,317	22,651
Water Losses	2,182	2,421	2,578	2,678	2,718
Aerojet Demand	150	150	150	150	150
Total	20,517	22,746	24,214	25,145	25,519

4.2 Water Use for Lower-Income Households

The California Water Code section 10631.1 requires demand projections to include projected water use for single family and multi-family residential housing needed for lower income households. Low-income households are defined as households making less than 80% of median household income.

Sacramento Area Council of Governments (SACOG) prepared and adopted the Regional Housing Needs Plan (RHNP) for 2021–2029. The City is currently developing its own Housing Element based on the SACOG RHNP for the planning period for 2021–2029. The City’s public draft dated December 2020 was used for this analysis. The City’s Housing Element is planned to be adopted in the summer of 2021.

The City’s Housing Element uses 2014–2018 U.S. Census data¹³ and provides the 2018 household income groups. The housing element indicated 10,914 of the 27,285 households were below the 80% of median income level. This is approximately 40% of all households. For lack of more detailed income distributions, this 40% is assumed to remain constant into the future. Using 40% of the projected population, the multi-family demand factor, and 2.62 people per housing unit, the current and future demand from “lower income” customers is estimated. Table 4-9 presents the projected demands among low-income groups. The low-income demand projections are included in the City’s total projected water use shown in Table 4-9.

The City does track low-income units that are built, which are designated as a different billing rate in the water meter system. In 2020, the City served 139 AF to low-income households as labeled in the meter billing system. This is well below the 2,335 AF necessary to serve the projected 40% of “low income” residents.

Table 4-9. Low Income DUs and Demand Estimates

	2020	2025	2030	2035	2040	2045
Low-Income DUs	10,613	13,374	14,979	16,131	16,811	17,118
Demand Factor, AFY/DU	0.22	0.22	0.22	0.22	0.22	0.22
Low-Income Demand, AFY	2,335	2,942	3,295	3,549	3,698	3,766

¹³ US Census 2014-2018 American Survey 5-year Estimates - Table S1901

4.3 Climate Change Considerations

In 2020, the American River Basin (Basin) region conducted a climate change study in partnership with local water purveyors and the U.S. Department of the Interior, Bureau of Reclamation (Reclamation). The purpose of the American River Basin Study (ARBS) was to develop data, tools, analyses, identify supply-demand imbalances, and climate change adaptation strategies specific to the Basin. Under the “new normal” of a changing climate, the ARBS aims to improve the resolution of regional climate change data and to develop regionally specific mitigation and adaptation strategies.

The ARBS’s Study Area is bounded by the Sierra Nevada mountain range to the east, the Feather and Sacramento rivers to the west, the Bear River to the north, and the Cosumnes River to the south (Figure 4-1). In addition to the American River Watershed, the Study Area encompasses the North and South American Groundwater Subbasins, and Non-Federal Partners’ service areas outside of the American River Watershed.

The ARBS found that while climate change currently does have an impact on the basin, impacts are largely seen closer to the end of the century, and not within the timeline of the UWMP. Through proactive adaptation management actions, the ARBS highlights ways for the region to alleviate climate change impacts by the end of century; therefore, in consideration of the timeline of the UWMP, the City did not include climate change impacts in supply and demand scenarios within this UWMP. As a participant of the ARBS, and with the City’s water service area contained within the Study Area, below summarizes climate change findings pertinent for the region. More detail, along with the approved study can be found at www.pcwa.net/planning/arbs.

4.3.1 Projected Future Conditions

Analysis of projected future climate conditions in the Basin and development of climate scenarios for the ARBS were based on an ensemble of bias-corrected and spatially downscaled climate projections¹⁴. This ensemble has been used by the CWC and DWR as the primary source of climate projection information in several recent studies, including the Water Storage Investment Program and California’s Fourth Climate Change Assessment (Pierce et.al., 2018). Projected future climate conditions were evaluated and characterized based on the ensemble of downscaled climate projections.

Hydrology scenarios were used to develop streamflow inputs to the CalSim 3.0 model, which was then used to evaluate changes in water supplies, demands, and management throughout the CVP and State Water Project, including the Study Area. Demands for each water purveyor largely relied upon water purveyors’ information provided in Regional Drought Contingency Plan/Regional Water Reliability Plan (Regional Water Authority, 2017) and 2015 UWMPs.

¹⁴ Climate projections were developed using Global Climate Models from the Coupled Model Intercomparison Project Phase 5 and downscaled using Localized Constructed Analogs method projected and coupled with two future emission scenarios (RCP 4.5 and RCP 8.5) available from Dr. David Pierce at the Scripps Institution of Oceanography.

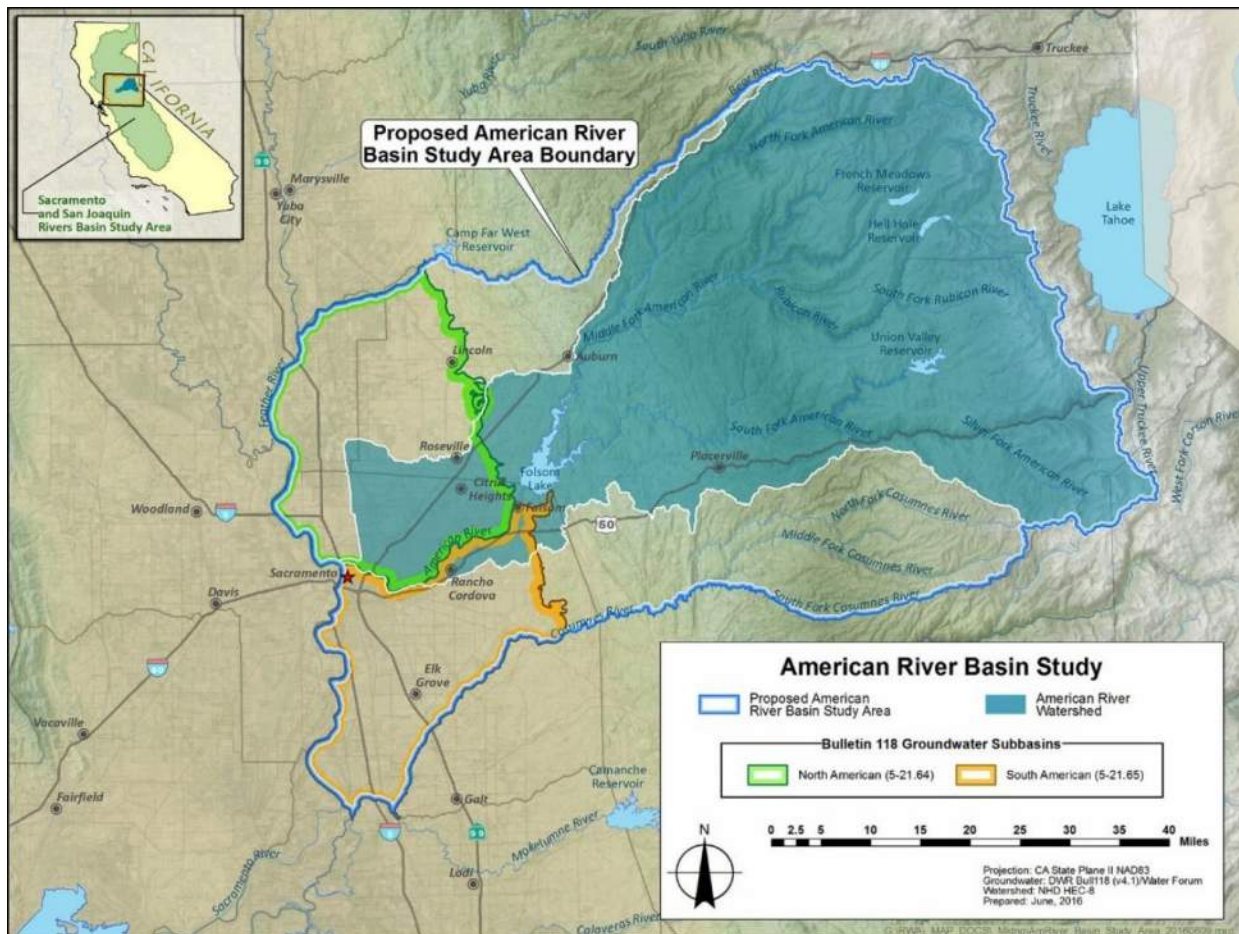


Figure 4-1. American River Basin Study Area

4.3.1.1 Temperature

Surface air temperatures are projected to increase steadily, with average summer temperatures increasing by approximately 7.2 degrees °F by the end of the 21st century (Figure 4-2), and winter temperatures increasing by 4.9°F. Projections of daily maximum and minimum temperatures suggest similar warming trends during all seasons, with maximum temperatures projected to increase as much as 7.3°F during the summer months. Projected change in temperature for the Study Area between historical (1980–2009) and end of century (2070–2099) is presented in Table 4-10.

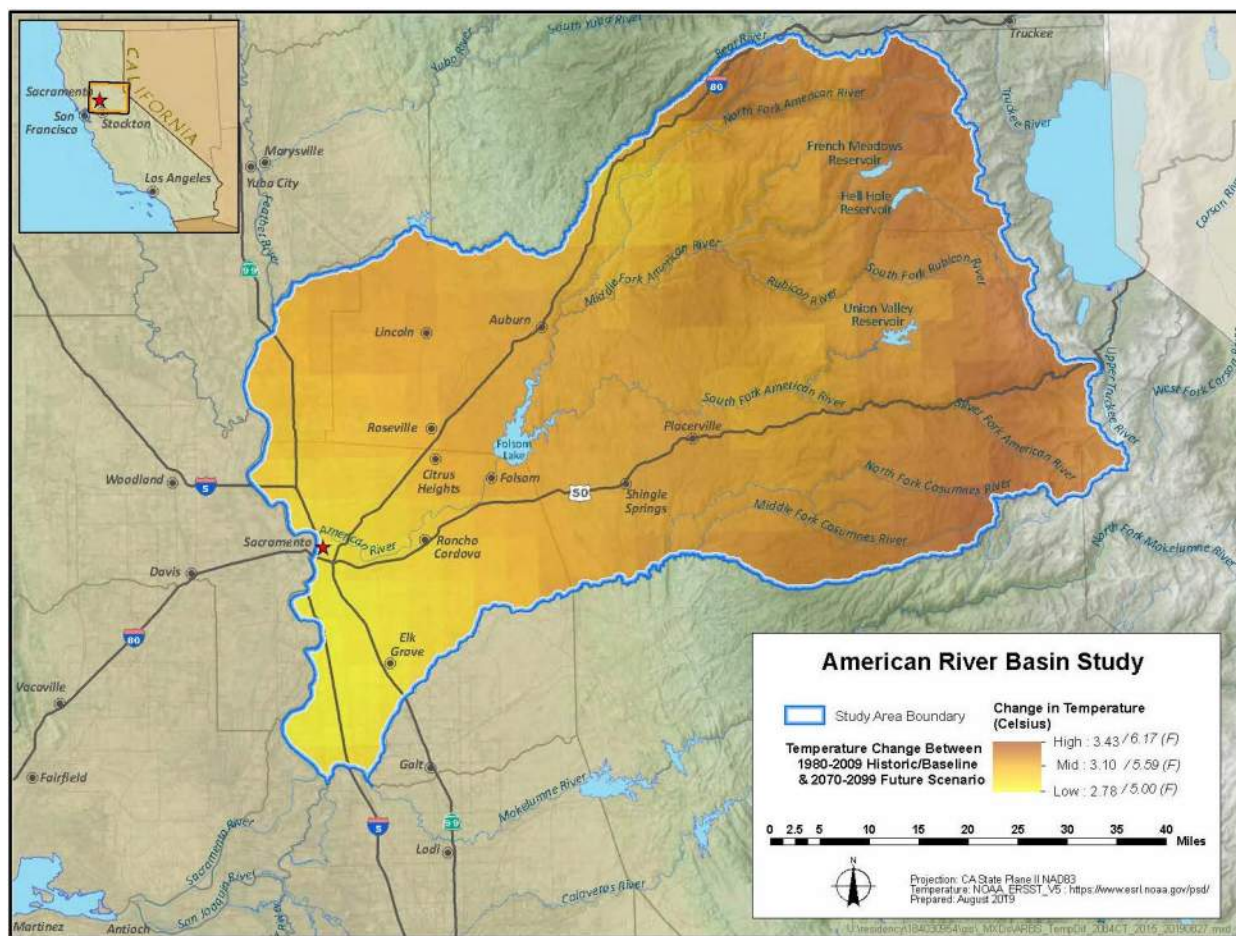


Figure 4-2. Projected Changes in July Temperature between Historical and End of Century Under Central Tendency Climate Change

4.3.1.2 Precipitation

Annual precipitation projections show no significant trend in the median of change over the 21st century. Many of the available global climate model projections show change in precipitation, but there is no consistency in the magnitude and direction of projected change between models. Approximately half of the projections indicate a minor increase in annual precipitation and half indicate a minor decrease, highlighting the large uncertainty in future precipitation over this region. Although lacking clear trend in projected annual precipitation, by the end of the 21st century the average fall and spring precipitation is expected to decrease, with winter and summer precipitation increasing. Increasing variability is also projected in winter and fall precipitation. Projected change in precipitation for the Study Area between historical and end of century is presented in Table 4-10.

Table 4-10. Projected Change in Precipitation and Temperature Over the ARBS's Study Area Between Historical and End of Century

	PERCENT CHANGE IN BASIN-AVERAGED ANNUAL MEAN PRECIPITATION (%)	CHANGE IN BASIN- AVERAGED ANNUAL MEAN DAILY AIR TEMPERATURE (°F)	CHANGE IN ANNUAL MEAN OF DAILY MAXIMUM AIR TEMPERATURE (°F)	CHANGE IN ANNUAL MEAN OF DAILY MINIMUM AIR TEMPERATURE (°F)
Fall	-6.0	5.8	6.1	5.5
Winter	4.7	4.9	5.0	4.8
Spring	-11.9	5.8	6.3	5.1
Summer	10.4	7.2	7.3	7.0

4.3.1.3 Snowpack

Snow water equivalent (SWE) is a key indicator of water supplies in this region, where runoff is largely influenced by snowmelt. The increasing variability in precipitation combined with increases in surface air temps are key drivers in projections of a reduction in annual average SWE. Average SWE is forecasted to decrease by 50–85% across all climate scenarios and future time periods. In addition, areas that accumulate snow above the Folsom Reservoir are also projected to have up to a 12-inch decrease in maximum snowpack by end of the century.

4.3.1.4 Evapotranspiration

Potential evapotranspiration (PET) serves as a key indicator of landscape water demands, including consumptive use by evaporation and transpiration from bare soil, water surfaces, native vegetation, and crops. Average annual PET is expected to increase 1.2 to 6.2 inches across all climate scenarios and future time periods. PET is strongly correlated with air temperature and thus expected to increase more under the hot scenarios (Hot-Dry, Hot-Wet) than under the warm scenarios (Warm-Dry, Warm-Wet).

4.3.1.5 Runoff

Watershed runoff is a direct indicator of local water supply available, as well as to statewide CVP-SWP system. Climate change projections indicate a pronounced shift in the distribution of runoff from May and June to earlier in the season (December to March), implying a transition in precipitation from snow to rainfall and/or earlier snowmelt and increasing the amount of runoff during the winter months. Peak runoff is expected to shift by more than a month earlier by mid to late century (Figure 4-3). Spring runoff will decrease due to reduced winter snowpack. Similar to the precipitation scenarios, there is large uncertainty in projected runoff where the 'wet' scenarios suggest an increase in annual runoff and the 'dry' scenarios suggest a decrease in annual runoff. The projected changes in basin wide runoff range from an increase of 486 thousand acre-feet (TAF) under the Warm-Wet scenario to a decrease of 203 TAF under the Hot-Dry scenario by the end of the century.

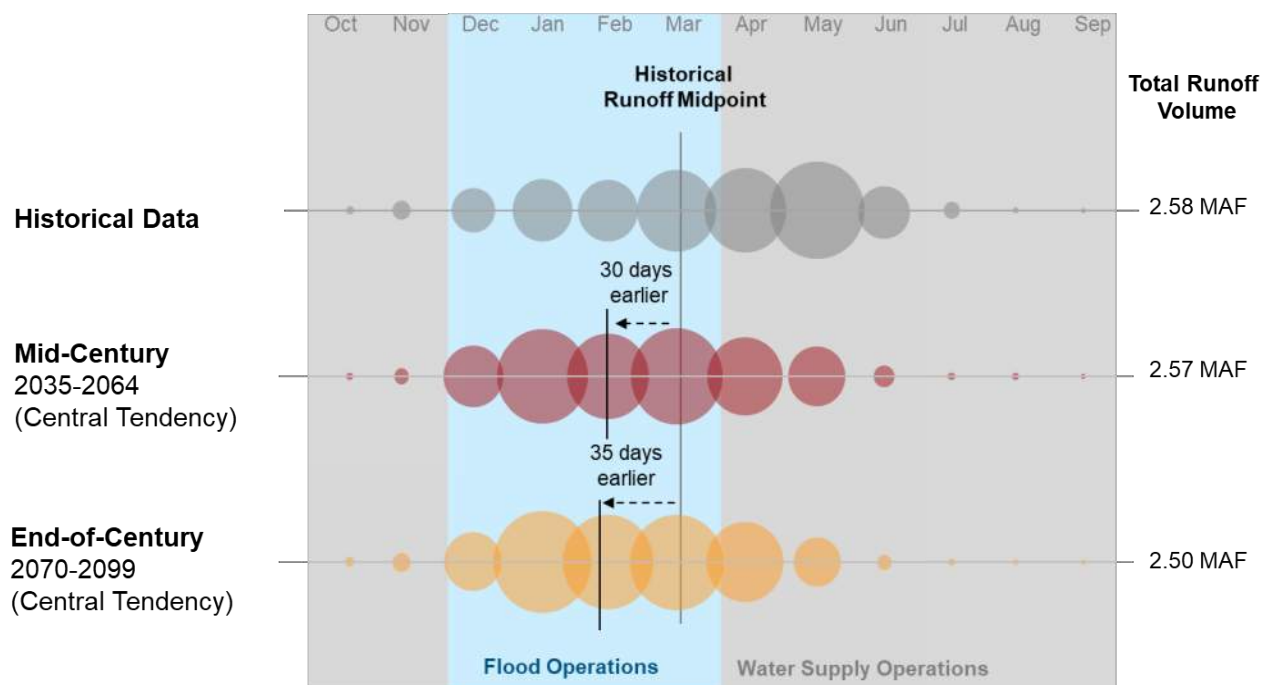


Figure 4-3. Distribution of Average Monthly Runoff for Historical Record (1922–2015) and Future Projections Under Central Tendency Climate Scenario

Table 4-11 presents the change in annual climatic and hydrologic indicators between historical baseline observations (1915–2015) and projected future conditions for the ARBS’s Study Area.

Table 4-11. Change in Hydrologic Indicators Between Historical Observations and Projected Future Hydrology

TIME PERIOD	CLIMATE SCENARIO	PRECIP (IN)	TEMPERATURE (°F)			PET (IN)	SWE _{AVG} (IN)	SWE _{MAX} (IN)	RUNOFF (TAF)
			T _{AVG}	T _{MAX}	T _{MIN}				
1915 -2015	Historical Observations	38.2	54.8	67.8	35.6	42.8	1.5	5.7	1,458
2040 -2069	Warm-Wet	1.9	4	6.2	1.6	1.6	-0.7	-2.3	701
	Central Tendency	0.1	5	8.1	2.1	2.7	-0.9	-2.8	-2
2055 -2084	Hot-Dry	-2.8	6.2	10.4	2.7	3.7	-1.1	-3.4	-206
	Warm-Wet	3.8	4.7	7.4	2	2	-0.8	-2.5	199
2070 -2099	Central Tendency	-1.1	6.3	11.1	2.6	4.1	-1.08	-3.5	-93
	Hot-Dry	-3.4	7.9	13.3	3.7	5	-1.2	-3.8	-185
2070 -2099	Warm-Wet	7	5.4	8.3	2.5	1.8	-0.9	-2.9	486
	Central Tendency	-0.6	6.5	11	2.8	3.9	-1	-3.3	-54
	Hot-Dry	-4.6	8.9	15.7	4.1	6.2	-1.3	-4.3	-203

Chapter 5 SBX7-7 Baseline and Targets

5.1 General Requirements for Baseline and Targets

Enacted in 2009, Senate Bill 7 of Special Extended Session 7 (SBX7-7) required all water suppliers to increase water use efficiency with the overall goal to decrease per-capita water consumption within the state by 20% by the year 2020. Each urban retail water supplier was required to set a 2020 water use target (herein called the 2020 Water Use Target) and a 2015 interim target (herein called the Interim 2015 Water Use Target). As detailed in the City's 2015 UWMP, the City had to recalculate a new gallon per capita day (GPCD) baseline with 2010 Census data that was not available when the City's 2010 UWMP was prepared. Through this recalculation in the 2015 UWMP (using Method 1), the City determined their 2020 Water Use Target and an Interim 2015 Water Use Target to be 352 GPCD and 396 GPCD, respectively.

As stated in the 2015 UWMP, the City complied with the Interim 2015 Water Use Target of 396 GPCD with an actual water use of 261 GPCD. The section below details the City's compliance with the 2020 Water Use Target.

IN THIS CHAPTER

- General Requirements for Baseline and Targets
- 2020 Compliance Daily Per-Capita Water Use



5.2 2020 Compliance Daily Per-Capita Water Use (GPCD)

Pursuant to CWC Section 10608.40, the City is to report to DWR if the City complies with the 2020 Water Use Target as part of its 2020 UWMP. As part of the progress reports, the City should include its “compliance daily per capita water use” (Compliance Value), which is the gross water use during the final year of the reporting period, reported in gallons per capita per day.¹⁵ Documentation of the Compliance Value must include the basis for determining the estimates, including references to supporting data. Furthermore, pursuant to CWC Section 10608.24(a), the City must demonstrate that it has met its 2020 GPCD Target as of December 31, 2020 through its calculation of its 2020 Compliance Value.

As described in Section 3.3.1, the 2020 population was determined to be 69,517 by using the DWR tool. Table 5-1 presents the population, associated gross water use, the resulting GPCD and the 2020 Water Use Target. As demonstrated, the City’s 2020 Compliance Value is 256 GPCD, which is below the 2020 Interim GPCD value of 352. The City did not make any adjustment to the 2020 Gross Water Use.

Table 5-1. 2020 GPCD

YEAR	POPULATION	GROSS WATER USE (AFY)	GPCD	TARGET GPCD
2020	69,517	19,898	256	352

¹⁵ CWC § 10608.12(e).

Chapter 6 Water Supply

Characterization

This chapter describes the City’s existing and planned water supplies through an analysis of its various surface water and groundwater rights. The majority of the City’s water supplies are derived from surface water rights based upon its pre-1914 appropriative right filings and a contract with Reclamation. The City’s surface water supplies serve the following service areas: Folsom West, Folsom East, Nimbus, and the Folsom Plan Area. Collectively, these service areas are referred to in this document as the “Folsom Service Area.” The surface water supplies were developed through different circumstances and, as such, are subject to unique conditions and limitations. These conditions and limitations affect the volume of water available under certain hydrological and regulatory settings.

IN THIS CHAPTER

- City’s Water Supply
- Energy Intensity

The City also uses a portion of its groundwater assets on a golf course and has established rights to GET water derived from the Aerojet groundwater contamination. Further, the City has water assets and delivery arrangements with SJWD for service in the Ashland Area.

Table 6-1 summarizes the City’s supply with place of use and transferability limitations listed.

Table 6-1. City of Folsom Water Rights Summary

WATER RIGHTS	SUPPLY, AFY	DIVERSION POINT	PLACE OF USE	TRANSFERABLE
Pre-1914 Appropriative Right	22,000	Folsom Reservoir, Folsom South Canal	Folsom Service Area	Yes
Pre-1914 Appropriative Rights	5,000	Folsom Reservoir, Folsom South Canal	Folsom Service Area	Yes
CVP Repayment Contract	7,000	Folsom Reservoir	Folsom Service Area	Yes
SJWD Agreement ¹	1,100	Folsom Reservoir	Ashland Area	No
GET A and GET B Supply	3,250	Direct Application	Folsom Service Area	Yes
Total Supply	38,350	--	--	--

¹. The SJWD Agreement states that the City will receive the water supply needed for the Ashland area from SJWD unless there are shortage reductions required under the agreement between the City and SJWD. This water supply does not impact City’s water supplies available under other Contracts.

Some of the City’s water supplies are subject to reduction under certain conditions. These conditions may manifest through (a) hydrological circumstances, like a drought; (b) the City’s regional relationships, like the WFA; and (c) legal and regulatory constraints, like species protection in the Sacramento-San Joaquin Bay Delta or an Executive Order from the Governor. The water supply reductions impact the availability of each water asset in a different way that implicates the City’s operations and long-term planning. These aspects of the City’s water supplies are outlined in the text below.

6.1 City's Water Supply

The City's water supplies are detailed in the subsections below. A summary of the City's water supplies is included as Table 6-3, which is presented at the end of this chapter.

6.1.1 Surface Water

The surface water supplies for Folsom Service Area are discussed in the following sections.

6.1.1.1 Pre-1914 Rights for 22,000 AFY

The City's 22,000 AFY entitlement is based on a pre-1914 appropriative right from the South Fork of the American River established by the Natoma Water Company in 1851. The Natoma Water Company's original pre-1914 water right established a maximum diversion rate "to fill a Canal Eight feet wide and Four feet deep with a current running ten miles per hour." This correlates to a diversion rate of 60 cubic feet per second (cfs) and a maximum allocation of 32,000 AFY. This right is held jointly with Golden State Water Company (GSWC) pursuant to a co-tenancy agreement. The co-tenancy agreement means that both the City and GSWC have the right to use the water to the fullest extent possible as desired by the respective entities. The City and GSWC have allocated the supplies under the entire 32,000 AFY water right. The City unilaterally controls 22,000 AFY and GSWC controls the remaining 10,000 AFY.

The place of use under the City's pre-1914 right includes a wide area that encompasses the City and additional surrounding areas (including the Easton Project) that made up the boundaries of the Natoma Water Company. The pre-1914 appropriative right status of this water asset makes it more flexible in delivery to additional locations so long as those deliveries do not injure other legal users of water. The 1851 filing is the earliest in priority of perfected appropriative rights on the South Fork of the American River and is recorded. The entire 22,000 AFY of this water right is formally recognized in the settlement agreement between Reclamation and the City. Under this agreement, Reclamation delivers this entire water supply without reduction on a permanent basis.

This water asset may be diverted at its point of diversion in the water right itself, as well as Folsom Reservoir and Folsom South Canal pursuant to the settlement agreement between Reclamation and the City. The City currently diverts the water at Folsom Reservoir in order to deliver that supply to the Folsom WTP. In 2015, the ability to divert this water at Folsom Reservoir proved vulnerable because reservoir elevation forecasts indicated that the level would drop below the physical intake. In response to this, Reclamation in partnership with agencies dependent upon Folsom Reservoir diversion developed a physical pumping solution that would modify how the water would be delivered to the intake in the case of extreme drought conditions.

In 2015, the driest year in the last 100 years in California, the State Water Resources Control Board curtailed some pre-1914 appropriative water rights with priority dates as early as 1903. The City's 1851 water right was protected from curtailment because of its seniority. As such, the entirety of this water right is available to the City in all year types. Furthermore, Reclamation must deliver the entire supply under this water asset in all year types.

6.1.1.2 Pre-1914 Rights for 5,000 AFY

The City's 5,000 AFY entitlement is also based on Natoma Water Company's pre-1914 appropriative water right from the South Fork of the American River. In November 1994, the City executed a contract with Southern California Water Company-Folsom Division (SCWC) under which the City acquired the right to lease 5,000 AFY of water per year. As described above, SCWC controlled the remaining 10,000 AFY of the 32,000 AFY total water right under the original co-tenancy Natoma Water Company purchase. As such, the basis of this water asset is held with

GSWC pursuant to the co-tenancy agreement but the lease of the water asset to the City is pursuant to a lease agreement. This water right is also formally recognized in the settlement agreement between Reclamation and the City.

This water asset for 5,000 AFY has the same diversion provisions as does the 22,000 AFY diversion right above since both assets are derived from the same water right. Moreover, this water asset has the same priority as the 22,000 AFY water asset which makes it extremely resilient against drought conditions and regulatory curtailment.

6.1.1.3 Central Valley Project Repayment Contract for 7,000 AFY

On April 8, 1999, Reclamation entered into Contract No. 6-07-20-W1372 with the Sacramento County Water Agency (SCWA) under Section 206 of Public Law 101-514. The contract dedicated 22,000 AFY of water to SCWA, commonly called “Fazio Water.” The City was specifically named in the SCWA-Reclamation contract as a subcontractor to gain benefit of a portion of the Fazio Water supply. On April 25, 2000, SCWA entered into a separate contract with the City to provide 7,000 AFY of the 22,000 AFY of Fazio Water.

The Fazio Water supply is a standard CVP “Project Supply” water entitlement – derived entirely from federal CVP water supplies. More specifically, the Fazio Water is derived solely from American River water rights held by the Bureau of Reclamation for diversion and storage at Folsom Reservoir. Reclamation’s CVP water rights are junior to water rights that existed prior to the development of the CVP. In other words, in the case of shortages, the CVP water rights are curtailed before other, more senior water rights, are curtailed. In both 2014 and 2015, the CVP water rights on the American River were curtailed forcing Reclamation to release water (not store water) from Folsom Reservoir to meet the natural flow conditions for downstream senior water right holders.

The Fazio Water contract entitlement for the City is fairly reliable. In normal and wet years, the City may call upon the supply for delivery and should receive 100% allocation. In dry years, the water supply is subject to Reclamation’s Municipal and Industrial Water Shortage Policy (M&I Shortage Policy). Under this policy, water supplies are reduced from a baseline volume depending upon the inflow and storage conditions. The baseline volume is calculated by averaging the last three years of use under normal supply conditions and incorporating other details to account for variability like actual demand expansion and other minor adjustments. As an example, if the City’s contract was for 7,000 AFY but City had used (or calculated use) of 5,000 AFY over the course of the last 3 normal water years, then the City’s baseline from which to measure supply reduction is 5,000 AFY.

The supply reduction under the M&I Shortage Policy, then is calculated against the baseline. Before the extreme drought conditions of 2014 and 2015, the maximum project reduction for north of Delta municipal and industrial water purveyors was 75% of baseline demand. In 2015, however, conditions were so extreme, that the CVP allocation was cut to 25 % of baseline demand. For a City like Folsom, the potential for future reductions is real considering supply availability in Folsom lake and the American River watershed. However, the worst-case scenario for CVP contract entitlements is delivering water to meet “Health and Safety Conditions.” These conditions represent a maximum demand reduction and allow a purveyor to deliver water to provide a minimal level of sustainability for its end users.

Since the 2015 UWMP, the CVP water use area has changed from Folsom Service Area – East to the entire Folsom Service Area, allowing the City to use more of the allocated amount of water than the City would have been able to use if limited to just the East Area. In December 2016, the City became a CVP Contractor, and no longer a sub-Contractor to SCWA, through a partial assignment of the City’s 7,000 AFY under Contract No. 6-07-20-1372B with Reclamation. The purpose of this assignment is to consolidate the City’s water assets derived from the City’s

relationship with Reclamation to better facilitate administrative issues associated with those water assets. In February 2020, the City and Reclamation executed a contract (Contract No. 6-07-20-W1372B-P) to convert the CVP water service contract into a CVP repayment contract as authorized under the Water Infrastructure Improvements for the Nation Act.

6.1.1.4 Water Forum Agreement

Community leaders, along with water managers from Sacramento, Placer, and El Dorado counties negotiated the WFA. The WFA is a comprehensive package of linked actions that will achieve two coequal objectives: (1) Provide a reliable and safe water supply for the region's economic health and planned development through to the year 2030; and (2) Preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River. The City is a signatory to the WFA. The City's Water Forum "purveyor specific agreement" (PSA) states that, under certain conditions, the City would take specific water management actions under a range of hydrologic events that are linked primarily to the American River Basin and Folsom Reservoir. The water management actions could impact the availability of water to the City under its water rights and entitlements to make water available to meet Lower American River flow requirements. Pursuant to the Water Forum provisions, the City has also developed best management practices that are consistent with the Demand Management Measures in the 2020 UWMPA.

Under the conditions applicable under the City's PSA, the City's water diversions may be limited depending on the identified year type. Under the PSA, however, the City is not required to implement the Water Forum actions unless its foregone water supplies are made up by alternative water supplies provided by the other purveyors. Nevertheless, an average or wet year is defined under the Agreement as unimpaired inflow into Folsom Reservoir from March through November that exceeds 950,000 AFY. The probability of an average or wet year inflow of this volume is 82%, meaning that this inflow has occurred approximately 8 out of every 10 years.¹⁶ Accordingly, even under its PSA, the City has a good chance of receiving its full annual surface water allocations from Folsom Reservoir in any given year.

In drier years – defined by the WFA as Stages 1, 2, and 3 – the City's PSA states that, under certain conditions, the City would reduce its diversions from Folsom Reservoir. These reductions are relatively proportional to reductions in March through November unimpaired inflow into Folsom Reservoir of less than 950,000 AFY but equal to or more than 400,000 AFY. The decreased inflows could require the City's allowable surface diversions to drop from 34,000 AFY to 22,000 AFY, separated into a three-stage stepped and ramped reduction in proportion to the decreased inflows. These reductions are known as "the Water Forum Wedge" and illustrated below in Table 6-2.

- Under Stage 1 reductions where the unimpaired inflow to Folsom Reservoir is greater than 870,000 AFY but less than 950,000 AFY, the City could divert a decreasing amount from 34,000 AFY to 30,000 AFY in proportion to the reduced flow into Folsom Reservoir.
- Under Stage 2 reductions where the unimpaired inflow to Folsom Reservoir in March through November is greater than 650,000 AFY but less than or equal to 870,000 AFY, the City could divert a maximum of 27,000 AFY.

¹⁶ DWR conducts annual snowpack surveys and provides a forecast of runoff for the American River watershed along with other watersheds in the State beginning in February and ending in May of each year. Results of these four surveys are published annually in a series of State DWR Bulletins (Bulletin 120-1 through 120-4) and are the basis for determining the unimpaired inflow into Folsom Reservoir; Water Forum Proposal Final EIR, October 1999 at Appendix I.

- Under Stage 3 when the unimpaired inflow to Folsom Reservoir in March through November is equal to or greater than 400,000 AFY but less than or equal to 650,000 AFY, the City could divert a maximum of 22,000 AFY.

The differences in these staged reductions are important. Stage 1 reductions are different than Stage 2 and Stage 3 reductions because the reduced Stage 1 surface supply diversion is directly proportional to the decreased inflow. Under Stages 2 and 3, diversion rates are set based on the stated range of inflow into Folsom Reservoir. Accordingly, diversion reductions under Stage 1 may require different types of supply augmentation mechanisms than those required under the other two stages.

In the driest years – also called the conference years – when the March through November unimpaired inflow to Folsom Reservoir is less than 400,000 AFY, the City PSA states that, under certain conditions, the City could reduce diversions to a maximum of 20,000 AFY. The City’s PSA also states that the City could further reduce diversions in the driest years to 18,000 AFY by imposing extra-ordinary conservation measures throughout its service area. A Conference Year was called in 2015. Although the City’s PSA describes this significant surface diversion reduction in the driest years, the WFA has the following caveat:

“[I]t is recognized that in years when the projected unimpaired inflow to Folsom Reservoir is less than 400,000 acre-feet there may not be sufficient water available to provide the purveyors with the driest years quantities specified in their agreements and provide the expected driest years flows to the mouth of the American River. In those years the City will participate in a conference with other stakeholders on how the available water should be managed.”

Table 6-2. WFA Surface Water Diversion Scenarios in the City’s PSA

WATER FORUM YEAR TYPE	CITY OF FOLSOM UNIMPAIRED INFLOW (AFY)	CITY OF FOLSOM SURFACE WATER DIVERSION (AFY)	PROBABILITY OF YEAR TYPE OR ABOVE^[1]
Average or Wet Year	Greater than 950,000	34,000	82%
Stage 1	950,000 to 871,000	34,000 to 30,000	90%
Stage 2	870,000 to 651,000	27,000	95%
Stage 3	650,000 to 400,000	22,000	97%
Driest Years (conference years)	<400,000	20,000 to 18,000	99%

^[1] DWR Bulletins (Bulletin 120-1 through 120-4) and are the basis for determining the unimpaired inflow into Folsom Reservoir, Water Forum Proposal Final Environmental Impact Report (EIR), October 1999 at Appendix I.

The WFA included a key provision that, in consideration for its reduction in diversion and use of its surface water entitlements from Folsom Reservoir and the American River, “Folsom will enter into agreements with other purveyors that have access to both surface water and groundwater for an equivalent exchange of the amount of reduction needed by Folsom as outlined above in the 3 stages of reduction.”¹⁷ Accordingly, unless the City receives an equivalent amount of water for its foregone water assets to meet Lower American River flow objectives, it will not be required to forego the water. Thus, for planning purposes, the City has reliable supplies based upon its existing water assets in accordance with the replacement provisions in the WFA.

¹⁷ Water Forum Agreement at page 178.

In the event the City foregoes water supplies to other purveyors as part of an exchange opportunity, the City will retain both the ownership of the water asset as well as the unilateral authority as to where the water will be delivered. The City will not lose control of its water even if required to send water down the American River as part of the WFA.

The City seeks to develop these arrangements with regional water purveyors as it fulfills its obligation to reduce diversions in certain year types under the WFA. All signatories to the WFA have, among other things, agreed to assist each other in meeting supply reliability objectives.

6.1.2 Purchased Water

6.1.2.1 Contract Rights with San Juan Water District

The City has a contract with the SJWD for water use on City lands on the north side of the American River. There are two areas located here: the Ashland Area and the American River Canyon Area. In the Ashland Area, the City controls the water conveyance facilities, but the water provided to those facilities is delivered by SJWD. In the American River Canyon Area, SJWD provides all water services. Water service to these two areas is subject to the San Juan Water District and City Wholesale Water Supply Agreement (SJWD Agreement) that was signed on September 26, 2007 and the subsequent Amendment dated January 1, 2011. The SJWD Agreement covers water service to the Ashland Area as well as the American River Canyon Area.

Under the SJWD Agreement, SJWD provides surface water assets to the City to serve the Ashland Area. SJWD agrees to serve the Ashland Area in the City and could reduce allocations to the City in times of water shortage. It would reduce its deliveries to the City in pursuant to SJWD's "Surface Water Supply and Water Shortage Management Plan."¹⁸ At this time, SJWD has significant water assets that are very reliable and curtailment of the water supplies is unlikely.

For the American River Canyon Area (which is not included in this UWMP), the SJWD Agreement upholds the findings in the Case City of Folsom v. San Juan Suburban Water District that was decided in 1972. Under that finding, SJWD provides the retail water service to the end users residing in the American River Canyon Area so the supplies for this area are not included as part of the supplies to the City. The SJWD Agreement does, however, allow the City the first right of refusal to become the retail provider for water in this area should SJWD seek to cease water service within the City jurisdictional boundaries.

¹⁸ Article 6 H San Juan Water District and City of Folsom Wholesale Water Supply Agreement as amended by Amendment 1 to San Juan Water District and City of Folsom Wholesale Water Supply Agreement dated January 1, 2011.

6.1.3 Groundwater

The City overlies portions of the Sacramento Valley Groundwater Basin. Specifically, the City overlies two smaller subbasins wholly contained in the Sacramento Valley Groundwater Basin: the NASb and the SASb. These subbasins are two of 18 subbasins that comprise the Sacramento Valley Groundwater Basin and are depicted in Figure 6-1. Due to the proximity near the edge of groundwater basins, and low yield of the groundwater aquifer underlying the City, groundwater is not a significant water supply.

6.1.3.1 North American Subbasin

The NASb lies within portions of Sutter, Placer, and Sacramento Counties. The NASb is delimited by the Bear River on the north, the Feather River and the Sacramento River on the west, the American River on the south, and the Sierra Nevada foothills on the east. The NASb is identified by the DWR in Bulletin 118-2003 as Basin No. 5-21.64. The approximate total storage of the NASb is 4.9 million AF of water, across a surface land area of approximately 351,000 acres.

6.1.3.2 South American Subbasin

The SASb is identified by DWR in Bulletin 118-2003 as Basin No. 5-21.65. The SASb is located in the central portion of the Sacramento Valley Groundwater Basin, as identified in the Central Sacramento County Groundwater Management Plan (CSCGMP). The aquifer system within the SASb consists of continental deposits of the late Tertiary to Quaternary age (DWR Bulletin 118). The major fresh water bearing geologic units are the Laguna Formation and the Mehrten Formation. The Laguna Formation, which extends to a total depth of approximately 300 feet within the SASb, is used for private domestic wells and municipal water supply wells.

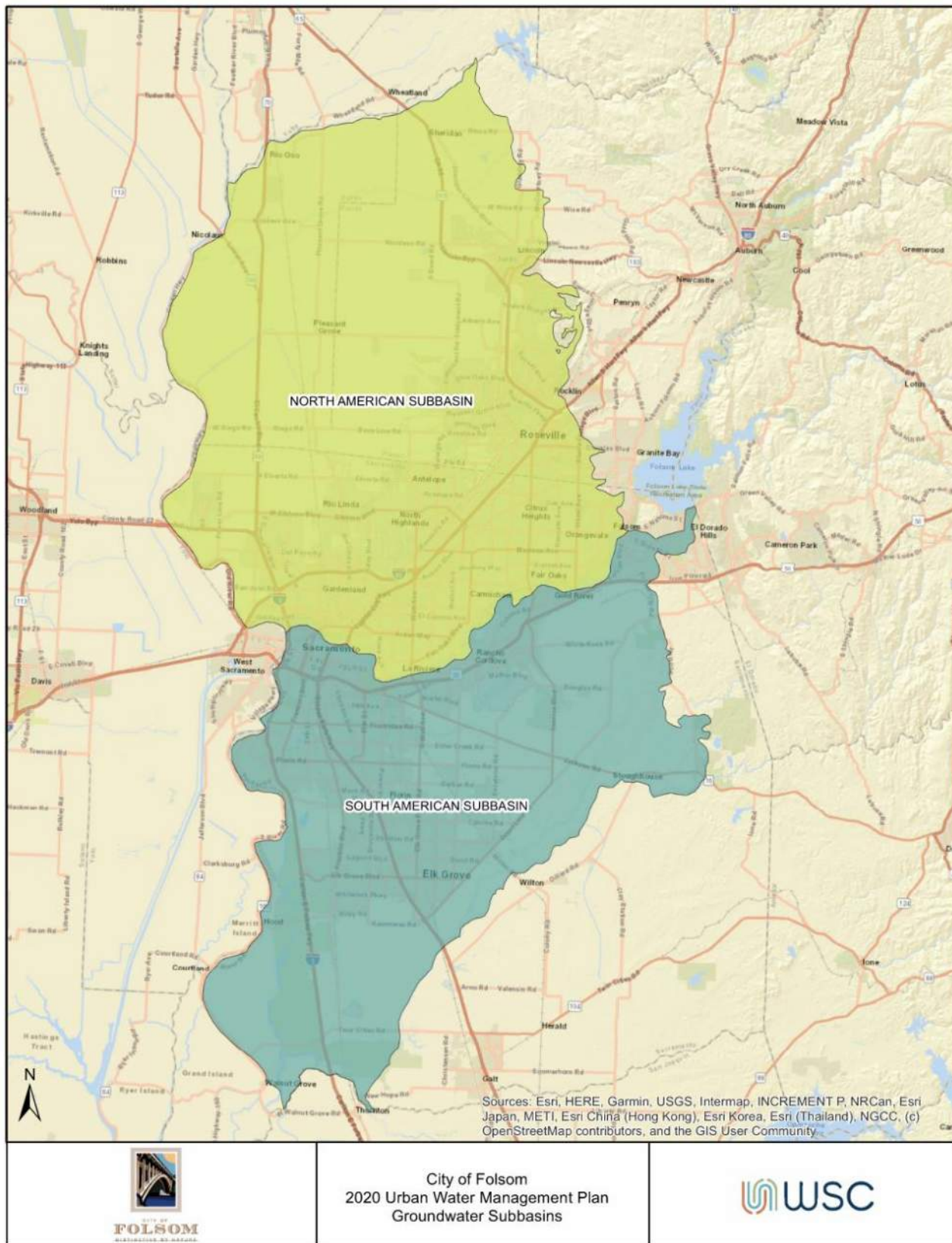


Figure 6-1. Regional Sacramento County Groundwater Basins

6.1.3.3 Sacramento Groundwater Authority

The SGA, formerly the Sacramento North Area Groundwater Management Authority, was formed as a joint powers authority and charged with the management of the NASb. The SGA's formation in 1998 resulted from a coordinated effort by the Sacramento Metropolitan Water Authority and the Water Forum to establish an appropriate management entity for the basin. SGA draws its authority from a joint powers agreement signed by the cities of Citrus Heights, Folsom and Sacramento as well as the County of Sacramento to exercise their common police powers to manage the underlying groundwater basin. In turn, these agencies chose to manage the basin in a cooperative fashion by allowing representatives of the 14 local water purveyors and representatives from the agricultural and self-supplied pumper interests to serve as the Board of Directors of the SGA.

SGA has developed a GMP. The SGA GMP is a quasi-contractual document that identifies basin management objectives and binds the members of SGA to follow certain agreed upon criteria to meet those objectives. The GMP outlines the volumes of water in the basin, the safe yield of the basin, and recharge expectations that water users rely on in planning and using their groundwater assets. In 2014, SGA updated its groundwater management plan to ensure that management objectives and responses remain responsive to developing needs. SGA may again refine its basin management objectives in the context of the SGMA enacted in 2014.

The SGA GMP includes a discussion of the groundwater levels in the central portion of the NASb – the area within the NASB which SGA claims jurisdiction. This sub-area is bounded on the west by the Natomas Central Mutual Water Company and Rio Linda/Elverta Community Water District and on the east by San Juan Avenue. For about 40-50 years up through the mid-1990s, groundwater production in the NASb resulted in a general lowering of the groundwater levels near its center.¹⁹ Even though the central portion of the NASb has experienced a decline in groundwater elevations, DWR has not identified the Northern American Groundwater Subbasin as overdrafted, nor has it projected it would become overdrafted.²⁰

Since the mid-1990s, groundwater elevations have stabilized throughout the area overlying the regional cone of depression and, in some cases, groundwater elevations are continuing to rise.²¹ Recent conjunctive use activities have resulted in providing new surface water supplies to water purveyors historically producing groundwater in the central portion of the NASb.²² Although water purveyors in the region will rely more heavily on groundwater during dry periods, the net increase in available surface water will result in a maintained or improved amount of groundwater in storage in the basin over the long term.²³ The average sustainable yield of the groundwater basin is estimated by SGA to be 131,000 AFY²⁴, and the groundwater elevations range from about 10 feet above mean sea level (msl) and 40 msl.

¹⁹ *Id.* at 12.

²⁰ See California's Groundwater Bulletin 118, Sacramento Valley Groundwater Basin, North American Subbasin (DWR Subbasin 5-21.64), January 2006.

²¹ *Id.* at 53.

²² *Id.*

²³ *Id.*

²⁴ This value was estimated based on long-term average water use, supply conditions, and facilities in the basin at the time of the WFA. This value was not intended to be a fixed value that could not be modified as conditions and assumptions changed in the basin.

6.1.3.4 Sacramento Central Groundwater Authority

As stated previously, the SCGA was formed as a joint powers authority in 2006 to manage groundwater resources within portions of the NASb, SASb, and portions of the Cosumnes Subbasin. SCGA draws its authority from a joint powers agreement signed by the cities of Elk Grove, Rancho Cordova, Folsom and Sacramento as well as the County of Sacramento to exercise their common police powers to manage the underlying groundwater basin. In turn, these agencies chose to manage the basin in a cooperative fashion by allowing representatives of the 16 local water purveyors and representatives from the agricultural and self-supplied pumper interests to serve as the Board of Directors of the SCGA.

The CSCGMP is the primary planning tool for SCGA. The CSCGMP was formally adopted by SCGA in 2006 and identified the safe yield of the SASb as 273,000 AFY. The emerging rules associated with the Sustainable Groundwater Management Act, however, will likely change the plan. As stated above, the SGMA requires formation of a Groundwater Sustainability Agency and adoption of a Groundwater Sustainability Plan, which may greatly impact the long-term management of the SASb.

As described above, the City overlies the SASb but it does not extract groundwater from the Basin for use on overlying lands. However, Aerojet extracts and treats groundwater for use in the City's water service area for remediation. The public water systems and water service providers that extract water from the SASb include: the California American Water Company, Sacramento County Water Agency, the Golden State Water Company, Elk Grove Water District, and numerous private landowners that possess overlying groundwater rights linked to their property ownership.

The SASb is not adjudicated or considered to be in a state of overdraft. Due to the active planning by water agencies and conjunctive use efforts, the basin will remain stable in the future. The CSCGMP provides for the long-term protection of groundwater quantity and quality within the region, and contains policies directing the development of surface water supplies, conservation, and other measures to service urban development as it occurs, thereby protecting the sustainable annual groundwater yield threshold of 273,000 AF.

6.1.3.5 City Groundwater Development and Use

In the past five years, the City has not pumped groundwater for use in the City's water service area. However, the City has a vested interest in the management of the SASb. The City will continue to work in the SASb to protect its short-term and long-term water management interests, including groundwater banking and conjunctive use options.

In previous years, the City relied on groundwater to serve the area south of U.S. Highway 50, including the areas within the Aerojet area (referred to as the Natomas Nimbus service subarea). During the late 1970's to 1980's, the City recognized the need to develop the conjunctive use of groundwater and surface water to meet future water demands. However, with the recognized contamination of groundwater within the City's water service area from the 1990's to present, the City pursued surface water as the primary source of water supplies, and a reliance on other agencies outside of the Folsom water service area to meet any conjunctive use plans for dry-year water supplies.

However, as technology has improved and uses for remediated water supplies have been identified, the City has embraced using groundwater derived from its service area for certain identified uses. These uses are described in Section 6.1.3.6 below.

6.1.3.6 Groundwater Extraction and Treatment Water

Pursuant to terms of the 2007 Aerojet Agreement between the City and Aerojet, the City acquired rights to treated groundwater produced by Aerojet's GET A and B. The GET A facility consists of extraction wells and a treatment facility. GET A's 17 wells will produce treated water of approximately 537 gallons per minute (GPM). The GET B Facility, also currently consisting of extraction wells and a treatment facility will be extracting approximately 2,077 GPM, of which approximately 1,477 GPM will be made available to the City. In total, these facilities will provide the City with an additional water supply of approximately 3,250 AFY. Water derived from the GET facilities will be used to meet industrial demands within the Aerojet Industrial Property (projected to average 2,731 AFY under the current agreement) as well as other potential non-potable demands throughout the City.

Because the City has not yet developed additional non-potable uses for the GET water supply, the amount of GET water represented will show this supply as only that which is projected to be used by Aerojet industrial facilities. Any GET water remaining above and beyond the demonstrated use by Aerojet can be used by the City for other non-potable demands. In February 2020, the City began an analysis to develop a Non-Potable Water Master Plan, which includes the potential use of GET A/B water within the City's overall water service area.

6.1.3.7 Other Groundwater within the City's Water Service Area

Other groundwater use within the City's water service area is limited to private use by the Empire Ranch Golf Course and as an emergency supply for Intel Corporation. The golf course uses groundwater in the spring and early summer months as a primary source of irrigation water. As the irrigation season progresses, groundwater levels typically decline and the golf course purchases supplemental potable surface supplies from the City. The Intel Corporation has established two emergency backup wells capable of delivering 100 GPM and 15 GPM, respectively.

To better understand the groundwater conditions and supply potential that may underlie the golf course and other areas within the City limits, the City completed a Groundwater Resources Investigation through an AB 303 grant. Two test wells were installed for this study in localized areas of high electrical resistivity in ancestral paleochannels of the American River. These wells are considered to be of the South American Groundwater Sub-basin (5-21.65) of the Sacramento Valley Basin. The two test wells yielded 200 to 400 GPM during short-term pumping tests, but additional aquifer testing would be required to confirm the sustainability of the yields.

In 2014, the City received a Proposition 84 Groundwater Assistance Fund Grant from the Department of Water Resources. The purpose of this study was to implement some recommendations from earlier groundwater studies and expand the understanding and available data for the groundwater resource located in northeastern Folsom. As part of the groundwater study, the City developed and installed the Humbug Well near the Empire Ranch Golf Course. Based on Aquifer test results, initial pump recommendations were developed for eventual outfitting of the Humbug well for use. The aquifer test results indicate that the well can be equipped with a pump capable of producing 150 GPM, which is equivalent to 0.66 AF per day, or approximately 20 AF per month.

6.1.4 Stormwater

The City does not use stormwater as a source for water supply. There are currently no plans to develop stormwater supplies within the City Service Area.

6.1.5 Wastewater and Recycled Water

6.1.5.1 Wastewater Collection, Treatment, and Disposal

The City does not own or operate any wastewater treatment facilities. The City collects wastewater within its service area and discharges all wastewater flows to Sacramento Area Sewer District/Sacramento Regional County Sanitation District (SRCSD) conveyance facilities. City flows are conveyed 30 miles away and are treated at SRCSD's wastewater treatment plant (WWTP) which is located in the City of Elk Grove. The City collections system include approximately 277 miles of gravity sewer and 17 pump stations.

Currently, the SRCSD's WWTP provides secondary treatment consisting of mechanical screening, aerated grit removal, primary settling, activated sludge aeration with pure oxygen, and secondary clarification followed by disinfection. Currently the SRCSD's WWTP is being upgraded to a tertiary system, which will include nutrient removal, filtration, and additional disinfections, to meet the 2010 mandates imposed by the state. Treated wastewater is discharged into the Sacramento River. A portion of wastewater is treated to recycled water standards but is not used within City's water service area.

6.1.5.2 Recycled Water

The City currently does not have a recycled water source or system. The City completed a *Water Recycling Feasibility Study*. This study evaluated the potential use of recycled water in the City's water service area. The study identified two categories of potential recycled water use, landscape irrigation use and non-potable, non-irrigation uses. Based on the finding of the report, a future City recycling program would likely be limited by the availability of supplies and seasonal storage.

Even though no recycled water source has been identified at this time, the City plans to incorporate non-potable water use in the Folsom Plan Area Service Area. Per the 2015 Folsom Plan Area Recycled Water Analysis, it is estimated that annual recycled water demand would be 1,469 AFY. Recycled or non-potable water could be used for irrigation. Use of recycled or non-potable water within Folsom Plan Area Service Area is dependent on recycled or non-potable water availability.

6.1.6 Desalinated Water

Desalination of ocean water is not physically or financially viable for the City. The City has no plans to develop water supplies derived from desalination activities.

6.1.7 Water Exchanges and Transfers

The City has opportunities for water transfers and exchanges. The City is already engaged in one water transfer in transferring its GSWC leased water asset back to GSWC for compensation for GSWC to have a temporary supply to supplant groundwater contamination. Additional opportunities are available. With some creative thinking and willing partnerships, the City could engage in numerous forms of water transfers that may have short-term benefits to the City as well as long-term regional benefits. Some examples of these are described below.

6.1.7.1 Water Forum Transfers

Per the WFA, the City “will enter into agreements with other purveyors that have access to both surface water and groundwater for an equivalent exchange of the amount of reduction needed by Folsom as outlined in Section 6.1.1.6. Under these arrangements, other purveyors will use groundwater in lieu of surface water equivalent to the amount that Folsom would continue to divert.” The City is continuing to identify opportunities to receive water through water transfer mechanisms derived from surface water assets and groundwater assets.

The WFA also provides the City with an opportunity to sell foregone water assets in below normal years. In these years, where Folsom releases its water assets into the Lower American River, it retains its rights to those assets through the confluence of the American and Sacramento Rivers. As such, the City could potentially sell those assets when they are available. Placer County Water Agency, a fellow WFA signatory agency, is selling its foregone water assets under the WFA each year.

6.1.7.2 In Lieu Banking Arrangement with Groundwater Purveyor

The City could engage a water purveyor with surface water assets connected to the Sacramento River watershed and deliver the City’s surface water assets in lieu of the recipient using its groundwater assets. The foregone groundwater assets could be retained as banked groundwater available when surface water is not available or simply left in the ground to recharge the groundwater basin. A potential partner in this sort of water transfer arrangement would be Sacramento County Water Agency with its diversion capabilities from the Sacramento River at Freeport. The benefit of this sort of transaction is that it would relieve pressure on the groundwater basin and preserve the groundwater supplies for dry periods when surface water assets are less available.

A second form of the in lieu banking alternative might include assigning the rights to the banked groundwater to another agency. For instance, if Golden State Water Company could deliver some of its surface water assets directly to the City in normal and wet years, the City could assign a portion of its banked groundwater assets to Golden State Water Company for use in dry years. The in lieu banking and exchange agreement can work where an entity shares surface water and groundwater resources in all portions of the Sacramento Area Groundwater Basin (North, Central and South).

6.1.7.3 Water Conservation Based Transfers

The City is experiencing significant per capita water savings by instituting water conservation activities. Under Water Code Section 1011, all water conserved by the City remains the property of the City for its intended uses and disposition. Thus, where conservation efforts result in reduced consumptive uses, the City is able to transfer those water assets to willing buyers. These buyers may be local water purveyors or those in far-away places – even south of the Delta. Accordingly, the City may develop conservation based water transfers and receive compensation.

6.1.7.4 Water Reclamation Based Transfers

As noted in Section 6.1.3.6 above, the City has acquired and is using GET reclaimed water assets to meet specific demands in lieu of potable water deliveries.²⁵ Water Code Section 1010 protects the City's potable supplies for the City's uses. But in addition to that protection, Section 1010 indicates that the preserved water assets may be available for direct transfer because they are based on a reclaimed asset offset. This offset is similar to a conservation based transfer as water that is "reclaimed from an unusable source" is now made available for water usage.

6.1.7.5 Groundwater Substitution Transfers

The reclaimed water transfer described above may also be characterized as a groundwater substitution transfer. Under this characterization, the City is using water derived from groundwater sources to offset surface water that is normally delivered to Aerojet. Thus, the utilization of groundwater in lieu of surface water is one of the primary mechanisms for short-term water transfers in dry years. The City is well-positioned to demonstrate this type of water transfer.

6.1.7.6 Direct Water Transfers

Last, but probably most important, is the City's ability to directly transfer its surface water assets to other users. This form of transfer essentially allows the City to continue its full water usage but transfer surplus water to other legal users in the system. The City can manifest this type of transfer through its pre-1914 appropriative water rights as well as its CVP contract entitlement.

Under the City's pre-1914 appropriative water rights, the City has the ability to simply deliver the water to a new place of use without the approval of the State Water Resources Control Board. In other words, the City can move this water asset without the express permission of a regulatory entity. The regulatory entity would need to challenge the delivery as causing injury. The City has engaged in this transfer by delivering its pre-1914 appropriative water rights water to GSWC in exchange for money. Although this did not expand the place of use of the pre-1914 right because of the co-tenancy agreement, it did set in motion the ability to deliver the asset to other legal users without express approval of other agencies.

The City could also deliver its CVP Contract Entitlement to other legal users in the American River Watershed. Under the Central Valley Project Improvement Act, in watershed water users that share contract rights for water supplies are allowed to transfer the entirety of their contract entitlement to other CVP users. This paper water transfer was one of the important regional requests in developing and implementing this law. The American River contractors have never implemented this rule. However, neighboring agencies on the Sacramento River – the City of West Sacramento – has engaged in lucrative water transfers through this narrow Central Valley Project Improvement Act provision.

6.1.8 Future Water Projects

The City currently does not have any future water supply projects.

²⁵ The water code considers use of water that is "polluted by waste to a degree which unreasonably affects the water for other beneficial uses" as protecting water assets otherwise available under Water Code Section 1010.

6.1.9 Summary of Existing and Planned Water Supply

Table 6-3 summarizes the City's existing and planned water supply.

Table 6-3. Existing and Planned Water Supply, AFY

	2020	2025	2030	2035	2040	2045
Pre-1914 Appropriative Right	22,000	22,000	22,000	22,000	22,000	22,000
Pre-1914 Appropriative Right	5,000	5,000	5,000	5,000	5,000	5,000
CVP Repayment Contract	7,000	7,000	7,000	7,000	7,000	7,000
SJWD Agreement	1,100	1,100	1,100	1,100	1,100	1,100
GET A and GET B Raw Supply	3,250	3,250	3,250	3,250	3,250	3,250
Total Water Supply	38,350	38,350	38,350	38,350	38,350	38,350

6.2 Energy Intensity

The City's latest energy data is provided within the 2014 AB32 Water Energy Assessment prepared for Sacramento Municipal Utility District and RWA.

The City's water system contains nine booster pump stations and one water treatment plant. Based on 2009 through 2011 data, the City produces an average of 7,692 million gallons (MG) of water and uses 7,433,515 kilowatts hours (kWh) per year. The City purchases an average of 462 MG per year from SJWD. Average annual energy intensity for Folsom's system, excluding purchased water, is calculated to be 966 kWh/MG. Average annual energy intensity including purchased water is 912 kWh/MG.

The City's efficiency measures include mPOWER California Financing, which allows residential and non-residential property owners to finance energy and water efficiency upgrades on homes and businesses with no money down and repay the cost over time on their property tax bill.

Chapter 7 Water Service Reliability and Drought Risk Assessment

The purpose of this chapter is to compare the total water supply sources available to the City with the total projected water use over the next 25 years, in five-year increments, for a normal water year, a single-dry water year, and 5-year drought water years. Water supply and demand data presented in this Chapter is from Chapters 4 and 6 of this UWMP.

7.1 Water Service Reliability Assessment

The City's water supplies are stable and reliable. The City's surface water assets on the American River are well documented and well preserved. The City's groundwater assets manifesting from GET A and GET B are also well documented and protected for the City's uses. And the WFA curtailments are merely voluntarily implemented until the City has access to additional water resources provided by the other WFA participating water agencies.

7.1.1 Constraints on Water Sources

The City's water source impacts from climatic, legal, environment or water quality constraints are summarized in Table 7-1.

IN THIS CHAPTER

- Water Service Reliability Assessment
- Drought Risk Assessment

Table 7-1. Water Supply Constraints

WATER SUPPLY SOURCES	SPECIFIC SOURCE NAME	CLIMATIC CONSTRAINTS	LEGAL CONSTRAINTS	ENVIRONMENTAL CONSTRAINTS	WATER QUALITY CONSTRAINTS
Surface Water	Pre-1914 Rights for 22,000 AFY	-	✓	-	-
	Pre-1914 Rights for 5,000 AFY	-	✓	-	-
	CVP Repayment Contract for 7,000 AFY	✓	✓	✓	-
Purchased Water	SJWD Agreement	✓	✓	✓	-
Groundwater	GET A and GET B Raw Supply	✓	✓	✓	✓

Climatic constraints include hydrological circumstances, like a drought. Legal constraints include contractual relationships, like the WFA. Environmental constraints include issues like species protection in the Sacramento-San Joaquin Bay Delta. Water quality constraints would include issues with groundwater or surface water sources.



7.1.2 Year Type Characterization

The water service reliability and drought risk assessment analyze supply over several water years: normal, single dry, and multiple dry years. DWR defines these years as:

- **Normal Year:** This condition represents the water supplies a supplier considers available during normal conditions. This could be a single year or averaged range of years that most closely represents the average water supply available.
- **Single Dry Year:** The single dry year is recommended to be the year that represents the lowest water supply available.
- **Five-Consecutive Year Drought:** The driest five-year historical sequence for the Supplier, which may be the lowest average water supply available for five years in a row.

Table 7-2 and the following summarize the City's available supply for these water years. Additional detail for each supply's reliability is available in Chapter 6.

Pre-1914 Appropriative Right for 22,000 AFY – Under this agreement, Reclamation must deliver the entire supply under this water asset in all year types.

Pre-1914 Appropriative Right for 5,000 AFY – Under this agreement, Reclamation must deliver the entire supply under this water asset in all year types.

CVP Repayment Contract for 7,000 AFY – The baseline reduction is due to the CVP M&I Shortage Policy reducing the Fazio Water supply between 25 and 75% depending on the year type. For a five-consecutive year drought, it is assumed the Fazio Water supply would decrease similar to the reduction seen during the drought during the 2012-2016 drought, with reductions reaching 75% by the fifth year.

SJWD Agreement – SJWD could reduce allocations to the City in times of water shortage. It would reduce its deliveries to the City in pursuant to SJWD's "Surface Water Supply and Water Shortage Management Plan."²⁶ At this time, SJWD has significant water assets that are very reliable and curtailment of the water supplies is unlikely. Nevertheless, out of an abundance of caution this supply is reduced to 720 AF (approximately 35%) starting the second year of the second year of the five-consecutive year drought.

Table 7-3 summarizes the available supply for the each of the year types.

²⁶ Article 6 H San Juan Water District and City of Folsom Wholesale Water Supply Agreement as amended by Amendment 1 to San Juan Water District and City of Folsom Wholesale Water Supply Agreement dated January 1, 2011.

Table 7-2. Supply Percent Reduction per Year Type

	NORMAL YEAR	SINGLE YEAR	MULTIPLE YEAR				
			YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Pre-1914 Appropriative Right for 22,000 AFY	0%	0%	0%	0%	0%	0%	0%
Pre-1914 Appropriative Right for 5,000 AFY	0%	0%	0%	0%	0%	0%	0%
CVP Repayment Contract for 7,000 AFY	0%	25%	25%	25%	50%	50%	75%
Ashland Area Contract	0%	0%	0%	35%	35%	35%	35%
GET A and GET B Raw Supply	0%	0%	0%	0%	0%	0%	0%

Table 7-3. Water Supply Reliability

	NORMAL YEAR	SINGLE YEAR	MULTIPLE YEAR				
			YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Pre-1914 Appropriative Right for 22,000 AFY	22,000	22,000	22,000	22,000	22,000	22,000	22,000
Pre-1914 Appropriative Right for 5,000 AFY	5,000	5,000	5,000	5,000	5,000	5,000	5,000
CVP Repayment Contract for 7,000 AFY	7,000	5,250	5,250	5,250	3,500	3,500	1,750
Ashland Area Contract	1,100	1,100	1,100	720	720	720	720
Total Potable Supply	35,100	33,350	33,350	32,970	31,220	31,220	29,470
GET A and GET B Raw Supply	3,250	3,250	3,250	3,250	3,250	3,250	3,250
Total Water Supply	38,350	36,600	36,600	36,220	34,470	34,470	32,720

7.1.3 Water Service Reliability

This section compares projected supplies and demands for a normal year, single-dry year, and five-year consecutive drought.

As shown in Table 7-4 through Table 7-6, the City is projected to meet all unrestricted demands during a normal, single-dry year and a five-consecutive year drought with existing supplies.

Table 7-4. Normal Year Supply and Demand Comparison, AFY

	2025	2030	2035	2040	2045
Supply Totals	38,350	38,350	38,350	38,350	38,350
Demand Totals	20,517	22,746	24,214	25,145	25,519
Difference:	17,833	15,604	14,136	13,205	12,831

Table 7-5. Single Dry Year Supply and Demand Comparison, AFY

	2025	2030	2035	2040	2045
Supply Totals	36,600	36,600	36,600	36,600	36,600
Demand Totals	20,517	22,746	24,214	25,145	25,519
Difference:	16,083	13,854	12,386	11,455	11,081

Table 7-6. Five-Consecutive Year Supply and Demand Comparison, AFY

		2025	2030	2035	2040	2045
First Year	Supply Totals	36,600	36,600	36,600	36,600	36,600
	Demand Totals	20,517	22,746	24,214	25,145	25,519
Difference:		16,083	13,854	12,386	11,455	11,081
Second Year	Supply Totals	36,220	36,220	36,220	36,220	36,220
	Demand Totals	20,517	22,746	24,214	25,145	25,519
Difference:		15,703	13,474	12,006	11,075	10,701
Third Year	Supply Totals	34,470	34,470	34,470	34,470	34,470
	Demand Totals	20,517	22,746	24,214	25,145	25,519
Difference:		13,953	11,724	10,256	9,325	8,951
Fourth Year	Supply Totals	34,470	34,470	34,470	34,470	34,470
	Demand Totals	20,517	22,746	24,214	25,145	25,519
Difference:		13,953	11,724	10,256	9,325	8,951
Fifth Year	Supply Totals	32,720	32,720	32,720	32,720	32,720
	Demand Totals	20,517	22,746	24,214	25,145	25,519
Difference:		12,203	9,974	8,506	7,575	7,201

7.2 Drought Risk Assessment

A new provision of the Water Code directs Suppliers to prepare a DRA. The DRA considers a drought period lasting five consecutive years, starting from the year following the when the assessment is conducted. For this UWMP, the DRA considers five consecutive dry years from 2021 through 2025. The City may conduct an interim update or updates to this DRA within the five-year cycle of its UWMP update.

The DRA analysis allows the City to examine the management of its supplies during stressed hydrologic conditions and an opportunity to evaluate if they may need to enact its WSCP during the next actual drought period lasting at least five years.

The projected gross water use for the five-year DRA is based on unrestricted potable demand.

The reliability of supplies over a five-consecutive year drought is described in Section 7.1.2. Table 7-7 compares the total projected supply and demand for the 5-year DRA for 2021 through 2025. As shown, the City does not expect to enact its WSCP for a 5-year consecutive year drought based on the unrestricted potable demand projections and the current supply portfolio and reliability.

Table 7-7. Five-Consecutive Year Drought

2021	Gross Water Use	20,022
	Total Supplies	36,600
	SURPLUS/SHORTFALL WITHOUT WSCP ACTION	16,578
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	--
	WSCP (Use Reduction Savings Benefit)	--
	Revised Surplus/Shortfall	16,578
	RESULTING PERCENT USE REDUCTION FROM WSCP ACTION	0%
2022	Gross Water Use	20,146
	Total Supplies	36,220
	SURPLUS/SHORTFALL WITHOUT WSCP ACTION	16,074
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	--
	WSCP (Use Reduction Savings Benefit)	--
	Revised Surplus/Shortfall	16,074
	RESULTING PERCENT USE REDUCTION FROM WSCP ACTION	0%
2023	Gross Water Use	20,270
	Total Supplies	34,470
	SURPLUS/SHORTFALL WITHOUT WSCP ACTION	14,200
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	--
	WSCP (Use Reduction Savings Benefit)	--
	Revised Surplus/Shortfall	14,200
	RESULTING PERCENT USE REDUCTION FROM WSCP ACTION	0%
2024	Gross Water Use	20,394
	Total Supplies	34,470
	SURPLUS/SHORTFALL WITHOUT WSCP ACTION	14,076
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	--
	WSCP (Use Reduction Savings Benefit)	--
	Revised Surplus/Shortfall	14,076
	RESULTING PERCENT USE REDUCTION FROM WSCP ACTION	0%
2025	Gross Water Use	20,517
	Total Supplies	32,720
	SURPLUS/SHORTFALL WITHOUT WSCP ACTION	12,203
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	--
	WSCP (Use Reduction Savings Benefit)	--
	Revised Surplus/Shortfall	12,203
	RESULTING PERCENT USE REDUCTION FROM WSCP ACTION	0%

Chapter 8 Water Shortage Contingency Plan

This WSCP is a detailed plan for how the City intends to respond to foreseeable and unforeseeable water shortages. A water shortage occurs when the supply is reduced to a level that cannot support the normal demand at any given time or if the state mandates a cutback regardless of supplies. The intent of this document is to provide guidance to the City's governing body, its staff, and the public by identifying anticipated water shortages and response actions to allow for efficient management of any water shortage with predictability and accountability. Good preparation provides the tools to maintain reliable supplies and reduce the impacts of supply interruptions due to extended drought or catastrophic supply interruptions. This document describes the following:

IN THIS CHAPTER

- Water Shortage Contingency Plan Overview

1. **Water Supply Reliability Analysis:** Identifies the key issues that may trigger a shortage condition within the service area.
2. **Annual Water Supply and Demand Assessment Procedures:** Describes the methodology for assessing the system's reliability for the coming year and the steps to formally approve any water shortage levels and response actions.
3. **Six Standard Shortage Stages:** Establishes water shortage levels to clearly identify and prepare for shortages.
4. **Shortage Response Actions:** Describes the response actions that may be implemented or considered for each stage to reduce gaps between supply and demand.
5. **Communication Protocols:** Describes communication protocols to ensure customers, the public, and government agencies are informed of shortage conditions and requirements.
6. **Compliance and Enforcement:** Defines compliance and enforcement actions available to administer demand reductions.
7. **Legal Authority:** Lists the legal authorities available to declare a water shortage and implement and enforce response actions.
8. **Financial Consequences of WSCP Implementation:** Describes the anticipated financial impact of implementing water shortage stages and identifies mitigation strategies.
9. **Monitoring and Reporting:** Summarizes the monitoring and reporting techniques to evaluate the effectiveness of shortage response actions and overall WSCP implementation. Results are used to determine if additional shortage response actions should be activated or if efforts are successful and response actions should be adjusted.
10. **WSCP Refinement Procedures:** Discusses the factors that may trigger updates to the WSCP as new information becomes available.
11. **Special Water Features Distinctions:** Identifies exemptions for pools and spas.
12. **Plan Adoption, Submittal, and Availability:** Describes the process for the WSCP adoption, submittal, and availability after each revision.

The City's WSCP is a standalone document that can be modified as needed and is included as Appendix E.

Chapter 9 Demand Management Measures

9.1 Existing Demand Management Measures for Retail

Consistent with the requirements of the CWC, this Chapter describes the required demand measurement measures (DMM) that have been implemented in the past five years and will continue to be implemented into the future.

9.1.1 Water Waste Prevention Ordinances

The City actively enforces prohibitions against wasteful use of water in Folsom Municipal Code 13.26. These prohibitions include, but are not limited to, prohibiting the irrigation of landscaping within 48 hours of rainfall of at least 1/10" of rain, prohibiting overfilling of any pond, pool, or fountain, and prohibiting any water flowing away from property caused by excess application of water. The City enforces these restrictions regardless of the availability of water.

9.1.2 Metering

The City's water system is fully metered with completion of their meter program and the City is able to understand the characteristics of its customers' use. To assist with this understanding, the City maintains a database of meter use information, categorized by land use classification. Existing customers are categorized into a number of classifications in the meter database including but not limited to: single family residential, multi-family residential, commercial, industrial, schools, and municipal.

9.1.3 Conservation Pricing

Conservation pricing is designed to discourage wasteful water habits and encourage conservation. The City has a uniform rate structure for all customer classes except for the single-family class which has an increasing block rate structure, that was most recently updated in 2020.

IN THIS CHAPTER

- Existing Demand Management Measures for Retail
- Implementation Over the Past Five Years
- Implementation to Achieve Water Use Targets

9.1.4 Public Education and Outreach

The City participates in variety of outreach programs to promote water conservation, sustainable landscaping, and efficient irrigation. In 2019, the City participated in 15 such events, including Cal ISO Earth Day, Green Acres Fall Festival, Intel Earth Day, the Theodora Judah STEM Fair, and the Kaiser Earth Day. Due to COVID, outreach events were reduced and were held virtually.

Other public outreach programs include EcoLandscape California which supports the Green Gardener for professional landscapers.

The City trains its staff as “Get WET” training facilitators and offers training to the local school district. It also provides educational material including student newspaper supplements geared towards K-8th graders, Be Water Smart News teacher’s guide, and a colorful “California Waterways Map” provided by the California Department of Water Resources to grades 4-8.



City Conservation staff at Folsom’s Community Service Day 2016.
Installing high-efficiency rotary sprinkler nozzles at a low income apartment complex.



City Conservation staff at a local preschool with our Conservation mascot Mr. Leaky.



Mr. Leaky at Thursday Night Market on Sutter Street in Folsom.

9.1.4.1 Regional Public Education and Outreach Programs

In addition to local public education and outreach programs, the City also participates in a regional public education and outreach program through the RWA. The RWA is a joint powers authority formed in 2001 to promote collaboration on water management and water supply reliability programs in the greater Sacramento, Placer, El Dorado, Yolo, and Sutter counties. In collaboration with 19 water provider members and other wastewater, stormwater, and energy partners, RWA formed the Water Efficiency Program (WEP) in 2001 to bring cost effectiveness through economies of scale to public education and outreach activities.

The WEP operates on an average annual budget of \$530,000 and is supplemented by grant funding. Grants are an important funding resource for the Program. Since 2003, the Program has been awarded \$13.2 million in grant funding for public outreach and education as well as a variety of rebate programs, fixture direct install programs, system water loss, individualized customer usage reports, large landscape budgets and more. Of those funds, \$3.8 million was awarded between 2016 and 2020.

The main function of the WEP is to develop and distribute public outreach messages to customers in the region by collaborating with its water provider members. The Program distributes these messages on a regional scale through regional media and advertising buys and was honored with the United States Environmental Protection Agency WaterSense Excellence in Education and Outreach Award in 2016. From 2016-2020, the WEP created a series of public outreach campaigns. Below is a summary of each campaign and highlighted achievements.



A Conservation Specialist performing a Water Wise House Call with a Folsom resident.

Following the historic 2015 California drought, the WEP launched the “Rethink Your Yard” Campaign in 2016 with a focus on prioritizing landscape watering, putting trees first and transitioning thirsty lawn and landscaping to beautiful, low water use, River-Friendly landscapes. The Program advertised the campaign through online ads, social media, commercial radio, Raley Field (local baseball stadium), and local billboards. The campaign featured local homeowners with their newly redesigned yards on billboards throughout the region.

The campaign launched in 2017 focused on encouraging customers to understand and deliver the amount of water their landscape really needs and to make permanent equipment changes to improve efficiency such as installing weather-based irrigation controllers, more efficient sprinklers, and drip irrigation. The Program partnered on this messaging with local nurseries through a “Get Growing this Fall” initiative to encourage residents to plant in the fall when days are cooler and plants don’t need as much water to establish roots.

From 2018 through 2020, the regional campaign focused on tackling the landscape overwatering problem with a “Check and Save” message encouraging residents to check the soil moisture with a moisture meter before turning on sprinklers. To support this message, the Program provided free froggy moisture meters via an online request form and at events. In 2019, WEP distributed 3,000 moisture meters to customers throughout the region.

These campaigns are implemented through both paid advertising buys and earned media from public service announcements (PSAs). Every year the campaigns can be heard on local radio stations such as Capital Public Radio and online through google, Facebook, and YouTube advertisements. From 2016-2020, the WEP public outreach campaigns production is summarized in Table 9-1.

Table 9-1. WEP Advertising Summary

MEDIA TYPE	DETAILS	IMPRESSIONS
Radio	3,443 radio advertisements ran	17.2 million impressions
Digital	Facebook, Google Display Network, Spotify – 1.8 million digital advertisements ran (262,900 clicks)	24.3 million impressions
Billboards	Billboards throughout region	51.6 million impressions
Public Service Announcements	\$570,000 in value had they been purchased as advertising.	20 million impressions

The Program also continues messaging through its own Facebook page. From 2016-2020, the Program created about 60 Facebook posts a year featuring water saving tips and other relevant information. The WEP hosted several Facebook sweepstake contests including: Tree Hugger in 2016, where participants submitted pictures hugging a tree to raise awareness about the importance of healthy trees and the Under/Over Debate in 2020, where participants were asked to weigh in what is the proper way to hang toilet paper to raise awareness of toilet leaks. The winner of the Under/Over Debate sweepstakes received a case of toilet paper delivered via mail and gift card to a local hardware store.

The Program continues to utilize our public outreach website bewatersmart.info to reach customers throughout the region. The website contains regional and local water provider information on rebates and services, top ways to save, an interactive watering and water waste information map, a water-wise gardening database, recent press releases, the Sacramento Smart Irrigation Scheduler tool, and more. Educational information and customer services were modified to address the COVID pandemic in 2020 including online water efficiency lessons for kids, a list of nurseries that offered curbside pickup, virtual water wise house calls, and numerous virtual educational customer workshops. Between 2016 and 2020, the website averaged 96,000 unique visitors per year.

For more targeted outreach, the Program distributed quarterly e-newsletters to participating residents. The e-newsletters are filled with water savings tips, upcoming events, and other interesting articles. They are usually timed around changes in the weather to help signal the need for residents to adjust their irrigation systems, such as day light savings coupled with a message to dial back sprinkler systems. The e-newsletter reaches 6,300 households.

Every year the WEP selects 3 public events to attend for the public to interact with local water efficiency staff. This provides an opportunity for the region to communicate its messages in person. Events have included the Sacramento Home & Landscape Show at Cal Expo, Creek Week, Harvest Day, Farm-to-Fork Festival, and several Earth Day events. Additionally, RWA, in coordination with participating local water providers, hosts an annual Mulch Mayhem event in which customers can pick up a truck load of free mulch from selected locations throughout the region. All in-person regional events were canceled in 2020 due to the COVID pandemic.

The Program is also very active in communicating to local media outlets such as the Sacramento Bee. Between 2016 and 2020, RWA issued 50 press releases on WEP activities and regionally significant news and participated in nearly 30 radio public affairs interviews. The RWA and the WEP were mentioned in dozens of news articles published by local and regional media outlets both within and outside of the Sacramento region during the same time frame.

To support public outreach messaging and water savings tips, the Program also coordinated several regional rebate programs, which were partially funded by state and federal grants. A variety of rebate options were provided including toilets, clothes washers, and irrigation efficiencies (full summary in Table 9-2). Collectively these rebates and installations will produce an estimated lifetime (10 years) savings of 6 billion gallons of water and 6.4 million kilowatt hours of energy. The City is currently participating in the High Efficiency Clothes Washers, High Efficiency Toilets, and smart irrigation controllers rebate programs. Between 2016-2018, the City also participated in the Turf Replacement rebate.

Table 9-2. Regional Rebates and Installation from 2016-2020

REBATE/INSTALLATION TYPE	2016	2017	2018	2019	2020	LIFETIME WATER SAVINGS 2016–2020 (MG)	LIFETIME ENERGY SAVINGS 2016–2020 (KWH)
High Efficiency Clothes Washers Rebates	491	480	453	366	518	111.2	118,094
High Efficiency Toilets Rebates	4,494	3,124	2,255	1,868	904	512.3	544,076
Smart Irrigation Controllers Rebates	245	358	801	556	1,298	667.9	709,299
Irrigation Efficiencies Rebates ¹	21,271	5,879	5,538	1,724	NA	3,786.4	4,021,178
Turf Replacement Rebates (square feet)	376,613	584,535	236,064	85,375	NA	474.6	503,980
Toilet Direct Installation	1,943	4,542	968	NA	NA	237.4	252,066
Showerhead Direct Installation	1,141	2,512	704	NA	NA	222.6	236,447
Faucet Aerators Direct Installation	1,162	4,314	317	NA	NA	18.5	19,648
Urinal Direct Installation	NA	403	73	NA	NA	10.2	10,878
Total Water Savings per Year/Lifetime (MG)	285.9	138.2	104.4	42.9	32.8	6,041.1	
Total Energy Savings per Year/Lifetime (kWh)²	303,626	146,717	110,915	45,509	34,799		6,425,665

1. Includes pressure regulator equipment, pipe and pipe fittings, drip or low volume equipment, and sprinkler heads or nozzles.

2. Regional average of 1,062 kilowatt hours per MG.

In addition to public outreach, the Program also coordinates school education activities. Since 2012, the Program has hosted the Water Spots Video Contest for high school and middle school students. The WEP provides a new contest theme each year and provides the region's teacher and students with relevant facts and images to help develop 30 second video PSAs. Students submit their videos to RWA who hosts a panel of local celebrities including Monica Woods from ABC 10 to decide on a first, second, and third place winner. The top 10 scoring videos are then posted online for public voting to select a "people's choice" winner as well. Both teachers and student receive cash prizes and the winning videos are played at Raley Field during River Cats games and in select movie theaters throughout the region. The winning PSAs are incorporated into the WEP's media activities as well. Past themes include *WATER MYTHS BUSTED!*, *H2o Hero*, and *Show Off Your Water Smarts*. Between 2016 and 2019, 450 videos were submitted (average of 90 videos a year). The 2020 Water Spots Video Contest was canceled due to the COVID-19 pandemic.

9.1.5 Programs to Assess and Manage Distribution System Real Losses

The City uses the AWWA Water Audits to perform and validate water audits in compliance with Senate Bill 555. The City will continue to utilize the water audits and validations to assess areas for water loss improvements.

Since establishing the City's Water Loss Control Program in 2009 the City contracts third party city-wide comprehensive leak detection approximately every 3 to 5 years. The number of miles surveyed during each round of leak detection from 2011 to present ranges between 330 miles and 400 miles as development within Folsom continues. Additionally, the City's Utility Maintenance Division performs yearly in-house leak detection.

9.1.6 Water Conservation Program Coordination and Staffing Support

The City of Folsom created the Water Management Coordinator position in December of 2000 to oversee water conservation activities. The position is a permanent full-time position. The coordinator is required to possess a Water Conservation Practitioner certification from the AWWA and be an Irrigation Association Certified Landscape Irrigation Auditor. The coordinator's background includes experience in landscape, horticulture, irrigation, plumbing, public speaking, and administrative or business management. In addition to the coordinator's position, the City also has two full-time Water Management Specialists.

9.1.7 Other Demand Management Measures

The City provides large landscape irrigation audits, rebates, and water wise house calls in addition to the DMMs previously discussed in this section.

Large landscape irrigation audits provide a more detailed evaluation of irrigation systems for our customers with larger landscapes. In 2019, one commercial and 452 single family water audits were performed.

The rebate programs offered by the City include an Irrigation efficiency upgrade, a high efficiency toilet rebate, and a Rachio Smart Controller rebate program. The Rachio Smart Controller Program provides a 65% rebate on a Rachio 3 Smart Sprinkler Controller through a partnership with the City, the RWA, and local water providers. Rebates have been offered through an application process on a first come, first served basis.

Water Wise House calls are offered by the City to provide a free evaluation of indoor and outdoor water use for residential water customers which includes an irrigation checkup. This service is also available for schools, parks, and commercial businesses and the City also offers presentations on water use issues for groups at educational events.

9.2 Implementation over the Past Five Years

Table 9-3 summarizes the DMM implementation over the past five years. As discussed in Chapter 5, the City has met its 2020 water use target. However, the City will be diligent in continuing the use of the above described DMMs to continue conservation.

Table 9-3. DMM Activities over the Past Five Years

DMM ACTIVITIES	2016	2017	2018	2019	2020
Audits	342	349	379	452	223
Phone Calls	7,033	6,269	7,449	7,760	7,604
Water Waste Interventions	741	1,929	2,066	2,214	2,028
Water Waste Notices		204	160	168	141
High Use Calls²	-	-	-	-	215
Leak Responses²	-	-	-	-	1,024
Events Outreach	33	12	19	15	5
Education Attended	25	22	10	22	17
Regional Meetings	12	20	26	24	32

¹ During 2020, in-person visits and meetings (water audits and outreach events) were reduced because of COVID-19 from 3/2020 - 7/2020.

² Categories for High Use Calls and Leak Response were added in 2020. Water Waste Notices, High Use, and Leak Response are subsets of Water Waste Interventions.

9.3 Implementation to Achieve Water Use Targets

The City is currently evaluating indoor, outdoor, and water loss regulations and identifying next steps to meet these standards. As part of this evaluation, the City will be identifying any additional DMM, not yet used by the City, to reduce water use. This analysis will be documented in the Water Use Efficiency TM that will be finalized in the summer of 2020.

Chapter 10 Plan Adoption, Submittal, and Implementation

Current year information required by Water Code would include the year 2020. As such, 2020 UWMPs would include the water use and planning data for the entire year of 2020. This means that if a Supplier is reporting on a calendar year basis, the 2020 UWMP cannot be completed before the end of the calendar year 2020. However, if a Supplier is reporting on a fiscal year basis, they may complete their 2020 UWMP at the end of their fiscal year.

10.1 Notice of Public Hearing

Prior to adoption of its UWMP, the City held a public hearing regarding its UWMP and WSCP on June 8, 2021. Before the hearing, the City made a draft of the UWMP and WSCP available for public inspection on the City's website and at Folsom City Hall at 50 Natoma Street. Pursuant to CWC Section 10642, general notice of the public hearing was provided through publication of the hearing date and time, and posting of the hearing at City Hall. The City Council received comments at the public hearing.

As part of its public hearing, the City received community input regarding its implementation plan for complying with the water conservation requirements contained in CWC § 10608.20 et seq., including the implementation plan's economic impacts. Also, at the public hearing, the District presented the method for determining its urban water use target pursuant to CWC § 10608.20(b).

A summary of the cities, counties and other agencies and entities that the City coordinated with prior to the public hearing is included in Section 2.3 of the UWMP.

10.2 Public Hearing and Adoption

The City adopted its 2020 UWMP on June 8, 2021. A copy of the adopted 2020 UWMP will be provided to the Sacramento County and the California State Library, and posted onto the City's website.

The 2020 UWMP and WSCP were publicly reviewed in a Public Hearing at the regularly scheduled City Council meeting on June 8, 2021. This hearing provided the cities and counties and other members of the public a chance to review the staff report and attend the hearing to provide comment. The public hearing took place before the adoption allowing the opportunity for the report to be modified in response to public input before adoption. Following the public hearing, the 2020 UWMP and WSCP were adopted by the City on June 8, 2021.

IN THIS CHAPTER

- Notice of Public Hearing
- Public Hearing and Adoption
- Plan Submittal
- Public Availability
- Notification to Public Utilities Commission
- Amending an Adopted UWMP or Water Shortage Contingency Plan

10.3 Plan Submittal

The 2020 UWMP and WSCP were formally adopted June 8, 2021. A copy of the Adoption Resolutions are included in Appendix F. A hard copy of the 2020 UWMP and WSCP were sent to the California State Library, DWR (electronically using the WUEdata reporting tool), and all cities and counties within the City's water service area within 30 days of adoption.

10.4 Public Availability

To fulfill the requirements of Water Code Section 10642 of the UWMPA, the City made the 2020 UWMP available online at the City's website and at Folsom City Hall at 50 Natoma Street for public review, within 30 days of adoption.

10.5 Notification to Public Utilities Commission

The City submitted the 2020 UWMP and WSCP to the California Public Utilities Commission.

10.6 Amending an Adopted UWMP or Water Shortage Contingency Plan

Amendments to the City's 2020 UWMP and WSCP will be made on an as needed basis. Should the City need to amend the adopted 2020 UWMP or WSCP in the future, the City will hold a public hearing for review of the proposed amendments to the document and send a 60-day notification letter to all cities and counties within their service area and notify the public in same manner as set forth in this UWMP. Once the amended document is adopted, a copy finalized version will be distributed to the California State Library, DWR (electronically using the WUEdata reporting tool), and all cities and counties within the City's water service area within 30 days of adoption. The finalized version will also be made available to the public both online on the City's website and in person at Folsom City Hall at 50 Natoma Street office for public review during normal business hours.

Appendix A DWR Checklist and DWR Standardized Tables

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and Overview	Chapter 1
x	x	Chapter 1	10630.5	Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	Section 1.1
x	x	Section 2.2	10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Chapter 2
x	x	Section 2.6	10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.3
x	x	Section 2.6.2	10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan Preparation	Section 2.1
x		Section 2.6, Section 6.1	10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	Appendix C
	x	Section 2.6	10631(h)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	-
x	x	Section 3.1	10631(a)	Describe the water supplier service area.	System Description	Section 3.1
x	x	Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.2
x	x	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Section 3.3
x	x	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	Section 3.3.2
x	x	Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Section 3.3
x	x	Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	Section 3.4
x	x	Section 4.2	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.1
x	x	Section 4.2.4	10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	Section 4.1.2
x	x	Section 4.2.6	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans and other policies or laws.	System Water Use	Section 4.1.3 and Section 4.1.4.3
x	x	Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	Section 4.1.4.4
x	optional	Section 4.3.2.4	10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	Section 4.1.2
x	optional	Section 4.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.2
x	x	Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	Section 4.3
x		Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Chapter 5, Appendix B
x		Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Chapter 5, Appendix B
	x	Section 5.1	10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	-
x		Section 5.2	10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	-
x		Section 5.5	10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	-
x		Section 5.5 and Appendix E	10608.4	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	Appendix B
x	x	Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.	System Supplies	Section 7.1.2
x	x	Sections 6.1	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, <i>including changes in supply due to climate change.</i>	System Supplies	Section 7.1.2
x	x	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	Chapter 6

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	Chapter 6
x	x	Section 6.2.8	10631(b)	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.	System Supplies	Section 6.1.9
x	x	Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.1.3.5
x	x	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.1.3
x	x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	Section 6.1.3
x	x	Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.1.3
x	x	Section 6.2.2.1	10631(b)(4)(B)	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	Section 6.1.3
x	x	Section 6.2.2.4	10631(b)(4)(C)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years.	System Supplies	Section 6.1.3
x	x	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Section 6.1.3.5
x	x	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.1.3.5
x	x	Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.1.5.1
x	x	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.1.5.2
x	x	Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.1.5.2
x	x	Section 6.2.5	10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.1.5.2
x	x	Section 6.2.5	10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 6.1.5.2
x	x	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.1.5.2
x	x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.1.6
x	x	Section 6.2.5	10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area with quantified amount of collection and treatment and the disposal methods.	System Supplies (Recycled Water)	Section 6.1.5
x	x	Section 6.2.8, Section 6.3.7	10631(f)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.	System Supplies	Chapter 6
x	x	Section 6.4 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	System Suppliers, Energy Intensity	Section 6.2
x	x	Section 7.2	10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability.	Water Supply Reliability Assessment	Chapter 6
x	x	Section 7.2.4	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Chapter 6
x	x	Section 7.3	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Chapter 7.1.3
x	x	Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water Supply Reliability Assessment	Chapter 7.2
x	x	Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.	Water Supply Reliability Assessment	Chapter 7.1.2
x	x	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	Chapter 7.1.2
x	x	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	Chapter 7.1.3
x	x	Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	Chapter 7.1.2

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Chapter 8
x	x	Chapter 8	10632(a)(1)	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP	Water Shortage Contingency Planning	
x	x	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	
x	x	Section 8.2	10632(a)(2)(A)	Provide the written decision-making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	
x	x	Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	
x	x	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water Shortage Contingency Planning	
x	x	Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	
x	x	Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	
x	x	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	
x	x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	
x	x	Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.	Water Shortage Contingency Planning	
x	x	Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water Shortage Contingency Planning	
x	x	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	
x	x	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	
x	x	Section 8.5 and 8.6	10632(a)(5)(B) 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water Shortage Contingency Planning	
x		Section 8.6	10632(a)(6)	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	
x		Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	
x	x	Section 8.7	10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	
x	x	Section 8.7	10632(a)(7)(C)	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water Shortage Contingency Planning	
x	x	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	
x	x	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	
x		Section 8.8	10632(a)(8)(C)	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought	Water Shortage Contingency Planning	
x		Section 8.9	10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	
x		Section 8.11	10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water Shortage Contingency Planning	
x	x	Sections 8.12 and 10.4	10635(c)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	
x	x	Section 8.14	10632(c)	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the plan.	Water Shortage Contingency Planning	
	x	Sections 9.1 and 9.3	10631(e)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	-

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Sections 9.2 and 9.3	10631(e)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Chapter 9
x		Chapter 10	10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	Section 10.2
x	x	Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	Section 2.3 and Section 10.1
x	x	Section 10.4	10621(f)	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	Section 10.2
x	x	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	Section 10.1 and Appendix C
x	x	Section 10.2.2	10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Section 10.2 and Appendix C
x	x	Section 10.3.2	10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Appendix F
x	x	Section 10.4	10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Appendix F
x	x	Section 10.4	10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Appendix F
x	x	Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Section 10.3
x	x	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Appendix F
x	x	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Appendix F
x	x	Section 10.6	10621(c)	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan Adoption, Submittal, and Implementation	-
x	x	Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	Section 10.6

2-1R | Public Water Systems

STATUS:

NOTES:

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020
CA3410014	City of Folsom Main	20,987	18,718
CA3410030	City of Folsom Ashland	1,074	1,180
Total:		22,061	19,898

2-2 | Public Water Systems

STATUS:

NOTES:

Type of Plan	Member of RUWMP	Member of Regional Alliance	Name of RUWMP or Regional Alliance
Individual UWMP	No	No	-

2-3 | Agency Identification

STATUS:

NOTES:

Type of Supplier	Year Type	First Day of Year		Unit Type
Retailer	Calendar Years	DD	MM	Acre Feet (AF)

Conversion to Gallons: 325851
Conversion to Gallons per Day: 892.7425

2-4R | Water Supplier Information Exchange

STATUS: Published

NOTES:

Wholesale Water Supplier Name

San Juan Water District

3-1R | Current & Projected Population

STATUS:

NOTES:

Population Served	2020	2025	2030	2035	2040	2045
Folsom Main and Ashland	69,517	87,602	98,114	105,660	110,114	112,126
Total	69,517	87,602	98,114	105,660	110,114	112,126

4-1R | Actual Demands for Water

STATUS:

NOTES:

Use Type	Additional Description	Level of Treatment When Delivered	2020 Volume
Single Family		Drinking Water	9,457
Multi-Family		Drinking Water	1,721
Commercial		Drinking Water	4,736
Institutional/Governmental	Schools	Drinking Water	1,152
Institutional/Governmental	Municipal/Parks	Drinking Water	583
Losses		Drinking Water	2,091
Other	Aerojet	Raw Water	158
Total:			19,898

4-2R | Projected Demands for Water

STATUS:

NOTES:

Use Type	Additional Description	Projected Water Use				
		2025	2030	2035	2040	2045
Single Family		9,710	10,587	11,156	11,494	11,498
Multi-Family		2,056	2,458	2,780	2,970	3,136
Commercial	and Industrial	4,544	5,072	5,359	5,579	5,703
Institutional/Governmental	Schools	859	981	1,067	1,081	1,096
Institutional/Governmental	Municipal/Parks	1,017	1,076	1,124	1,193	1,219
Losses		2,182	2,421	2,578	2,678	2,718
Other	Aerojet	150	150	150	150	150
Total:		20,517	22,746	24,214	25,145	25,519
See Chapter 4						

4-3R | Total Gross Water Use

STATUS:

NOTES:

	2020	2020	2030	2035	2040	2045
Potable and Raw Water From Table 4-1R and 4-2R	19,898	20,517	22,746	24,214	25,145	25,519
Recycled Water Demand* From Table 6-4R	-	-	-	-	-	-
Total Water Use:	19,898	20,517	22,746	24,214	25,145	25,519

4-4R | 12 Month Water Loss Audit Reporting

STATUS:

NOTES:

Report Period Start Date		Volume of Water Loss*
MM	YYYY	
1	2016	4,362
1	2017	3,858
1	2018	2,807
1	2019	2,373
1	2020	2,091

For years 2016-2019, volume of water loss is taken from the field "Water Losses" (a combination of apparent losses and real lossess) from the AWWA worksheet. For 2020, the volume of water loss is estimate as the difference in meter water produced and metered consumption.

4-5R | Inclusion in Water Use Projections

STATUS:

NOTES:

Are Future Water Savings Included in Projections? Refer to Appendix K of UWMP Guidebook.	Yes
Section or page number where the citations utilized in the demand projects can it be found:	Section 4.1.4
Are Lower Income Residential Demands Included in Projections?	Yes

5-1R | Baselines & Targets Summary

STATUS:

NOTES:

Baseline Period	Start Year	End Year	Average Baseline GPCD*	Confirmed 2020 Target *
10-15 Year	1996	2005	440	352
5 Year	2004	2008	407	-

*All values are in Gallons per Capita per Day (GPCD)

5-2R | 2020 Compliance

STATUS:

NOTES:

Actual 2020 GPCD*	Optional Adjustments to 2020 GPCD					2020 GPCD* (Adjusted if applicable)	Supplier Achieved Targeted Reduction in 2020
	Extraordinary Events*	Economic Adjustment*	Weather Normalization*	Total Adjustments*	Adjusted 2020 GPCD*		
256	0	0	0	0	0	0	Yes

*All values are in Gallons per Capita per Day (GPCD)

6-1R | Groundwater Volume Pumped

STATUS:

NOTES:

Supplier does not pump groundwater. The supplier will not complete the table.						
Alluvial Basin	Sacramento North Area Groundwater Subbasin	-	-	-	-	-
Alluvial Basin	Central American Groundwater Subbasin	-	-	-	-	-
Total:		-	-	-	-	-
The City intends to use remediated groundwater for future non-potable uses.						

6-2R | Wastewater Collected within Service Area in 2020

STATUS:

NOTES:

The supplier will complete the table.						
						Percentage of 2020 service area covered by wastewater collection system (optional):
						Percentage of 2020 service area population covered by wastewater collection system (optional):
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated	Wastewater Volume Collected from UWMP Service Area in 2020	Name of Wastewater Agency Receiving Collected Wastewater	Wastewater Treatment Plant Name	Wastewater Treatment Plant Located within UWMP Area	WWTP Operation Contracted to a Third Party
City of Folsom	Estimated	7,707	Sacramento Regional County Sanitation District (SRCSD)	SRCSDD WWTP	No	No
Total:		7,707				
Wastewater Volume Collected is in AF.						

6-4R | Recycled Water Direct Beneficial Uses Within Service Area

STATUS:

NOTES:

Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table.										
Name of Supplier Producing (Treating) the Recycled Water:										
Name of Supplier Operating the Recycled Water Distribution System:										
Supplemental Volume of Water Added in 2020:										
Source of 2020 Supplemental Water:										
Beneficial Use Type	Potential Beneficial Uses of Recycled Water	Amount of Potential Uses of Recycled Water	General Description of 2020 Uses	Level of Treatment	2020	2025	2030	2035	2040	2045
Total:					-	-	-	-	-	-
Internal Reuse (Not included in Statewide Recycled Water Volume).										
*IPR - Indirect Potable Reuse										

6-8R | Actual Water Supplies

STATUS:

NOTES:

Water Supply	Additional Detail on Water Supply	2020		
		Actual Volume	Water Quality	Total Right or Safe Yield
Surface water (not desalinated)	Pre-1914 Appropriative Right for 22,000 AFY	22,000	Drinking Water	
Surface water (not desalinated)	Pre-1914 Appropriative Right for 5,000 AFY	5,000	Drinking Water	
Surface water (not desalinated)	CVP Fazio Contract	7,000	Drinking Water	
Surface water (not desalinated)	Ashland Area Contract	1,100	Drinking Water	
Groundwater (not desalinated)	GET A and GET B Supply	3,250	Other Non-Potable Water	
Total:		38,350		-

6-9R | Projected Water Supplies

STATUS:

NOTES:

Water Supply	Additional Detail on Water Supply	Projected Water Supply									
		2025		2030		2035		2040		2045	
		Reasonably Available Volume	Total Right or Safe Yield	Reasonably Available Volume	Total Right or Safe Yield	Reasonably Available Volume	Total Right or Safe Yield	Reasonably Available Volume	Total Right or Safe Yield	Reasonably Available Volume	Total Right or Safe Yield
Surface water (not desalinated)	Pre-1914 Appropriative Right for 22,000 AFY	22,000		22,000		22,000		22,000		22,000	
Surface water (not desalinated)	Pre-1914 Appropriative Right for 5,000 AFY	5,000		5,000		5,000		5,000		5,000	
Surface water (not desalinated)	CVP Fazio Contract	7,000		7,000		7,000		7,000		7,000	
Surface water (not desalinated)	Ashland Area Contract	1,100		1,100		1,100		1,100		1,100	
Groundwater (not desalinated)	GET A and GET B Supply	3,250		3,250		3,250		3,250		3,250	
Total:		38,350	-	38,350	-	38,350	-	38,350	-	38,350	-

7-2R | Normal Year Supply and Demand Comparison

STATUS:

NOTES:

	2025	2030	2035	2040	2045
Supply Totals	38,350	38,350	38,350	38,350	38,350
Demand Totals	20,517	22,746	24,214	25,145	25,519
Difference:	17,833	15,604	14,136	13,205	12,831

7-3R | Single Dry Year Supply & Demand Comparison

STATUS:

NOTES:

	2025	2030	2035	2040	2045
Supply Totals	36,600	36,600	36,600	36,600	36,600
Demand Totals	20,517	22,746	24,214	25,145	25,519
Difference:	16,083	13,854	12,386	11,455	11,081

7-4R | Multiple Dry Years Supply & Demand Comparison

STATUS:

NOTES:

		2025	2030	2035	2040	2045
First Year	Supply Totals	36,600	36,600	36,600	36,600	36,600
	Demand Totals	20,517	22,746	24,214	25,145	25,519
Difference:		16,083	13,854	12,386	11,455	11,081
Second Year	Supply Totals	36,220	36,220	36,220	36,220	36,220
	Demand Totals	20,517	22,746	24,214	25,145	25,519
Difference:		15,703	13,474	12,006	11,075	10,701
Third Year	Supply Totals	34,470	34,470	34,470	34,470	34,470
	Demand Totals	20,517	22,746	24,214	25,145	25,519
Difference:		13,953	11,724	10,256	9,325	8,951
Fourth Year	Supply Totals	34,470	34,470	34,470	34,470	34,470
	Demand Totals	20,517	22,746	24,214	25,145	25,519
Difference:		13,953	11,724	10,256	9,325	8,951
Fifth Year	Supply Totals	32,720	32,720	32,720	32,720	32,720
	Demand Totals	20,517	22,746	24,214	25,145	25,519
Difference:		12,203	9,974	8,506	7,575	7,201

7-5 | Five-Year Drought Risk Assessment Tables to Address Water Code Section 10635(b)

STATUS:

NOTES:

2021	Gross Water Use	20,022
	Total Supplies	36,600
	Surplus/Shortfall without WSCP Action	16,578
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	
	WSCP (Use Reduction Savings Benefit)	
	Revised Surplus/Shortfall	16,578
	Resulting Percent Use Reduction from WSCP Action	0%
2022	Gross Water Use	20,146
	Total Supplies	36,220
	Surplus/Shortfall without WSCP Action	16,074
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	
	WSCP (Use Reduction Savings Benefit)	
	Revised Surplus/Shortfall	16,074
	Resulting Percent Use Reduction from WSCP Action	0%
2023	Gross Water Use	20,270
	Total Supplies	34,470
	Surplus/Shortfall without WSCP Action	14,200
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	
	WSCP (Use Reduction Savings Benefit)	
	Revised Surplus/Shortfall	14,200
	Resulting Percent Use Reduction from WSCP Action	0%
2024	Gross Water Use	20,394
	Total Supplies	34,470
	Surplus/Shortfall without WSCP Action	14,076
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	
	WSCP (Use Reduction Savings Benefit)	
	Revised Surplus/Shortfall	14,076
	Resulting Percent Use Reduction from WSCP Action	0%
2025	Gross Water Use	20,517
	Total Supplies	32,720
	Surplus/Shortfall without WSCP Action	12,203
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	
	WSCP (Use Reduction Savings Benefit)	
	Revised Surplus/Shortfall	12,203
	Resulting Percent Use Reduction from WSCP Action	0%

8-1 | Water Shortage Contingency Plan Levels

STATUS:

NOTES:

Shortage Level	Percent Shortage Range ¹ (Numerical Value as a Percent)	Shortage Response Actions
1	Up to 10%	Stage 1 includes but is not limited to public information campaigns, landscape restrictions, repairs of break or leaks in timely manner.
2	Up to 20%	Stage 2 includes but is not limited to decrease line flushing, additional landscape restrictions and vehicle washing restrictions.
3	Up to 30%	Stage 3 includes but is not limited to additional landscape restrictions and water feature and pool restrictions.
4	Up to 40%	Stage 4 includes but is not limited to additional restrictions on landscape and water features/pools.
5	Up to 50%	Stage 5 includes restrictions on water use so water is used for public health and safety purposes only.
6	>50%	Stage 6 includes restrictions on water use so water is used for public health and safety purposes only. Customer rationing may be implemented.
¹ One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.		

8-2 | Demand Reduction Actions

STATUS:

NOTES:

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement
1	Landscape - Limit landscape irrigation to specific times	0-5%	Irrigation of lawns or landscaping shall be between the hours of 10:00 a.m. and 10:00 p.m., with the exception of drip irrigation as otherwise authorized, unless a variance is granted by the	Yes
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers promptly/within 5 day(s).	Yes
1	Other	0-1%	Prohibit overfilling of any pool, pond or fountain which results in water discharging from pool, pond or fountain.	Yes
1	Landscape - Other landscape restriction or prohibition	0-5%	No landscape watering shall occur while it is raining.	Yes
1	Other - Prohibit use of potable water for construction and dust control	0-1%	Use of potable water from the City water system for compaction, dust control or other construction purposes without first obtaining approval from the director as provided in Section 13.26.090 and a meter from the City is prohibited.	Yes
1	CII - Other CII restriction or prohibition	0-1%	Commercial, industrial, institutional equipment must be properly maintained and in full working order.	Yes
1	Expand Public Information Campaign	0-1%	Encourage customers to wash only full loads when washing dishes or clothes.	No

1	Expand Public Information Campaign	0-1%	Encourage customers to use pool covers to minimize evaporation.	No
1	CII - Restaurants may only serve water upon request	0-1%	Require restaurants to only serve water to customers on request.	Yes
2	Decrease Line Flushing	0-1%	Non-essential flushing of mains and fire hydrants shall be prohibited.	Yes
2	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	15%	Prohibit installing a non-recirculating system in any new automatic car wash or new commercial laundry system or failure to utilize current best management practices for water conservation that are industry standards.	Yes
2	Landscape - Limit landscape irrigation to specific days	5-10%	Up to 3 days per week turf, including public and private streetcape landscaping, watering when using potable water. Plant containers, trees, shrubs and vegetable gardens may be watered additional days using only drip irrigation or hand watering.	Yes
2	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	0-1%	Car washing is only permitted using a commercial carwash that recirculates water or by high pressure/low volume wash systems.	Yes
3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers within 24 hours of notification by utilities department or service may be discontinued.	Yes
3	Other water feature or swimming pool restriction	0-1%	Water use for ornamental ponds and fountains is prohibited unless required to maintain existing vegetation or to sustain existing fish/animal life.	Yes
3	Landscape - Limit landscape irrigation to specific days	5-15%	Up to two days per week turf watering when using potable water.	Yes
3	Other water feature or swimming pool restriction	0-1%	Existing pools shall not be emptied and refilled using potable water unless required for public health and safety purposes.	Yes

4	Other water feature or swimming pool restriction	0-1%	No new permits for pools will be issued.	Yes
4	Landscape - Other landscape restriction or prohibition	0-1%	With the exception of landscapes watered with non-potable water, limit the installation of new landscaping to drought tolerant trees, shrubs and groundcover. Prohibit installation of new turf or hydroseed. Customers may apply for a waiver to irrigate during an establishment period for the installation of new turf or hydroseed.	Yes
4	Landscape - Limit landscape irrigation to specific days	5-20%	Up to one day per week turf watering when using potable water.	Yes
5	Landscape - Other landscape restriction or prohibition	0-1%	No new landscape installations or renovations will be permitted.	Yes
5	Other	0-50%	Water use for public health and safety purposes only.	Yes
6	Other	0-70%	Water use for public health and safety purposes only. Customer rationing may be implemented.	Yes

8-3 | Supply Augmentation & Other Actions

STATUS: Published

NOTES: -

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	How much is this going to reduce the shortage gap?	Additional Explanation or Reference
-		-	-
See Section 6.1.7			

10-1R | Notification to Cities & Counties

STATUS:

NOTES:

City	60 Day Notice	Notice of Public Hearing	Other
City of Roseville	Yes	Yes	
County	60 Day Notice	Notice of Public Hearing	Other
Sacramento County (Office of Planning and Environmental)	Yes	Yes	
Other	60 Day Notice	Notice of Public Hearing	Other
United States Bureau of Reclamation - CVP	Yes	Yes	
San Juan Water District	Yes	Yes	Demand Coordination
Golden State Water Company	Yes	Yes	
Placer County Water Agency	Yes	Yes	
Regional Water Authority	Yes	Yes	
Sacramento County Water Agency	Yes	Yes	
Sacramento Central Groundwater Authority	Yes	Yes	
El Dorado Irrigation District	Yes	Yes	
El Dorado Water Agency	Yes	Yes	
Fair Oaks Water District	Yes	Yes	
Orangevale Water District	Yes	Yes	
Citrus Heights Water District	Yes	Yes	
Sacramento Suburban Water District	Yes	Yes	
Sacramento Water Forum	Yes	Yes	
Environmental Council of Sacramento	Yes	Yes	

Appendix B **SBX7-7 Tables**

SBX7-7 Verification Forms (From 2015 UWMP)

SB X7-7 Table 0: Units of Measure Used in UWMP* *(select one from the drop down list)*

Acre Feet

**The unit of measure must be consistent with Table 2-3*

NOTES:

SB X7-7 Table-1: Baseline Period Ranges

Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	26,644	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period ^{1,2}	10	Years
	Year beginning baseline period range	1996	
	Year ending baseline period range ³	2005	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2004	
	Year ending baseline period range ⁴	2008	

¹If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period. ²The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.

³The ending year must be between December 31, 2004 and December 31, 2010.

⁴The ending year must be between December 31, 2007 and December 31, 2010.

NOTES: See Chapter 4

SB X7-7 Table 2: Method for Population Estimates

Method Used to Determine Population (may check more than one)	
<input type="checkbox"/>	1. Department of Finance (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
<input type="checkbox"/>	2. Persons-per-Connection Method
<input checked="" type="checkbox"/>	3. DWR Population Tool
<input type="checkbox"/>	4. Other DWR recommends pre-review
NOTES: See Chapter 2	

SB X7-7 Table 3: Service Area Population

Year	Population	
10 to 15 Year Baseline Population		
Year 1	1996	31,022
Year 2	1997	32,614
Year 3	1998	34,124
Year 4	1999	37,288
Year 5	2000	41,677
Year 6	2001	47,324
Year 7	2002	49,583
Year 8	2003	52,661
Year 9	2004	54,456
Year 10	2005	56,253
5 Year Baseline Population		
Year 1	2004	54,456
Year 2	2005	56,253
Year 3	2006	57,658
Year 4	2007	58,811
Year 5	2008	60,449
2015 Compliance Year Population		
2015		63,536
NOTES: See Chapter 4		

SB X7-7 Table 4: Annual Gross Water Use *

Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	Deductions					Annual Gross Water Use	
		Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use	Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>		
10 to 15 Year Baseline - Gross Water Use								
Year 1	1996	14,761			-		-	14,761
Year 2	1997	17,603			-		-	17,603
Year 3	1998	17,376			-		-	17,376
Year 4	1999	20,196			-		-	20,196
Year 5	2000	20,278			-		-	20,278
Year 6	2001	25,354			-		-	25,354
Year 7	2002	23,415			-		-	23,415
Year 8	2003	23,913			-		-	23,913
Year 9	2004	25,547			-		-	25,547
Year 10	2005	24,974			-		-	24,974
10 - 15 year baseline average gross water use							21,342	
5 Year Baseline - Gross Water Use								
Year 1	2004	25,547			-		-	25,547
Year 2	2005	24,974			-		-	24,974
Year 3	2006	26,519			-		-	26,519
Year 4	2007	27,304			-		-	27,304
Year 5	2008	26,644			-		-	26,644
5 year baseline average gross water use							26,198	
2015 Compliance Year - Gross Water Use								
2015		15,907	-		-		-	15,907

* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3

NOTES: See Chapter 4

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source		All Supplies		
This water source is:				
<input checked="" type="checkbox"/>	The supplier's own water source			
<input type="checkbox"/>	A purchased or imported source			
Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System	Meter Error Adjustment* <i>Optional (+/-)</i>	Corrected Volume Entering Distribution System	
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1996	14,761		14,761
Year 2	1997	17,603		17,603
Year 3	1998	17,376		17,376
Year 4	1999	20,196		20,196
Year 5	2000	20,278		20,278
Year 6	2001	25,354		25,354
Year 7	2002	23,415		23,415
Year 8	2003	23,913		23,913
Year 9	2004	25,547		25,547
Year 10	2005	24,974		24,974
5 Year Baseline - Water into Distribution System				
Year 1	2004	25,547		25,547
Year 2	2005	24,974		24,974
Year 3	2006	26,519		26,519
Year 4	2007	27,304		27,304
Year 5	2008	26,644		26,644
2015 Compliance Year - Water into Distribution System				
2015		15,907		15,907
<i>* Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document</i>				
NOTES: See Chapters 3 and 4.				

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)

Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Annual Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1996	31,022	14,761	425
Year 2	1997	32,614	17,603	482
Year 3	1998	34,124	17,376	455
Year 4	1999	37,288	20,196	484
Year 5	2000	41,677	20,278	434
Year 6	2001	47,324	25,354	478
Year 7	2002	49,583	23,415	422
Year 8	2003	52,661	23,913	405
Year 9	2004	54,456	25,547	419
Year 10	2005	56,253	24,974	396
10-15 Year Average Baseline GPCD				440
5 Year Baseline GPCD				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use
Year 1	2004	54,456	25,547	419
Year 2	2005	56,253	24,974	396
Year 3	2006	57,658	26,519	411
Year 4	2007	58,811	27,304	414
Year 5	2008	60,449	26,644	393
5 Year Average Baseline GPCD				407
2015 Compliance Year GPCD				
2015		63,536	15,907	224

NOTES: See Chapter 4

SB X7-7 Table 6: Gallons per Capita per Day
Summary From Table SB X7-7 Table 5

10-15 Year Baseline GPCD	440
5 Year Baseline GPCD	407
2015 Compliance Year GPCD	224
NOTES: See Chapter 4	

SB X7-7 Table 7: 2020 Target Method*Select Only One*

Target Method		Supporting Documentation
<input checked="" type="checkbox"/>	Method 1	SB X7-7 Table 7A
<input type="checkbox"/>	Method 2	SB X7-7 Tables 7B, 7C, and 7D <i>Contact DWR for these tables</i>
<input type="checkbox"/>	Method 3	SB X7-7 Table 7-E
<input type="checkbox"/>	Method 4	Method 4 Calculator

NOTES: See Chapter 4

SB X7-7 Table 7-A: Target Method 1

20% Reduction

10-15 Year Baseline GPCD	2020 Target GPCD
440	352

NOTES: See Chapter 4

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target

5 Year Baseline GPCD <i>From SB X7-7 Table 5</i>	Maximum 2020 Target ¹	Calculated 2020 Target ²	Confirmed 2020 Target
407	386	352	352

¹Maximum 2020 Target is 95% of the 5 Year Baseline GPCD ²2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.

NOTES: See Chapter 4

SB X7-7 Table 8: 2015 Interim Target GPCD

Confirmed 2020 Target <i>Fm SB X7-7 Table 7-F</i>	10-15 year Baseline GPCD <i>Fm SB X7-7 Table 5</i>	2015 Interim Target GPCD
352	440	396
NOTES: See Chapter 4		

SBX7-7 2020 Compliance Forms

SB X7-7 Table 0: Units of Measure Used in 2020 UWMP*

(select one from the drop down list)

Acre Feet

**The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*

NOTES:

SB X7-7 Table 2: Method for 2020 Population Estimate

Method Used to Determine 2020 Population (may check more than one)	
<input type="checkbox"/>	1. Department of Finance (DOF) or American Community Survey (ACS)
<input type="checkbox"/>	2. Persons-per-Connection Method
<input checked="" type="checkbox"/>	3. DWR Population Tool
<input type="checkbox"/>	4. Other DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: 2020 Service Area Population

2020 Compliance Year Population

2020	69,517
-------------	--------

NOTES:

SB X7-7 Table 4: 2020 Gross Water Use							
Compliance Year 2020	2020 Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	2020 Deductions					2020 Gross Water Use
		Exported Water *	Change in Dist. System Storage* (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use*	Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>	
	19,898			-		-	19,898
* Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.							
NOTES:							

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source		Surface Water	
This water source is (check one) :			
<input checked="" type="checkbox"/>	The supplier's own water source		
<input type="checkbox"/>	A purchased or imported source		
Compliance Year 2020	Volume Entering Distribution System ¹	Meter Error Adjustment ² Optional (+/-)	Corrected Volume Entering Distribution System
	18,560	-	18,560
¹ <i>Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.</i> ² Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document			
NOTES			

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s) Meter Error Adjustment

Complete one table for each source.

Name of Source		Ashland Area Contract	
This water source is (check one) :			
<input type="checkbox"/>	The supplier's own water source		
<input checked="" type="checkbox"/>	A purchased or imported source		
Compliance Year 2020	Volume Entering Distribution System ¹	Meter Error Adjustment ² Optional (+/-)	Corrected Volume Entering Distribution System
	1,180		1,180
¹ <i>Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.</i> ² Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document			
NOTES:			

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source		Raw Water	
-----------------------	--	-----------	--

This water source is (check one) :

- The supplier's own water source
- A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System ¹	Meter Error Adjustment ² <i>Optional</i> (+/-)	Corrected Volume Entering Distribution System
	158		158

¹ **Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.**

² **Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document**

NOTES: Raw Water for Aerojet

SB X7-7 Table 4-B: 2020 Indirect Recycled Water Use Deduction *(For use only by agencies that are deducting indirect recycled water)*

2020 Compliance Year	2020 Surface Reservoir Augmentation					2020 Groundwater Recharge			Total Deductible Volume of Indirect Recycled Water Entering the Distribution System
	Volume Discharged from Reservoir for Distribution System Delivery ¹	Percent Recycled Water	Recycled Water Delivered to Treatment Plant	Transmission/Treatment Loss ¹	Recycled Volume Entering Distribution System from Surface Reservoir Augmentation	Recycled Water Pumped by Utility ^{1,2}	Transmission/Treatment Losses ¹	Recycled Volume Entering Distribution System from Groundwater Recharge	
			-		-			-	-

¹ **Units of measure (AF, MG, or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.
² Suppliers will provide supplemental sheets to document the calculation for their input into "Recycled Water Pumped by Utility". The volume reported in this cell must be less than total groundwater pumped - See Methodology 1, Step 8, section 2.c.

Not Used

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C: 2020 Process Water Deduction Eligibility
(For use only by agencies that are deducting process water) Choose Only One

<input type="checkbox"/>	Criteria 1- Industrial water use is equal to or greater than 12% of gross water use. Complete SB X7-7 Table 4-C.1
<input type="checkbox"/>	Criteria 2 - Industrial water use is equal to or greater than 15 GPCD. Complete SB X7-7 Table 4-C.2
<input type="checkbox"/>	Criteria 3 - Non-industrial use is equal to or less than 120 GPCD. Complete SB X7-7 Table 4-C.3
<input type="checkbox"/>	Criteria 4 - Disadvantaged Community. Complete SB x7-7 Table 4-C.4

NOTES: Not Used

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in
 Excel format.

SB X7-7 Table 4-C.1: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 1)*

Criteria 1
 Industrial water use is equal to or greater than 12% of gross water use

2020 Compliance Year	2020 Gross Water Use Without Process Water Deduction	2020 Industrial Water Use	Percent Industrial Water	Eligible for Exclusion Y/N
	19,898		0%	NO

NOTES: Not Used

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel
 format.

SB X7-7 Table 4-C.2: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 2)*

Criteria 2
 Industrial water use is equal to or greater than 15 GPCD

2020 Compliance Year	2020 Industrial Water Use	2020 Population	2020 Industrial GPCD	Eligible for Exclusion Y/N
		69,517	-	NO

NOTES: Not Used

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C.3: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 3)*

Criteria 3
 Non-industrial use is equal to or less than 120 GPCD

2020 Compliance Year	2020 Gross Water Use Without Process Water Deduction <i>Fm SB X7-7 Table 4</i>	2020 Industrial Water Use	2020 Non-industrial Water Use	2020 Population <i>Fm SB X7-7 Table 3</i>	Non-Industrial GPCD	Eligible for Exclusion Y/N
	19,898		19,898	69,517	256	NO

NOTES: Not Used

Data from this table will not be entered into WUEdata.
 Instead, the entire table will be uploaded to WUEdata as a separate upload in
 Excel format.

SB X7-7 Table 4-C.4: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 4)*

Criteria 4

Disadvantaged Community. A "Disadvantaged Community" (DAC) is a community with a median household income less than 80 percent of the statewide average.

SELECT ONE

"Disadvantaged Community" status was determined using one of the methods listed below:

1. IRWM DAC Mapping tool <https://gis.water.ca.gov/app/dacs/>

If using the IRWM DAC Mapping Tool, include a screen shot from the tool showing that the service area is considered a DAC.

2. 2020 Median Income

	California Median Household Income*		Service Area Median Household Income	Percentage of Statewide Average	Eligible for Exclusion? Y/N
	2020	\$75,235			
<input type="checkbox"/>	2020	\$75,235		0%	YES
*California median household income 2015 -2019 as reported in US Census Bureau QuickFacts.					

NOTES: Not Used

Data from these tables will not be entered into WUEdata.
the entire tables will be uploaded to WUEdata as a separate upload in Excel format.

Instead,

This table(s) is only for Suppliers that deduct process water from their 2020 gross water use.

SB X7-7 Table 4-D: 2020 Process Water Deduction - Volume *Complete a separate table for each industrial customer with a process water exclusion*

Name of Industrial Customer		<i>Enter Name of Industrial Customer 1</i>			
Compliance Year 2020	Industrial Customer's Total Water Use *	Total Volume Provided by Supplier*	% of Water Provided by Supplier	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
					-

* **Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

NOTES: Not Used

SB X7-7 Table 4-D: 2020 Process Water Deduction - Volume *Complete a separate table for each industrial customer with a process water exclusion*

Name of Industrial Customer		<i>Enter Name of Industrial Customer 2</i>			
Compliance Year 2020	Industrial Customer's Total Water Use *	Total Volume Provided by Supplier*	% of Water Provided by Supplier	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
					-

* **Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)

2020 Gross Water <i>Fm SB X7-7 Table 4</i>	2020 Population <i>Fm</i> <i>SB X7-7 Table 3</i>	2020 GPCD
19,898	69,517	256

NOTES:

SB X7-7 Table 9: 2020 Compliance

Actual 2020 GPCD ¹	Optional Adjustments to 2020 GPCD				2020 Confirmed Target GPCD ^{1, 2}	Did Supplier Achieve Targeted Reduction for 2020?	
	Enter "0" if Adjustment Not Used			TOTAL Adjustments ¹			Adjusted 2020 GPCD ¹ <i>(Adjusted if applicable)</i>
	Extraordinary Events ¹	Weather Normalization ¹	Economic Adjustment ¹				
256	-	-	-	-	256	352	YES

¹ All values are reported in GPCD

² **2020 Confirmed Target GPCD** is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.

NOTES:

SB X7-7 Table 0: Units of Measure Used in UWMP* *(select one from the drop down list)*

Acre Feet

**The unit of measure must be consistent with Table 2-3*

NOTES:

SB X7-7 Table-1: Baseline Period Ranges

Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	26,644	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period ^{1,2}	10	Years
	Year beginning baseline period range	1996	
	Year ending baseline period range ³	2005	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2004	
	Year ending baseline period range ⁴	2008	

¹If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period. ²The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.

³The ending year must be between December 31, 2004 and December 31, 2010.

⁴The ending year must be between December 31, 2007 and December 31, 2010.

NOTES: See Chapter 4

SB X7-7 Table 2: Method for Population Estimates

Method Used to Determine Population
(may check more than one)

<input type="checkbox"/>	1. Department of Finance (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
<input type="checkbox"/>	2. Persons-per-Connection Method
<input checked="" type="checkbox"/>	3. DWR Population Tool
<input type="checkbox"/>	4. Other DWR recommends pre-review
NOTES: See Chapter 2	

SB X7-7 Table 3: Service Area Population

Year	Population	
10 to 15 Year Baseline Population		
Year 1	1996	31,022
Year 2	1997	32,614
Year 3	1998	34,124
Year 4	1999	37,288
Year 5	2000	41,677
Year 6	2001	47,324
Year 7	2002	49,583
Year 8	2003	52,661
Year 9	2004	54,456
Year 10	2005	56,253
5 Year Baseline Population		
Year 1	2004	54,456
Year 2	2005	56,253
Year 3	2006	57,658
Year 4	2007	58,811
Year 5	2008	60,449
2015 Compliance Year Population		
2015		63,536

NOTES: See Chapter 4

SB X7-7 Table 4: Annual Gross Water Use *

Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	Deductions					Annual Gross Water Use	
		Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use	Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>		
10 to 15 Year Baseline - Gross Water Use								
Year 1	1996	14,761			-		-	14,761
Year 2	1997	17,603			-		-	17,603
Year 3	1998	17,376			-		-	17,376
Year 4	1999	20,196			-		-	20,196
Year 5	2000	20,278			-		-	20,278
Year 6	2001	25,354			-		-	25,354
Year 7	2002	23,415			-		-	23,415
Year 8	2003	23,913			-		-	23,913
Year 9	2004	25,547			-		-	25,547
Year 10	2005	24,974			-		-	24,974
10 - 15 year baseline average gross water use							21,342	
5 Year Baseline - Gross Water Use								
Year 1	2004	25,547			-		-	25,547
Year 2	2005	24,974			-		-	24,974
Year 3	2006	26,519			-		-	26,519
Year 4	2007	27,304			-		-	27,304
Year 5	2008	26,644			-		-	26,644
5 year baseline average gross water use							26,198	
2015 Compliance Year - Gross Water Use								
2015		15,907	-		-		-	15,907

* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3

NOTES: See Chapter 4

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source		All Supplies		
This water source is:				
<input checked="" type="checkbox"/>	The supplier's own water source			
<input type="checkbox"/>	A purchased or imported source			
Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System	Meter Error Adjustment* <i>Optional (+/-)</i>	Corrected Volume Entering Distribution System	
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1996	14,761		14,761
Year 2	1997	17,603		17,603
Year 3	1998	17,376		17,376
Year 4	1999	20,196		20,196
Year 5	2000	20,278		20,278
Year 6	2001	25,354		25,354
Year 7	2002	23,415		23,415
Year 8	2003	23,913		23,913
Year 9	2004	25,547		25,547
Year 10	2005	24,974		24,974
5 Year Baseline - Water into Distribution System				
Year 1	2004	25,547		25,547
Year 2	2005	24,974		24,974
Year 3	2006	26,519		26,519
Year 4	2007	27,304		27,304
Year 5	2008	26,644		26,644
2015 Compliance Year - Water into Distribution System				
2015		15,907		15,907
<i>* Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document</i>				
NOTES: See Chapters 3 and 4.				

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)

Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Annual Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1996	31,022	14,761	425
Year 2	1997	32,614	17,603	482
Year 3	1998	34,124	17,376	455
Year 4	1999	37,288	20,196	484
Year 5	2000	41,677	20,278	434
Year 6	2001	47,324	25,354	478
Year 7	2002	49,583	23,415	422
Year 8	2003	52,661	23,913	405
Year 9	2004	54,456	25,547	419
Year 10	2005	56,253	24,974	396
10-15 Year Average Baseline GPCD				440
5 Year Baseline GPCD				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use
Year 1	2004	54,456	25,547	419
Year 2	2005	56,253	24,974	396
Year 3	2006	57,658	26,519	411
Year 4	2007	58,811	27,304	414
Year 5	2008	60,449	26,644	393
5 Year Average Baseline GPCD				407
2015 Compliance Year GPCD				
2015		63,536	15,907	224

NOTES: See Chapter 4

SB X7-7 Table 6: Gallons per Capita per Day
Summary From Table SB X7-7 Table 5

10-15 Year Baseline GPCD	440
5 Year Baseline GPCD	407
2015 Compliance Year GPCD	224
NOTES: See Chapter 4	

SB X7-7 Table 7: 2020 Target Method*Select Only One*

Target Method		Supporting Documentation
<input checked="" type="checkbox"/>	Method 1	SB X7-7 Table 7A
<input type="checkbox"/>	Method 2	SB X7-7 Tables 7B, 7C, and 7D <i>Contact DWR for these tables</i>
<input type="checkbox"/>	Method 3	SB X7-7 Table 7-E
<input type="checkbox"/>	Method 4	Method 4 Calculator

NOTES: See Chapter 4

SB X7-7 Table 7-A: Target Method 1

20% Reduction

10-15 Year Baseline GPCD	2020 Target GPCD
440	352

NOTES: See Chapter 4

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target

5 Year Baseline GPCD <i>From SB X7-7 Table 5</i>	Maximum 2020 Target ¹	Calculated 2020 Target ²	Confirmed 2020 Target
407	386	352	352

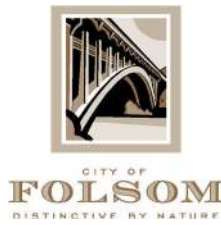
¹Maximum 2020 Target is 95% of the 5 Year Baseline GPCD ²2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.

NOTES: See Chapter 4

SB X7-7 Table 8: 2015 Interim Target GPCD

Confirmed 2020 Target <i>Fm SB X7-7 Table 7-F</i>	10-15 year Baseline GPCD <i>Fm SB X7-7 Table 5</i>	2015 Interim Target GPCD
352	440	396
NOTES: See Chapter 4		

Appendix C Notifications with Other Agencies



ENVIRONMENTAL AND WATER RESOURCES DEPT
50 NATOMA STREET
FOLSOM, CALIFORNIA 95630

PH: 916.461.6162
FAX: 916.351.8912

March 5, 2021

Hilary Straus
Citrus Heights Water District
Delivery via electronic mail

Subject: City of Folsom's 2020 UWMP – Public Hearing Notice

Dear Hilary,

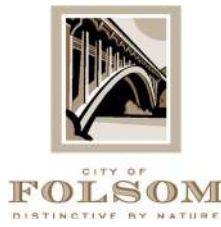
The City of Folsom is reviewing and updating its Urban Water Management Plan (UWMP) as required by the California Water Code (CWC). This effort must be completed by July 1, 2021. Pursuant with CWC§10621(b), the City must notify any city or county within which it delivers water at least 60 days prior to a public hearing on the updated UWMP. This letter provides that notification.

The public hearing is tentatively scheduled for June 8, 2021 at Folsom City Hall, 50 Natoma Street, Folsom, CA 95630. The public hearing will allow community input regarding the City's implementation plan and the City to adopt a method, pursuant to subdivision (b) of Section 10608.26, for determining its urban water use target compliance. The City will make the draft UWMP available for review prior to the public hearing.

If you have any questions regarding this notification of the City's UWMP update process, please contact me at (916) 461-6166 or kgugino@folsom.ca.us.

Sincerely,

Kelsie Gugino, P.E.
Associate Civil Engineer



ENVIRONMENTAL AND WATER RESOURCES DEPT
50 NATOMA STREET
FOLSOM, CALIFORNIA 95630

PH: 916.461.6162
FAX: 916.351.8912

March 5, 2021

Richard Plecker
City of Roseville
Delivery via electronic mail

Subject: City of Folsom's 2020 UWMP – Public Hearing Notice

Dear Richard,

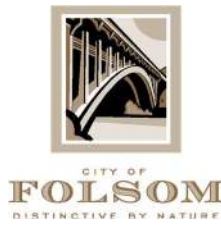
The City of Folsom is reviewing and updating its Urban Water Management Plan (UWMP) as required by the California Water Code (CWC). This effort must be completed by July 1, 2021. Pursuant with CWC§10621(b), the City must notify any city or county within which it delivers water at least 60 days prior to a public hearing on the updated UWMP. This letter provides that notification.

The public hearing is tentatively scheduled for June 8, 2021 at Folsom City Hall, 50 Natoma Street, Folsom, CA 95630. The public hearing will allow community input regarding the City's implementation plan and the City to adopt a method, pursuant to subdivision (b) of Section 10608.26, for determining its urban water use target compliance. The City will make the draft UWMP available for review prior to the public hearing.

If you have any questions regarding this notification of the City's UWMP update process, please contact me at (916) 461-6166 or kgugino@folsom.ca.us.

Sincerely,

Kelsie Gugino, P.E.
Associate Civil Engineer



ENVIRONMENTAL AND WATER RESOURCES DEPT
50 NATOMA STREET
FOLSOM, CALIFORNIA 95630

PH: 916.461.6162
FAX: 916.351.8912

March 5, 2021

Jim Abercrombie
El Dorado Irrigation District
Delivery via electronic mail

Subject: City of Folsom's 2020 UWMP – Public Hearing Notice

Dear Jim,

The City of Folsom is reviewing and updating its Urban Water Management Plan (UWMP) as required by the California Water Code (CWC). This effort must be completed by July 1, 2021. Pursuant with CWC§10621(b), the City must notify any city or county within which it delivers water at least 60 days prior to a public hearing on the updated UWMP. This letter provides that notification.

The public hearing is tentatively scheduled for June 8, 2021 at Folsom City Hall, 50 Natoma Street, Folsom, CA 95630. The public hearing will allow community input regarding the City's implementation plan and the City to adopt a method, pursuant to subdivision (b) of Section 10608.26, for determining its urban water use target compliance. The City will make the draft UWMP available for review prior to the public hearing.

If you have any questions regarding this notification of the City's UWMP update process, please contact me at (916) 461-6166 or kgugino@folsom.ca.us.

Sincerely,

Kelsie Gugino, P.E.
Associate Civil Engineer



ENVIRONMENTAL AND WATER RESOURCES DEPT
50 NATOMA STREET
FOLSOM, CALIFORNIA 95630

PH: 916.461.6162
FAX: 916.351.8912

March 5, 2021

Ken Payne
El Dorado Water Agency
Delivery via electronic mail

Subject: City of Folsom's 2020 UWMP – Public Hearing Notice

Dear Ken,

The City of Folsom is reviewing and updating its Urban Water Management Plan (UWMP) as required by the California Water Code (CWC). This effort must be completed by July 1, 2021. Pursuant with CWC§10621(b), the City must notify any city or county within which it delivers water at least 60 days prior to a public hearing on the updated UWMP. This letter provides that notification.

The public hearing is tentatively scheduled for June 8, 2021 at Folsom City Hall, 50 Natoma Street, Folsom, CA 95630. The public hearing will allow community input regarding the City's implementation plan and the City to adopt a method, pursuant to subdivision (b) of Section 10608.26, for determining its urban water use target compliance. The City will make the draft UWMP available for review prior to the public hearing.

If you have any questions regarding this notification of the City's UWMP update process, please contact me at (916) 461-6166 or kgugino@folsom.ca.us.

Sincerely,

Kelsie Gugino, P.E.
Associate Civil Engineer



ENVIRONMENTAL AND WATER RESOURCES DEPT
50 NATOMA STREET
FOLSOM, CALIFORNIA 95630

PH: 916.461.6162
FAX: 916.351.8912

March 8, 2021

Robert Burness
Environmental Council of Sacramento
Delivery via electronic mail

Subject: City of Folsom's 2020 UWMP – Public Hearing Notice

Dear Robert,

The City of Folsom is reviewing and updating its Urban Water Management Plan (UWMP) as required by the California Water Code (CWC). This effort must be completed by July 1, 2021. Pursuant with CWC§10621(b), the City must notify any city or county within which it delivers water at least 60 days prior to a public hearing on the updated UWMP. This letter provides that notification.

The public hearing is tentatively scheduled for June 8, 2021 at Folsom City Hall, 50 Natoma Street, Folsom, CA 95630. The public hearing will allow community input regarding the City's implementation plan and the City to adopt a method, pursuant to subdivision (b) of Section 10608.26, for determining its urban water use target compliance. The City will make the draft UWMP available for review prior to the public hearing.

If you have any questions regarding this notification of the City's UWMP update process, please contact me at (916) 461-6166 or kgugino@folsom.ca.us.

Sincerely,

Kelsie Gugino, P.E.
Associate Civil Engineer



ENVIRONMENTAL AND WATER RESOURCES DEPT
50 NATOMA STREET
FOLSOM, CALIFORNIA 95630

PH: 916.461.6162
FAX: 916.351.8912

March 5, 2021

Tom Gray
Fair Oaks Water District
Delivery via electronic mail

Subject: City of Folsom's 2020 UWMP – Public Hearing Notice

Dear Tom,

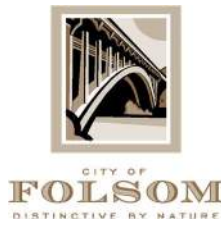
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If you have any questions regarding this notification of the City's UWMP update process, please contact me at (916) 461-6166 or kgugino@folsom.ca.us.

Sincerely,

Kelsie Gugino, P.E.
Associate Civil Engineer



ENVIRONMENTAL AND WATER RESOURCES DEPT
50 NATOMA STREET
FOLSOM, CALIFORNIA 95630

PH: 916.461.6162
FAX: 916.351.8912

March 5, 2021

Paul Schubert
Golden State Water Company
Delivery via electronic mail

Subject: City of Folsom's 2020 UWMP – Public Hearing Notice

Dear Paul,

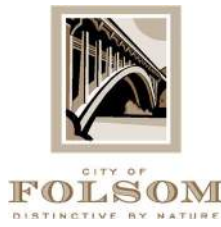
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If you have any questions regarding this notification of the City's UWMP update process, please contact me at (916) 461-6166 or kgugino@folsom.ca.us.

Sincerely,

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Associate Civil Engineer



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FOLSOM, CALIFORNIA 95630

PH: 916.461.6162
FAX: 916.351.8912

March 5, 2021

Joe Duran
Orangevale Water District
Delivery via electronic mail

Subject: City of Folsom's 2020 UWMP – Public Hearing Notice

Dear Joe,

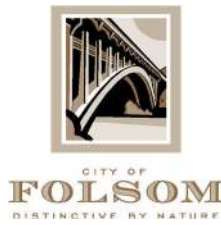
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FOLSOM, CALIFORNIA 95630

PH: 916.461.6162
FAX: 916.351.8912

March 5, 2021

Andrew Fecko
Placer County Water Agency
Delivery via electronic mail

Subject: City of Folsom's 2020 UWMP – Public Hearing Notice

Dear Andrew,

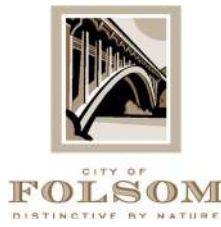
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50 NATOMA STREET
FOLSOM, CALIFORNIA 95630

PH: 916.461.6162
FAX: 916.351.8912

March 5, 2021

Jim Peifer
Regional Water Authority
Delivery via electronic mail

Subject: City of Folsom's 2020 UWMP – Public Hearing Notice

Dear Jim,

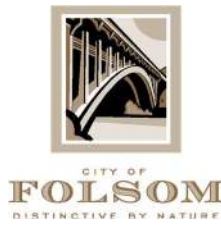
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Associate Civil Engineer



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50 NATOMA STREET
FOLSOM, CALIFORNIA 95630

PH: 916.461.6162
FAX: 916.351.8912

March 5, 2021

John Woodling
Sacramento Central Groundwater Authority
Delivery via electronic mail

Subject: City of Folsom's 2020 UWMP – Public Hearing Notice

Dear John,

The City of Folsom is reviewing and updating its Urban Water Management Plan (UWMP) as required by the California Water Code (CWC). This effort must be completed by July 1, 2021. Pursuant with CWC§10621(b), the City must notify any city or county within which it delivers water at least 60 days prior to a public hearing on the updated UWMP. This letter provides that notification.

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Associate Civil Engineer



ENVIRONMENTAL AND WATER RESOURCES DEPT
50 NATOMA STREET
FOLSOM, CALIFORNIA 95630

PH: 916.461.6162
FAX: 916.351.8912

March 5, 2021

Leighann Moffitt
County of Sacramento
Office of Planning and Environmental Review
Delivery via electronic mail

Subject: City of Folsom's 2020 UWMP – Public Hearing Notice

Dear Leighann,

The City of Folsom is reviewing and updating its Urban Water Management Plan (UWMP) as required by the California Water Code (CWC). This effort must be completed by July 1, 2021. Pursuant with CWC§10621(b), the City must notify any city or county within which it delivers water at least 60 days prior to a public hearing on the updated UWMP. This letter provides that notification.

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Kelsie Gugino, P.E.
Associate Civil Engineer



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50 NATOMA STREET
FOLSOM, CALIFORNIA 95630

PH: 916.461.6162
FAX: 916.351.8912

March 5, 2021

Michael Peterson
Sacramento County Water Agency
Delivery via electronic mail

Subject: City of Folsom's 2020 UWMP – Public Hearing Notice

Dear Michael,

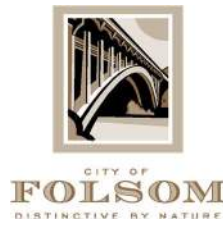
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Associate Civil Engineer



ENVIRONMENTAL AND WATER RESOURCES DEPT
50 NATOMA STREET
FOLSOM, CALIFORNIA 95630

PH: 916.461.6162
FAX: 916.351.8912

March 5, 2021

Dan York
Sacramento Suburban Water District
Delivery via electronic mail

Subject: City of Folsom's 2020 UWMP – Public Hearing Notice

Dear Dan,

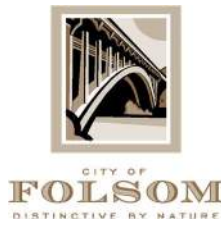
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Kelsie Gugino, P.E.
Associate Civil Engineer



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50 NATOMA STREET
FOLSOM, CALIFORNIA 95630

PH: 916.461.6162
FAX: 916.351.8912

March 5, 2021

Jessica Law
Sacramento Water Forum
Delivery via electronic mail

Subject: City of Folsom's 2020 UWMP – Public Hearing Notice

Dear Jessica,

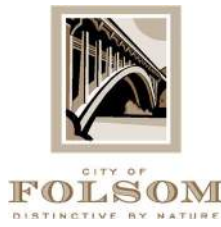
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Associate Civil Engineer



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50 NATOMA STREET
FOLSOM, CALIFORNIA 95630

PH: 916.461.6162
FAX: 916.351.8912

March 5, 2021

Paul Helliker
San Juan Water District
Delivery via electronic mail

Subject: City of Folsom's 2020 UWMP – Public Hearing Notice

Dear Paul,

The City of Folsom is reviewing and updating its Urban Water Management Plan (UWMP) as required by the California Water Code (CWC). This effort must be completed by July 1, 2021. Pursuant with CWC§10621(b), the City must notify any city or county within which it delivers water at least 60 days prior to a public hearing on the updated UWMP. This letter provides that notification.

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Sincerely,

Kelsie Gugino, P.E.
Associate Civil Engineer

From: Marcus Yasutake <myasutake@folsom.ca.us>
Sent: Friday, March 5, 2021 8:56 AM
To: Paul Helliker; Greg Zlotnick
Cc: Kelsie Gugino; Rob Natoli; Spencer Waterman; Kaylie Tavenner
Subject: City of Folsom - 2020 UWMP
Attachments: [SJWD - UWMP 60 Day Notice.pdf](#)

Paul/Greg

Attached is the City's 60-day notice regarding the 2020 Urban Water Management Plan. The City plans to use the information developed in the work completed by Tully & Young for San Juan Water District's 25-year water use demand study. This information will be used for the City's Ashland Area.

Thanks.

Marcus Yasutake

*Environmental and Water
Resources Director*

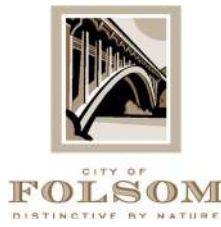
**Environmental and Water Resources
Department**
50 Natoma Street, Folsom, CA 95630
O: 916.461.6161
F: 916.351.8912



CITY OF
FOLSOM
DISTINCTIVE BY NATURE



www.folsom.ca.us



ENVIRONMENTAL AND WATER RESOURCES DEPT
50 NATOMA STREET
FOLSOM, CALIFORNIA 95630

PH: 916.461.6162
FAX: 916.351.8912

March 5, 2021

Drew Lessard
United States Bureau of Reclamation
Delivery via electronic mail

Subject: City of Folsom's 2020 UWMP – Public Hearing Notice

Dear Drew,

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Sincerely,

Kelsie Gugino, P.E.
Associate Civil Engineer

NOTICE OF PUBLIC HEARING

77304

**CITY OF FOLSOM
NOTICE OF PUBLIC HEARING
LEGAL NOTICE**

Notice is given herewith that the City of Folsom City Council, at its regular council meeting on Tuesday, June 8, 2021, at 6:30 pm, in the City Council Chambers, 50 Natoma Street, Folsom, California, will hold a public hearing in accordance with Section 6066 of the California Government Code to consider adoption of the City of Folsom's 2020 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP).

The purpose of this UWMP is to document the City's water supply planning strategies for the existing municipal jurisdiction. The Urban Water Management Plan, as required by Urban Water Management Act and the Water Conservation Bill of 2009, contains an assessment of current and projected supplies, an evaluation of the reliability of these supplies given a range of hydrologic conditions, an assessment of demands by customer type, and an explanation of water management strategies designed to integrate supply and demand conditions.

The Water Shortage Contingency Plan (WSCP) is a detailed plan for how the City intends to identify and respond to foreseeable and unforeseeable water shortages. A water shortage occurs when the supply is reduced to a level that cannot support the normal demand at any given time or if the state mandates a cutback regardless of supplies.

Copies of the Draft Urban Water Management Plan and Water Shortage Contingency Plan are on file and available for public review at the Environmental and Water Resources Department on the first floor of City Hall at 50 Natoma Street, at the City Clerk's office and online at www.folsom.ca.us. Interested persons are invited to express their opinion. If you challenge the action in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice or written correspondence delivered to the City Council at, or prior to, the public hearing.

City of Folsom
Christa Freemantle
City Clerk

PUBLISHED IN THE FOLSOM TELEGRAPH: MAY 20, 27, 2021

The above space is reserved for Court/County Filed Date Stamp

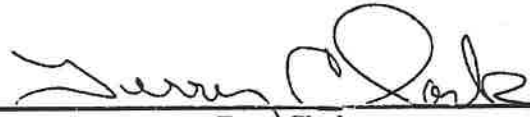
**PROOF OF PUBLICATION
(2015.5 C.C.P.)**

**STATE OF CALIFORNIA
County of Sacramento**

I am a citizen of the United States and employed by a publication in the County aforesaid. I am over the age of eighteen years, and not a party to the mentioned matter. I am the principal clerk of **The Folsom Telegraph**, a newspaper of general circulation, in the **City of Folsom**, which is printed and published in the **County of Placer**. This newspaper has been judged a newspaper of general circulation by the Superior Court of the State of California, in and for the **County of Sacramento**, on the date of April 1, 1952, (Case Number 89429). The notice, of which the attached is a printed copy (set in type not smaller than nonpareil) has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

MAY 20, 27

I certify, under penalty of perjury, that the foregoing is true and correct.



Terry Clark

Dated in Folsom, California

MAY 27, 2021

**PROOF OF PUBLICATION
THE FOLSOM TELEGRAPH
921 Sutter Street
Folsom, CA 95630**

Appendix D 2016-2019 AWWA Water Audits



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0
American Water Works Association
Copyright © 2014, All Rights Reserved.

?	Click to access definition
+	Click to add a comment

Water Audit Report for: **City of Folsom**
 Reporting Year: **2016** **1/2016 - 12/2016**

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

WATER SUPPLIED

----- Enter grading in column 'E' and 'J' ----->

Volume from own sources:	+	?	5	17,814.000	acre-ft/yr
Water imported:	+	?	3	1,060.240	acre-ft/yr
Water exported:	+	?	n/a	0.000	acre-ft/yr

Master Meter and Supply Error Adjustments

Pcnt:	Value:	
+	?	3
+	?	2
+	?	

-391.910 acre-ft/yr
 -391.910 acre-ft/yr
 -391.910 acre-ft/yr

WATER SUPPLIED: **19,266.150** acre-ft/yr

Enter negative % or value for under-registration
 Enter positive % or value for over-registration

AUTHORIZED CONSUMPTION

Billed metered:	+	?	5	14,855.600	acre-ft/yr
Billed unmetered:	+	?	n/a	0.000	acre-ft/yr
Unbilled metered:	+	?	n/a	0.000	acre-ft/yr
Unbilled unmetered:	+	?	5	48.165	acre-ft/yr

AUTHORIZED CONSUMPTION: **14,903.765** acre-ft/yr

Click here: ?
for help using option buttons below

Pcnt:	Value:	
		48.165

acre-ft/yr

Use buttons to select percentage of water supplied
OR
value

WATER LOSSES (Water Supplied - Authorized Consumption)

4,362.385 acre-ft/yr

Apparent Losses

Unauthorized consumption: **48.165** acre-ft/yr
 Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+	?	3	287.723	acre-ft/yr
Systematic data handling errors:	+	?		37.139	acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: **373.028** acre-ft/yr

Pcnt:	Value:	
0.25%		
1.90%		
0.25%		

acre-ft/yr
 acre-ft/yr
 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: **3,989.357** acre-ft/yr

WATER LOSSES: **4,362.385** acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: **4,410.550** acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+	?	9	331.0	miles
Number of active AND inactive service connections:	+	?	10	20,664	
Service connection density:	?			62	conn./mile main

Are customer meters typically located at the curbside or property line? Yes

Average length of customer service line: **0** (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: **68.0** psi

COST DATA

Total annual cost of operating water system:	+	?	10	\$16,580,488	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+	?	9	\$2.31	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+	?	4	\$226.42	\$/acre-ft

Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 56 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources

2: Customer metering inaccuracies

3: Billed metered



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0

American Water Works Association

?	Click to access definition
+	Click to add a comment

Water Audit Report for: Folsom - Environmental & Water Resources Department
Reporting Year: 2017 1/2017 - 12/2017

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

WATER SUPPLIED

Volume from own sources:	+	?	5	19,190.330	acre-ft/yr
Water imported:	+	?	7	1,060.240	acre-ft/yr
Water exported:	+	?	n/a		acre-ft/yr

Master Meter and Supply Error Adjustments

Pcnt:	+	?	3	-72.420	acre-ft/yr
Value:	+	?	5		acre-ft/yr
Pcnt:	+	?			acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 20,322.990 acre-ft/yr

AUTHORIZED CONSUMPTION

Billed metered:	+	?	7	16,444.420	acre-ft/yr
Billed unmetered:	+	?	n/a	0.000	acre-ft/yr
Unbilled metered:	+	?	10	18.030	acre-ft/yr
Unbilled unmetered:	+	?	9	2.900	acre-ft/yr

Click here: ?
for help using option buttons below

Pcnt:	+	?	7	2.900	acre-ft/yr
-------	---	---	---	-------	------------

Use buttons to select percentage of water supplied
OR
value

AUTHORIZED CONSUMPTION: 16,465.350 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

3,857.640 acre-ft/yr

Apparent Losses

Unauthorized consumption: + ? 50.807 acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies: + ? 7 509.148 acre-ft/yr

Systematic data handling errors: + ? 41.111 acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: ? 601.066 acre-ft/yr

Pcnt:	+	?	0.25%		acre-ft/yr
-------	---	---	-------	--	------------

Value:	+	?	3.00%		acre-ft/yr
--------	---	---	-------	--	------------

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? 3,256.574 acre-ft/yr

WATER LOSSES: 3,857.640 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: ? 3,878.570 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+	?	9	331.0	miles
Number of <u>active</u> AND <u>inactive</u> service connections:	+	?	10	20,936	
Service connection density:	?		63		conn./mile main

Are customer meters typically located at the curbside or property line? Yes

Average length of customer service line: + ? (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: + ? 5 68.0 psi

COST DATA

Total annual cost of operating water system:	+	?	10	\$17,240,141	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+	?	9	\$1.15	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+	?	5	\$53.52	\$/acre-ft

Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 67 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources

2: Variable production cost (applied to Real Losses)

3: Billed metered



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WAS v5.0

American Water Works Association

?	Click to access definition
+	Click to add a comment

Water Audit Report for: Folsom - Environmental & Water Resources Department (CA3410030/CA3410014)
Reporting Year: 2018 **1/2018 - 12/2018**

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

WATER SUPPLIED

----- Enter grading in column 'E' and 'J' ----->

Volume from own sources:	+	?	5	18,116.690	acre-ft/yr
Water imported:	+	?	7	1,113.890	acre-ft/yr
Water exported:	+	?	n/a		acre-ft/yr

Master Meter and Supply Error Adjustments

Pcnt:	Value:		
+	?	3	26.420
+	?	5	
+	?		

Enter negative % or value for under-registration
 Enter positive % or value for over-registration

WATER SUPPLIED: 19,204.160 acre-ft/yr

AUTHORIZED CONSUMPTION

Billed metered:	+	?	7	16,136.910	acre-ft/yr
Billed unmetered:	+	?	n/a	0.000	acre-ft/yr
Unbilled metered:	+	?	10	19.710	acre-ft/yr
Unbilled unmetered:	+	?		240.052	acre-ft/yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: 16,396.672 acre-ft/yr

Click here: ?
for help using option buttons below

Pcnt:	Value:	
1.25%		

Use buttons to select percentage of water supplied
OR value

WATER LOSSES (Water Supplied - Authorized Consumption)

2,807.488 acre-ft/yr

Apparent Losses

Unauthorized consumption:	+	?		48.010	acre-ft/yr
---------------------------	---	---	--	--------	------------

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+	?	5	499.689	acre-ft/yr
Systematic data handling errors:	+	?		40.342	acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 588.042 acre-ft/yr

Pcnt:	Value:	
0.25%		

Pcnt:	Value:	
3.00%		
0.25%		

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 2,219.446 acre-ft/yr

WATER LOSSES: 2,807.488 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 3,067.250 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+	?	10	343.5	miles
Number of active AND inactive service connections:	+	?	9	21,816	
Service connection density:	?			64	conn./mile main

Are customer meters typically located at the curbside or property line? Yes

Average length of customer service line: ? (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	+	?	5	68.0	psi
-----------------------------	---	---	---	------	-----

COST DATA

Total annual cost of operating water system:	+	?	10	\$18,262,425	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+	?	10	\$1.87	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+	?	5	\$56.35	\$/acre-ft

Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 66 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources

2: Customer metering inaccuracies

3: Variable production cost (applied to Real Losses)

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Water Audit Report for: **Folsom - Environmental & Water Resources Department (CA3410030)**
Reporting Year: **2019** 1/2019 - 12/2019

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

		----- Enter grading in column 'E' and 'J' ----->				Pcnt: Value:	
Volume from own sources:	5	0.000	acre-ft/yr	+			acre-ft/yr
Water imported:	7	1,112.930	acre-ft/yr	+	5		acre-ft/yr
Water exported:	n/a		acre-ft/yr	+			acre-ft/yr

WATER SUPPLIED: 1,112.930 acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

AUTHORIZED CONSUMPTION

Billed metered:	7	998.300	acre-ft/yr
Billed unmetered:	n/a	0.000	acre-ft/yr
Unbilled metered:	10	0.563	acre-ft/yr
Unbilled unmetered:		13.912	acre-ft/yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: 1,012.775 acre-ft/yr

Click here:
for help using option buttons below

Pcnt: Value:
1.25% [C] [C] acre-ft/yr

Use buttons to select percentage of water supplied
OR
value

WATER LOSSES (Water Supplied - Authorized Consumption)

100.155 acre-ft/yr

Apparent Losses

Unauthorized consumption: **2.782** acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies: 5 **30.893** acre-ft/yr
Systematic data handling errors: **2.496** acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 36.171 acre-ft/yr

Pcnt: Value:
0.25% [C] [C] acre-ft/yr

3.00% [C] [C] acre-ft/yr
0.25% [C] [C] acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: **63.985** acre-ft/yr

WATER LOSSES: 100.155 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 114.630 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains: 10 20.6 miles
Number of active AND inactive service connections: 9 1,077
Service connection density: **52** conn./mile main

Are customer meters typically located at the curbstop or property line? Yes (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line: **Average length of customer service line has been set to zero and a data grading score of 10 has been applied**

Average operating pressure: 5 72.5 psi

COST DATA

Total annual cost of operating water system: 10 \$1,111,187 \$/Year
Customer retail unit cost (applied to Apparent Losses): 10 \$1.19 \$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses): 5 \$81.14 \$/acre-ft Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 72 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Water imported

2: Customer metering inaccuracies

3: Variable production cost (applied to Real Losses)

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Click to add

Water Audit Report for: **Folsom - Environmental & Water Resources Department (CA3410014)**
Reporting Year: **2019** 1/2019 - 12/2019

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

		----- Enter grading in column 'E' and 'J' ----->				Pcnt: Value:	
Volume from own sources:	+?	5	17,602.050	acre-ft/yr	+	3	42.110
Water imported:	+?	7		acre-ft/yr	+		
Water exported:	+?	n/a		acre-ft/yr	+		

WATER SUPPLIED: 17,559.940 acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

AUTHORIZED CONSUMPTION

Billed metered:	+?	7	15,011.020	acre-ft/yr
Billed unmetered:	+?	n/a	0.000	acre-ft/yr
Unbilled metered:	+?	10	56.880	acre-ft/yr
Unbilled unmetered:	+?		219.499	acre-ft/yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: 15,287.399 acre-ft/yr

Click here:
for help using option buttons below

Pcnt: Value:
1.25% [C] [] acre-ft/yr

Use buttons to select percentage of water supplied
OR
value

Pcnt: Value:
0.25% [C] [] acre-ft/yr

3.00% [C] [] acre-ft/yr
0.25% [C] [] acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

2,272.541 acre-ft/yr

Apparent Losses

Unauthorized consumption: 43.900 acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies: 5 466.018 acre-ft/yr
Systematic data handling errors: 5 37.528 acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 547.445 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 1,725.096 acre-ft/yr

WATER LOSSES: 2,272.541 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 2,548.920 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains: 10 346.1 miles
Number of active AND inactive service connections: 9 20,435
Service connection density: 59 conn./mile main

Are customer meters typically located at the curbside or property line? Yes (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line: 10
Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 5 68.0 psi

COST DATA

Total annual cost of operating water system: 10 \$17,532,889 \$/Year
Customer retail unit cost (applied to Apparent Losses): 10 \$1.14 \$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses): 5 \$55.36 \$/acre-ft Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 65 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources

2: Customer metering inaccuracies

3: Variable production cost (applied to Real Losses)

Appendix E City of Folsom Water
Shortage Contingency Plan

Water Shortage Contingency Plan

Adopted



CITY OF
FOLSOM
DISTINCTIVE BY NATURE

6/8/2021

Prepared By:



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APPENDICES

Appendix A – Sacramento County Local Hazard Mitigation Plan – Annex C

Appendix B – City of Folsom WSCP Adoption Resolution

Appendix C – Notice of Public Hearing

ACRONYMS & ABBREVIATIONS

AFY	Acre-feet per year
AF	Acre-feet
AMI	Advanced Metering Infrastructure
Annual Assessment	Annual water supply and demand assessment
AWSAR	Annual Water Shortage Assessment Report
AWIA	America's Water Infrastructure Act
AWWA	American Water Works Association
City	City of Folsom
CVP	Central Valley Project
CWC	California Water Code
DRA	Drought Risk Assessment
DWR	State of California Department of Water Resources
ERP	Emergency Response Plan
EWR	City of Folsom – Environmental and Water Resources
LHMP	Local Hazard Mitigation Plan
M60	Manual of Water Supply Practices
Reclamation	U.S. Bureau of Reclamation
RRA	Risk and Resiliency Assessment
UWMP	2020 Urban Water Management Plan
WSCP	Water Shortage Contingency Plan

1.0 Introduction

This Water Shortage Contingency Plan (WSCP) is a detailed plan for how the City of Folsom (City) intends to identify and respond to foreseeable and unforeseeable water shortages. A water shortage occurs when the supply is reduced to a level that cannot support the normal demand at any given time or if the state mandates a cutback regardless of supplies. The intent of this document is to provide guidance to the City's governing body, its staff, and the public by identifying anticipated water shortages and response actions to allow for efficient management of any water shortage with predictability and accountability.

Good preparation provides the tools to maintain reliable supplies and reduce the impacts of supply interruptions due to extended drought or catastrophic supply interruptions. This document describes the following:

1. **Water Supply Reliability Analysis:** Identifies the key issues that may trigger a shortage condition within the service area.
2. **Annual Water Supply and Demand Assessment Procedures:** Describes the methodology for assessing the system's reliability for the coming year and the steps to formally approve any water shortage levels and response actions.
3. **Six Standard Shortage Stages:** Establishes water shortage levels to clearly identify and prepare for shortages.
4. **Shortage Response Actions:** Describes the response actions that may be implemented or considered for each stage to reduce gaps between supply and demand.
5. **Communication Protocols:** Describes communication protocols to ensure customers, the public, and government agencies are informed of shortage conditions and requirements.
6. **Compliance and Enforcement:** Defines compliance and enforcement actions available to administer demand reductions.
7. **Legal Authority:** Lists the legal authorities available to declare a water shortage and implement and enforce response actions.
8. **Financial Consequences of WSCP Implementation:** Describes the anticipated financial impact of implementing water shortage stages and identifies mitigation strategies.
9. **Monitoring and Reporting:** Summarizes the monitoring and reporting techniques to evaluate the effectiveness of shortage response actions and overall WSCP implementation. Results are used to determine if additional shortage response actions should be activated or whether efforts are successful and response actions should be adjusted.
10. **WSCP Refinement Procedures:** Discusses the factors that may trigger updates to the WSCP as new information becomes available.
11. **Special Water Features Distinctions:** Identifies exemptions for pools and spas.
12. **Plan Adoption, Submittal, and Availability:** Describes the process for the WSCP adoption, submittal, and availability after each revision.

This WSCP was prepared in conjunction with the City's 2020 Urban Water Management Plan (UWMP) (Water Systems Consulting, Inc, 2021) and is a standalone document that can be adapted as new information becomes available. This document is compliant with the California Water Code (CWC) Section 10632 and incorporated guidance from the State of California Department of Water Resources (DWR) Urban Water Management Plan Guidebook 2020 (Department of Water Resources, 2020). The plan is intended to provide guidance, rather than absolute direction, for City action in response to water shortages and provides the City with options to responsibly manage water shortages.

2.0 Water Supply Reliability Analysis

As part of the 2020 UWMP, the City performed a supply reliability analysis for normal, single-dry, and five consecutive dry year conditions. The City expects to meet demands under all water year scenarios with the City's current supply. As described in Chapter 7 of the 2020 UWMP, the City anticipates utilizing between approximately 32,720 to 38,350 AFY from the City's supplies depending on the year type. It is anticipated that this range of volume will be available to meet the City's demands.

The 2020 UWMP also includes a Drought Risk Assessment (DRA) to analyze supply reliability for 2021–2025. Future demand and identified drought supply estimates for the 2021–2025 planning period were used to determine if there are any gaps between supply and demand. This analysis determined there was not a supply shortage and the City will be able to meet its demands.

3.0 Annual Water Supply and Demand Assessment Procedures

As established by CWC Section 10632.1, urban water suppliers must conduct annual water supply and demand assessments and submit an annual water shortage assessment report to DWR with information on anticipated shortages, triggered shortage response actions, and compliance and enforcement actions consistent with the WSCP. Beginning by July 1, 2022, the City must prepare the annual water supply and demand assessment (Annual Assessment) and submit an Annual Water Shortage Assessment Report (AWSAR) to DWR. The Annual Water Shortage Assessment Report will be due by July 1 of every year. Per CWC, the Annual Assessment must include:

- A written description of the decision-making process that the City will use each year to determine its water supply reliability.
- The key data inputs and assessment methodology used to evaluate the supplier's water supply reliability for the current year and one dry year¹, including:
 - Current year unconstrained demand.
 - Current year available supply in the current year and one dry year.
 - Existing infrastructure capabilities and plausible constraints.
 - A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.
 - A description and quantification of each source of water supply.

3.1 Decision-Making Process

The AWSAR evaluates the system's reliability for the coming year based on recent water use and before any projected response actions are implemented to identify potential shortages and response actions. This approach allows the City's staff to plan and prepare for water shortages to ensure proactive responses are implemented to mitigate impacts to its customers. The City will follow the decision-making process and timeline summarized in Table 3-1.

¹ The City can consider more than one dry year.

Table 3-1. Decision-Making Process and Timeline

TASK	TIMELINE
Environmental and Water Resources (EWR) Director and the Water Treatment Plant Supervisor will perform the annual supply and demand assessment and prepare AWSAR.	Completed by May 15 th
The EWR Director will meet with City Manager to discuss AWSAR and results. City Manager will declare a water shortage when deemed appropriate after considering results from AWSAR.	Completed by May 31 st
EWR Director to finalize AWSAR	Completed by June 30 th
AWSAR Submittal	Submit AWSAR by July 1st
AWSAR Availability	AWSAR to be available no later than 30 days after submittal to DWR

3.2 Annual Water Supply and Demand Assessment Preparation

The following sections describe the procedures to determine projected demands and supply reliability for the current year and one dry year and projected demand. This assessment will be used to determine if water shortage response actions need to be triggered.

3.2.1 Evaluation Criteria

The City's current Municipal Code allows for declaration of water shortages by the City Manager when deemed appropriate after considering factors such as availability of non-potable water, agreements for deliveries or additional water supply, and any variations in the reliability of the water supplies available to the City. When a shortage occurs, the City Manager assesses which of the stages of action should be implemented.

3.2.2 Water Supply

For the City's pre-1914 water supply contracts, the City works with the Sacramento Water Forum and the U.S. Bureau of Reclamation (Reclamation) to forecast water operations from Folsom Reservoir. Each month, from January through May, Reclamation provides forecasted operations, which includes projected releases and reservoir storage levels at Folsom Reservoir, to its water contractors. The projected releases and reservoir storage levels at Folsom Reservoir provided in March or April will be used by the City to develop the Annual Assessment.

For the City's 7,000 AF (acre-feet) Central Valley Project (CVP) repayment contract, Reclamation provides an initial allocation of water made available to its CVP Contractors each year in March. Only this CVP supply falls under Reclamation's Municipal and Industrial Water Shortage Policy and is subject to these water shortage conditions. The City will use the projected allocation from Reclamation to develop the Annual Assessment for the CVP repayment contract supply.

As stated in Chapter 6 of the City's 2020 UWMP, the City assumes the Reclamation's Municipal and Industrial Water Shortage Policy could limit a dry year supply to 75% of the historical average water use. Therefore, the dry year supply will include a reduction of 25% from the CVP water supply contract instead of the full allocation. This reduces the CVP supply from 7,000 AF to 5,250 AF.

3.2.3 Unconstrained Customer Demand

The City will utilize a demand tracking and estimation tool to determine the current year demands. This tool will incorporate anticipated housing growth, business growth, population changes, unit demand factors changes, etc. to determine the current year's demands. For dry years, the City could see up to a 5–10% increase in water usage compared to a previous non-dry year. This is mainly due to outdoor irrigation since outdoor irrigation usually begins sooner in a single dry year.

3.2.4 Infrastructure Considerations

There are no planned infrastructure projects that would increase or decrease City supply.

4.0 Six Standard Shortage Stages

This section was completed pursuant to CWC Section 10632(a)(3) and establishes the six standard water shortage levels for the City.

4.1 Water Shortage Levels

This six-stage water shortage plan is to assist the City with planning for and reducing water demands based on the type of water shortage the City is experiencing. Any water shortage, whether long- or short-term, may trigger a stage of the plan to enable the City to manage its water supply responsibly and provide, at a minimum, for the health and safety of its residents.

Shortage stages evaluate the gap in supply compared to normal year availability. To develop this six-stage water shortage plan, the City updated the previously established five water shortages stages to the six water shortage stages as recommended by DWR. The City's water shortage stages are listed below and summarized in Table 4-1. Any stage listed within the WSCP may be enacted by the City Manager as deemed appropriate based on water shortage condition.

- **Normal Supply Stage** – This stage shall be in effect at all times unless the City Manager determines a more restrictive stage is appropriate. The following restrictions shall be enforced during in the Normal Supply Stage:
 - Water will be used for beneficial uses; all wasteful use of water is prohibited.
 - Water shall be confined to the customer's property and shall not be allowed to run off to adjoining property or to the roadside ditch or gutter. Care shall be taken not to water past the point of saturation.
 - Washing down impervious surfaces such as driveways and sidewalks is prohibited unless for public health and safety purposes.
 - Free flowing hoses are prohibited for all uses including landscape watering, vehicle and equipment washing, ponds, evaporative coolers, and livestock watering troughs. Automatic shut-off devices shall be installed on any hose or filling apparatus in use.
 - All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and constructed to be leak proof. Pool draining and refilling shall be allowed only to the extent required for health, maintenance, or structural considerations, and must otherwise comply with all applicable federal, state, and local stormwater management requirements, including but not limited to Chapter 8.70, Stormwater Management and Discharge Control.
- **Stage 1 Water Shortage Condition: Water Conservation** – This stage shall achieve a water demand reduction up to 10%.
- **Stage 2 Water Shortage Condition: Water Shortage Watch** – This stage shall achieve a water demand reduction up to 20%.
- **Stage 3 Water Shortage Condition: Water Alert** – This stage shall achieve a water demand reduction up to 30%.
- **Stage 4 Water Shortage Condition: Water Warning** – This stage shall achieve a water demand reduction up to 40%.
- **Stage 5 Water Shortage Condition: Water Crisis** – This stage shall achieve a water demand reduction up to 50%.
- **Stage 6 Water Shortage Condition: Water Emergency** – This stage shall achieve a water demand reduction greater than 50%.

Table 4-1 summarizes the shortage response actions associated with each shortage stage. A detailed breakdown of the shortage response actions for each shortage stage are included in Section 5.0 of this WSCP.

Table 4-1. Shortage Levels

SHORTAGE STAGE	PERCENT SHORTAGE RANGE	SHORTAGE RESPONSE ACTIONS
1	Up to 10%	Stage 1 includes but is not limited to public information campaigns, landscape restrictions, and repairs of breaks or leaks in timely manner.
2	Up to 20%	Stage 2 includes but is not limited to decreased line flushing, additional landscape restrictions, and vehicle washing restrictions.
3	Up to 30%	Stage 3 includes but is not limited to additional landscape restrictions and water feature and pool restrictions.
4	Up to 40%	Stage 4 includes but is not limited to more extensive landscape restrictions and water feature and pool restrictions.
5	Up to 50%	Stage 5 includes restrictions on water use so that water is used for public health and safety purposes only.
6	>50%	Stage 6 includes restrictions on water use so that water is used for public health and safety purposes only. Customer rationing may be implemented.

5.0 Shortage Response Actions

This WSCP identifies various actions to be considered by the City during the water shortage conditions. These shortage response actions include public outreach and education, water conservation assistance, supply augmentation, water use regulations, development approvals, and demand tracking. In the event of a water shortage emergency, the City will evaluate the cause of the emergency to help inform which response actions should be implemented. Depending on the nature of the water shortage, the City can elect to implement one or several response actions to mitigate the shortage and reduce gaps between supply and demand. It should be noted that all actions listed for Stage 1 apply to Stage 2 through 6. Likewise, Stage 2 actions apply to Stages 3 through 6, and so forth. If necessary, the City may adopt additional actions not listed here in extreme circumstances. The Folsom Municipal Code Section 13.26 provides the authorization for water use restrictions and prohibitions to become effective as deemed by the City Manager.

5.1 Supply Augmentation

The City currently relies on surface water as their only source of supply and continues to evaluate opportunities for use of groundwater, transfers, and exchanges to increase supply reliability, as discussed in Chapter 6 of the 2020 UWMP. The City expects to mitigate water shortages through extensive communication and outreach efforts and demand reduction actions.

5.2 Demand Reduction

The goal of demand reduction is to balance supply and demand. The City offers various rebates to encourage conservation (i.e. ultra-low flush toilet replacements, Rachio Smart Controller rebate, etc.). In addition to rebates, the demand reduction actions that will be implemented at each shortage level are shown in Table 5-1.

It should be noted that if a customer has an irrigation controller that uses local weather data and has the capability to adjust the watering “percentage”, these customers may not be limited to the reduced landscape demand reduction action specifics in the current stage. As an example, if Stage 2 allows irrigation up to three days per week with the intent to meet a 20% reduction, a customer with a smart controller that allows that customer to include a 20% reduction directly in the controller programming, could be exempt from the three-day per week irrigation requirement.

Table 5-1. Demand Reduction Actions

SHORTAGE LEVEL	DEMAND REDUCTION ACTIONS	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP? ^{1,2}	ADDITIONAL EXPLANATION OR REFERENCE	PENALTY, CHARGE, OR OTHER ENFORCEMENT
1	Landscape – limit landscape irrigation to specific times	0–5%	Irrigation of lawns or landscaping shall be between the hours of 10:00 a.m. and 10:00 p.m., with the exception of drip irrigation as otherwise authorized, unless a variance is granted by the director.	Yes
1	Other – customers must repair leaks, breaks, and malfunctions in a timely manner	0–1%	Fix leaks or faulty sprinklers promptly/within 5 day(s).	Yes
1	Other	0–1%	Prohibit overfilling of any pool, pond, or fountain which results in water discharging from pool, pond, or fountain.	Yes
1	Landscape – other landscape restriction or prohibition	0–5%	No landscape watering shall occur while it is raining.	Yes
1	Other – Prohibit use of potable water for construction and dust control	0–1%	Use of potable water from the City water system for compaction, dust control, or other construction purposes without first obtaining approval from the director as provided in Section 13.26.090 and a meter from the City is prohibited.	Yes
1	CII – Other CII restriction or prohibition	0–1%	Commercial, industrial, and institutional equipment must be properly maintained and in full working order.	Yes
1	Expand Public Information Campaign	0–1%	Encourage customers to wash only full loads when washing dishes or clothes.	No
1	Expand Public Information Campaign	0–1%	Encourage customers to use pool covers to minimize evaporation.	No
1	CII – Restaurants may only serve water upon request	0–1%	Require restaurants to only serve water to customers on request.	Yes

Water Shortage Contingency Plan

Shortage Response Actions

SHORTAGE LEVEL	DEMAND REDUCTION ACTIONS	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP? ^{1,2}	ADDITIONAL EXPLANATION OR REFERENCE	PENALTY, CHARGE, OR OTHER ENFORCEMENT
2	Decrease Line Flushing	0–1%	Non-essential flushing of mains and fire hydrants shall be prohibited.	Yes
2	Other – Prohibit vehicle washing except at facilities using recycled or recirculating water	15%	Prohibit installing a non-recirculating system in any new automatic car wash or new commercial laundry system or failure to utilize current best management practices for water conservation that are industry standards.	Yes
2	Landscape – Limit landscape irrigation to specific days	5–10%	Up to 3 days per week turf watering, including public and private streetscape landscaping, when using potable water. Plant containers, trees, shrubs, and vegetable gardens may be watered additional days using only drip irrigation or hand watering.	Yes
2	Other – Prohibit vehicle washing except at facilities using recycled or recirculating water	0–1%	Car washing is only permitted using a commercial carwash that recirculates water or by high-pressure/low-volume wash systems.	Yes
3	Other – Customers must repair leaks, breaks, and malfunctions in a timely manner	0–1%	Fix leaks or faulty sprinklers within 24 hours of notification by utilities department or service may be discontinued.	Yes
3	Other water feature or swimming pool restriction	0–1%	Water use for ornamental ponds and fountains is prohibited unless required to maintain existing vegetation or to sustain existing fish/animal life.	Yes
3	Landscape – Limit landscape irrigation to specific days	5–15%	Up to two days per week turf watering when using potable water.	Yes
3	Other water feature or swimming pool restriction	0–1%	Existing pools shall not be emptied and refilled using potable water unless required for public health and safety purposes.	Yes

Water Shortage Contingency Plan

Shortage Response Actions

SHORTAGE LEVEL	DEMAND REDUCTION ACTIONS	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?^{1,2}	ADDITIONAL EXPLANATION OR REFERENCE	PENALTY, CHARGE, OR OTHER ENFORCEMENT
4	Other water feature or swimming pool restriction	0–1%	No new permits for pools will be issued.	Yes
4	Landscape – Other landscape restriction or prohibition	0–1%	With the exception of landscapes watered with non-potable water, limit the installation of new landscaping to drought-tolerant trees, shrubs, and groundcover. Prohibit installation of new turf or hydro-seed. Customers may apply for a waiver to irrigate during an establishment period for the installation of new turf or hydroseed.	Yes
4	Landscape – Limit landscape irrigation to specific days	5–20%	Up to one day per week turf watering when using potable water.	Yes
5	Landscape – Other landscape restriction or prohibition	0–1%	No new landscape installations or renovations will be permitted.	Yes
5	Other	0–50%	Water use for public health and safety purposes only.	Yes
6	Other	>50%	Water use for public health and safety purposes only. Customer rationing may be implemented.	Yes

Notes:

¹ Reduction in the shortage gap is estimated and can vary significantly.

² Potential reduction estimates were provided by the Regional Water Authority in the WSCP Template 2020 UWMP Water Savings spreadsheet.

5.3 Operational Changes

The City will consider the use of the following operational changes:

- Increasing frequency of notifications and follow-up regarding customer leaks.
- Establishing and communicating emergency rates, if needed.
- Providing irrigation accounts with water use budgets that allow for efficient water use and request voluntary compliance with the established budget.
- Considering hiring temporary staff or consultants to assist with water rationing, water waste patrol, response to water waste reports, enforcement, and outreach.
- Reducing irrigation on all City-owned property.
- Rescinding hydrant and bulk water permits.
- Postponing water main flushing activities.
- In the event of critical and catastrophic shortages, activating emergency notification lists, and coordinating with the California Department of Public Health regarding water quality and public health issues and with law enforcement agencies to address enforcement challenges.
- Restricting accounts exceeding allocation or ration.
- Locking all dedicated irrigation accounts except as needed to sustain trees.

5.4 Additional Mandatory Restrictions

The City has identified a series of restrictions that will be implemented at different shortage levels. These prohibitions are included in the demand reduction actions in Table 5-1.

5.5 Emergency Response Plan

Besides drought, the City may experience a catastrophic interruption of the water supply as a result of natural disasters such as earthquake or flooding, a regional power outage, terrorism, wildfire, or sabotage. The City's Emergency Operations Plan outlines the City's planned responses to emergencies associated with disasters, technological incidents, or other dangerous conditions created either by man or nature (City of Folsom, 2020).

The City is in the process of completing their Risk and Resiliency Assessment (RRA) and Emergency Response Plan (ERP) in accordance with America's Water Infrastructure Act (AWIA) and J-100 standards. The RRA and ERP will analyze all of the City's critical facilities for a seismic event and address mitigation strategies.

5.6 Seismic Risk Assessment and Mitigation Plan

Water Code Section 10632.5 requires participating agencies to assess seismic risk to water supplies as part of their WSCP. The code also requires a mitigation plan for managing seismic risks.

In lieu of conducting their own seismic risk assessment, which can be a lengthy process, suppliers can comply with the Water Code requirement by submitting the relevant local hazard mitigation plan or multi-hazard mitigation plan.

Sacramento County, the county in which the City serves water, prepared a Local Hazard Mitigation Plan (LHMP) in December 2016. Sacramento County is currently in the process of updating the LHMP; however, it was not available at the time of preparation of this WSCP.

The LHMP contains an annex (Annex C) that details hazard mitigation planning elements specific to the City, including seismic risk assessment and mitigation strategies. Annex C is available in Appendix A.

5.7 Shortage Response Action Effectiveness

Measuring reductions in water use is part of regular procedures, whether during normal or water shortage conditions. Water is produced and introduced into the distribution system in response to customer demand and is tracked monthly as an indicator of overall demand. The potential savings for the shortage response actions are available in Table 5-1.

In 2014 and 2015 during the previous drought, the City achieved 19–21% savings in potable water production while under Stage 2 of the City's former WSCP dated June 2016. Future water savings will be measured in a similar manner as described above.

6.0 Communication Protocols

This section was completed pursuant to CWC Section 10632(a)(5) and describes communication protocols under each stage to ensure customers, the public, and government agencies are informed of shortage conditions and requirements.

6.1 Communication Protocols

This WSCP includes a staged plan to communicate the declaration of a shortage stage, inform restrictions, and provide updates during a water shortage emergency. A summary of actions the City could potentially take during a specific shortage stage is outlined in Table 6-1. As water supply conditions worsen, but before a water shortage is declared, the City increases public outreach on the current water supply conditions, the plans for water shortage response, and importance of water efficiency to stretch current supplies. The City's website includes links to other water conservation announcements and provides a phone number and email to the City Water Conservation Division for any specific questions.

Table 6-1. Communication Protocols

WATER SHORTAGE LEVEL	COMMUNICATIONS PROTOCOLS AND PROCESSES
1	<ul style="list-style-type: none"> • Information will be posted on the City’s website • Press releases to local media (online and print newspapers, TV, radio, etc.) • City weekly E-newsletter • Social media posts (Facebook, Twitter, Instagram, and Nextdoor) • Messages through DropCountr or bill inserts
2	<ul style="list-style-type: none"> • Increase information posted on the City’s website • Increased advertising – print, online, radio, TV, streaming, social media, movie theatres, buses, etc. • City weekly E-news letter • Messages through DropCountr or bill inserts
3	<ul style="list-style-type: none"> • Increase information posted on the City’s website • Direct mailings to all customers requesting reduction in water use • City weekly E-newsletter • Messages through DropCountr or bill inserts
4	<ul style="list-style-type: none"> • Direct mailings to all customers requesting reduction in water use • City weekly E-newsletter • Messages through DropCountr or bill inserts • Develop and implement a high-visibility campaign using platforms such as <ul style="list-style-type: none"> – Billboards – Local access television and radio – News conference, preferably with regional partners
5	<ul style="list-style-type: none"> • Direct mailings to all customers requesting reduction in water use • City weekly E-newsletter • Messages through DropCountr or bill inserts • Develop and implement a high-visibility campaign using platforms such as <ul style="list-style-type: none"> – Billboards – Local access television and radio – News conference, preferably with regional partners
6	<ul style="list-style-type: none"> • Direct mailings to all customers requesting reduction in water use • City weekly E-newsletter • Messages through DropCountr or bill inserts • Develop and implement a high-visibility campaign using platforms such as <ul style="list-style-type: none"> – Billboards – Local access television and radio – News conference, preferably with regional partners

7.0 Compliance and Enforcement

The City of Folsom Municipal Code section 13.26 provides the stages of penalties for violators of the water waste regulation. Table 7-1 summarizes the penalties. For the first violation, the City shall issue a personal or written notice of the violation. For a subsequent violation within the 3 months of the first violation, the City shall issue a notice of intent to correct. If a third violation occurs within six months of the first violation an administrative penalty, mandatory water meter, or discontinuation of service may occur. Additionally, any violations that occur during Stages 1-6 and are not corrected within 5 days can have further penalties imposed. These include applying established meter rates to any flat rate service or billing a customer who is already metered at twice the established rate while the violation continues.

Table 7-1. Stages of Penalties

VIOLATION	PENALTY
First	Personal or written notification of the violation
Second (within three months of first violation)	Written notification and issuance of a notice of intent to correct
Third (within six months of the first violation)	Issuance of an administrative penalty, mandatory installation of a water meter, discontinued water service and/or other penalties as provided in the notice of violation and as determined by the EWR Director

7.1 Appeals

There shall be no appeal of the water use restriction identified in Section 13.26.080 in the Folsom Municipal Code and any appeal of administrative penalties shall follow the request for hearing procedures provided in Chapter 1.09. in the Folsom Municipal Code. Any order to install a mandatory water meter, discontinue water service, or any other orders or decisions of the EWR Director shall be appealable to the City Manager pursuant to Section 2.08.060; provided, however, that the City Manager's decision shall be final and there shall be no right of appeal to the City Council.

8.0 Legal Authorities

The City's current Municipal Code 13.26 establishes authority for the City Manager to authorize implementation and enforce whatever conservation measures are deemed necessary to achieve the water reduction requirements of the declared conservation stage.

The current Municipal Code is available at <https://www.folsom.ca.us/government/city-clerk-s-office>.

The City shall coordinate with any city or the Sacramento County for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code (California Emergency Services Act).

9.0 Financial Consequences

When a drought or water shortage occurs, the City's costs will increase due to the additional activities and duties of instituting a stage of action. Not only will there be costs for materials, and time from permanent staff, but additional staff may need to be hired to assist in implementing the WSCP. As conservation measures and requirements increase and the water supply decreases, the City will also likely realize a decrease in revenue. To combat this and help pay for the expenses discussed above, revenue will be provided by the penalties incurred by excessive water users as discussed in Section 7.0. Potential financial consequence mitigation strategies that the City may implement are provided in Table 9-1.

Table 9-1. Financial Consequence Mitigation Strategies

MITIGATION STRATEGIES	POTENTIAL IMPACTS OF MEASURE
Outside Funding – pursue outside funds	<ul style="list-style-type: none"> • Increase funds without impacting customers
Rate Adjustments – increase rates and fees	<ul style="list-style-type: none"> • Increase savings in reserve fund • In normal years, surplus funds available for normal operations • Customer resistance
Use of Accumulated Reserves - adopt and/or maintain fund reserve targets to mitigate current and future risks and promote stable services and fees	<ul style="list-style-type: none"> • Decrease savings in reserve fund • Decrease availability for O&M or capital funds
Decrease Capital Expenditures – temporarily postpone CIP projects	<ul style="list-style-type: none"> • Increase savings in reserve fund • Delay system rehabilitation/reliability
Decrease Operations and Maintenance Expenditures – temporarily decrease O&M expenditures	<ul style="list-style-type: none"> • Increase savings in reserve fund • Less staff available to respond to emergencies • Reduce maintenance frequency of system facilities • Decreased customer service • Decreased shortage response time

10.0 Monitoring and Reporting

Monitoring demands is essential to ensuring that WSCP response actions are adequately meeting reductions and decreasing the supply/demand gap. This will help to analyze the effectiveness of the WSCP or identify the need to activate additional response actions. During a water shortage, the City plans to review monthly water treatment plant production data and compare the month's production to that same month's production from a previous baseline year to determine the water use reduction. Results are used to determine if additional shortage response actions should be activated or if efforts are successful and response actions should be reduced.

The City currently has Advanced Metering Infrastructure (AMI) technology to monitor customer water usage. Meters are read once a month using the City's AMI system. This system sends the meter department error codes, such as leak or tamper, daily. This allows the City to address the issue and continue to gather quality water use data.

The City also intends to provide reporting to the State based on forthcoming regulations for monthly reporting of water production and other water uses, along with associated enforcement metrics.

11.0 Refinement Procedures

The City intends to use this WSCP as an adaptive management plan to identify and respond to foreseeable and unforeseeable water shortages. The WSCP is used to provide guidance to the City's governing body, staff, and the public by identifying response actions to allow for efficient management of any water shortage with predictability and accountability. To maintain a useful and efficient standard of practice in water shortage conditions, the requirements, criteria, and response actions need to be continually evaluated and improved upon to ensure that its shortage risk tolerance is adequate, and the shortage response actions are effective and up to date based on lessons learned from implementing the WSCP. The WSCP will be revised and updated during the UWMP update cycle to incorporate updated and new information. However, if revisions to the WSCP are warranted before the UWMP is updated, the WSCP will be updated outside of the UWMP update cycle.

12.0 Special Water Features Distinction

The City has separate response actions, enforcement actions, and monitoring programs for both decorative water features and pools and spas. These shortage response actions are included in Table 5-1. Decorative water features that are not pools or spas will be defined as artificial ponds, lakes, waterfalls, fountains, or non-pool or non-spa water features.

13.0 Plan Adoption, Submittal, and Availability

This WSCP update has been prepared in tandem with the City's 2020 UWMP. The City held a public hearing to present and review the WSCP on June 8, 2020. A copy of the adopting resolution is included in Appendix B. Prior to the public hearing, notices were published notifying the public of the date of time of the hearing. A copy of the published Notice of Public Hearing is included in Appendix C.

A copy of the adopted the WSCP will be provided to Sacramento County and the California State Library and posted onto the City's website.

References

American Water Works Association (AWWA). 2019. *Manual of Water Supply Practices, Drought Preparedness and Response.* 2019.

City of Folsom. 2020. City of Folsom Emergency Operations Plan. 2020.

Department of Water Resources. 2020. Urban Water Management Plan Guidebook 2020. 2020.

Water Systems Consulting, Inc. City of Folsom 2020 Urban Water Management Plan.

Appendix A Sacramento County Local Hazard Mitigation Plan – Annex C



Annex C City of Folsom

C.1 Introduction

This Annex details the hazard mitigation planning elements specific to the City of Folsom, a previously participating jurisdiction to the Sacramento County Local Hazard Mitigation Plan (LHMP) Update. This Annex is not intended to be a standalone document, but appends to and supplements the information contained in the Base Plan document. As such, all sections of the Base Plan, including the planning process and other procedural requirements apply to and were met by the City. This Annex provides additional information specific to the City of Folsom, with a focus on providing additional details on the planning process, risk assessment, and mitigation strategy for this community.

C.2 Planning Process

As described above, the City of Folsom followed the planning process detailed in Section 3 of the Base Plan. In addition to providing representation on the Sacramento County Hazard Mitigation Planning Committee (HMPC) and Steering Committee, the City formulated their own internal planning team to support the broader planning process requirements. Internal planning participants, their positions, and how they participated in the planning process are shown in Table C-1. Additional details on plan participation and City representatives are included in Appendix A.

Table C-1 City of Folsom Planning Team

Name	Position/Title	How Participated
Allan Laca	Senior Civil Engineer – Public Works	Reviewed draft LHMP and provided input. Coordinated review with the City. Attended coordination meeting.
Dave Nugen	Capital Improvements Section Manager – Public Works	Reviewed draft LHMP and provided input.
Ron Phillips	Fire Chief	Reviewed draft LHMP and provided input. Attended coordination and planning team meetings.
Sarah Cheney	Senior Civil Engineer – Public Works	Reviewed draft LHMP and provided input. Coordinated review with the City. Attended coordination and planning team meetings.

C.2.1. Coordination with Other Community Planning Efforts

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This Section provides information on how the City integrated the previously-approved 2011 Plan into existing planning mechanisms and programs. Specifically, the City incorporated into or implemented the 2011 LHMP through other plans and programs shown in Table C-2.

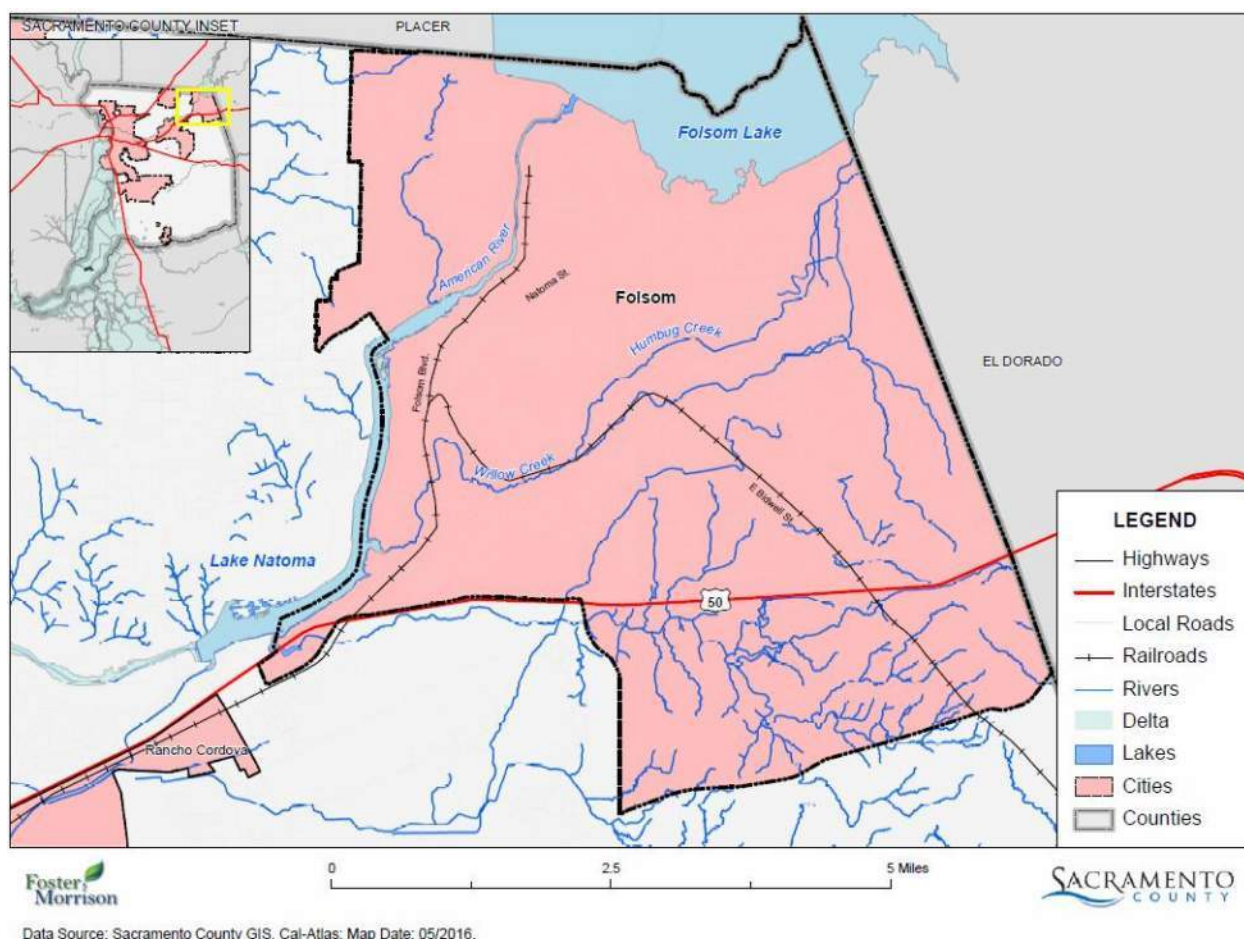
Table C-2 2011 LHMP Incorporation

Planning Mechanism 2011 LHMP Was Incorporated/Implemented In.	Details?
General Plan	The General Plan was adopted in 1988. The Housing Element was updated in 1993. A comprehensive update to the General Plan is being developed and is in draft form. The 2035 General Plan is proposed to be adopted on November of 2017. The Safety Element will be updated to incorporate elements of the Local Hazard Mitigation Plan.
Emergency Operations Plan	Elements of the Local Hazard Mitigation Plan will be implemented in the next update of the Emergency Operations Plan.
Stormwater Basins Project	Rehabilitation of City-maintained Storm Drainage Detention Basins throughout the City of Folsom, to reduce the occurrence of flooding.
Capital Improvement Program	Constructed/implemented several projects identified in last LHMP.

C.3 Community Profile

The community profile for the City of Folsom is detailed in the following sections. Figure C-1 displays a map and the location of the City of Folsom within Sacramento County.

Figure C-1 City of Folsom



C.3.1. Geography and Climate

Folsom is located about 25 miles east of California’s state capitol in Sacramento, 85 miles from Lake Tahoe and 110 miles from San Francisco. Residents have access to Sacramento International Airport and air cargo operations at Mather Field Airport. Folsom has direct access to Highway 50 with three interchanges. Highway 50 connects to Interstate 5 and Interstate 80. The Folsom Lake Crossing, a new bridge across the American River below Folsom Dam, opened in March 2009 helping to relieve local traffic between El Dorado and Placer counties. Public transportation includes light rail service from Folsom to Sacramento. Local bus service connects Folsom’s three light rail stations to major employment centers and other points of interest. Amtrak Rail service is available from downtown Sacramento.

Folsom enjoys mild winters that are cool and moist with some fogs and Mediterranean summers that are clear, hot, and dry. This climate is ideal for temperate fruit and nut crops, as well as some wine grapes and cold hardy citrus. Folsom’s average temperature varies from low temperatures of 37 to 60 degrees to high temperatures of 53 to 94 degrees. Annual rainfall averages 23 inches per year falling primarily from November through March. Elevation is 350 feet.

C.3.2. History

Folsom is famous across the country thanks to a country song about a prison recorded by Johnny Cash in 1956. The City's rich history actually began more than a century earlier with California's great Gold Rush and arrival of the railroad. Gold was first discovered along the south bank of the American River in the area known as Negro Bar. The discovery led to massive gold mining operations, as well as a need for rail service.

In 1847, William Leidesdorff, a successful trader who owned a prosperous shipping business, traveled to Sacramento by steamboat to see the 35,000 acres he had purchased years earlier. His land holdings extended from today's Bradshaw Road along the south side of the American River to the present City of Folsom. That same year, U.S. Army Captain Joseph Folsom's regiment arrived in California. At the conclusion of the Mexican-American War, Folsom remained in the state and became interested in purchasing the land that Leidesdorff had left to his heirs following his death in 1848.

After a long fight to obtain the land, Folsom hired fellow railroad pioneer Theodore Judah to help establish a town site near the Negro Bar mining spot on the American River. Their early plans included shops along Sutter Street and a railroad depot. Folsom named the new town "Granite City." Judah and Folsom planned the town as a railroad terminus before there were railroads in California. Though Folsom didn't live to see it, his dream came true on Feb. 22, 1856 when the first train on the first railroad in the West arrived in Folsom from Sacramento.

Following Folsom's death at the age of 38, his successors renamed the town in his memory. By January 1856, every lot had been sold, and three new hotels were open in the town known as Folsom. Several decades later, construction began on Folsom Prison. Inmates helped construct the facility, which opened in 1880 when the first prisoners were moved to relieve over-crowding at San Quentin.

Following construction of the Folsom Powerhouse, Folsom made history in 1895 with the first long-distance transmission of electricity (22 miles from Folsom to Sacramento). The Powerhouse helped usher in the age of electricity with this notable accomplishment. The City's historic truss bridge was completed in 1893 to transport people, cattle and small vehicles across the American River. In 1917, the Rainbow Bridge opened to accommodate automobiles. It was the only option for crossing the river until the Lake Natoma Crossing opened in 1999.

Following a campaign spearheaded by the Chamber of Commerce in 1946, Folsom became a city. The final vote was 285 in favor of incorporation and 168 opposed. Members of the first City Council were Leland Miller, Harry Patton, Eugene Kerr, Wendell Van Winkle and Norbert Relvas. Hazel McFarland was elected city clerk and Wilma Hoxie was the first treasurer. Council members elected Eugene Kerr as the City's first mayor.

C.3.3. Economy and Tax Base

Folsom has established itself as an important suburb in the Sacramento region with its solid base of small businesses, retail chains, and food service establishments. With an ongoing commitment to providing high-

quality, economical, responsive services to the local community, the City is well-positioned for future commercial redevelopment, neighborhood enhancements, and positive changes.

US Census estimates show economic characteristics for the City of Folsom. These are shown in Table C-3 and Table C-8. Mean household income in the City was \$100,163. Median household income in the City was \$110,870.

Table C-3 City of Folsom Civilian Employed Population 16 years and Over

Industry	Estimated Employment	Percent
Agriculture, forestry, fishing and hunting, and mining	85	0.3%
Construction	1,589	4.8%
Manufacturing	4,420	13.5%
Wholesale trade	818	2.5%
Retail trade	3,029	9.2%
Transportation and warehousing, and utilities	945	2.9%
Information	545	1.7%
Finance and insurance, and real estate and rental and leasing	3,605	11.0%
Professional, scientific, and management, and administrative and waste management services	3,992	12.2%
Educational services, and health care and social assistance	6,555	20.0%
Arts, entertainment, and recreation, and accommodation and food services	2,241	6.8%
Other services, except public administration	1,194	3.6%
Public administration	3,747	11.4%

Source: US Census Bureau American Community Survey 2010-2014 Estimates

Table C-4 City of Folsom Income and Benefits

Income Bracket	Population	Percent
>\$10,000	716	2.9%
\$10,000 – \$14,999	543	2.2%
\$15,000 - \$24,999	1,010	4.0%
\$25,000 – \$34,999	1,438	5.7%
\$35,000 – \$49,999	1,905	7.6%
\$50,000 – \$74,999	3,352	13.3%
\$75,000 – \$99,999	3,564	14.2%
\$100,000 – \$149,999	6,379	25.4%
\$150,000 – \$199,999	3,606	14.4%
\$200,000 or more	2,598	10.3%

Source: US Census Bureau, 2010

Major employers include Intel Corporation, Folsom-Cordova Unified School District, Mercy Hospital, Kaiser Permanente, Maximus, Verizon, Costco, Walmart, Folsom State Prison, Home Depot, Target, Lowe's, Trader Joe's, Kohl's, Best Buy, Winco, REI, Sam's Club, Video Products Distributors, Cal-ISO, the City of Folsom, and Micron Technology.

The City has a wide and varied tax base. Tax base information is tracked and maintained by the Sacramento County Assessor's Office. The following tables show the tax base for the City. Table C-5 shows the secured real property value for the City of Folsom. Table C-6 breaks out the City by land use.

Table C-5 City of Folsom – Property Tax Roll Totals

Jurisdiction	2015-16 Value (\$)	2016-17 Value (\$)	Current Year Change	Percent of Current Roll*
Folsom	11,973,366,059	12,576,166,745	5%	9

Source: Sacramento County Assessor's Office

*Percentages rounded to the nearest whole number

Table C-6 City of Folsom – Summary of Property Types

Jurisdiction	Single Family with HEX*	Single Family Without HEX*	Multi-Family Residential	Vacant Land	Commercial	Agricultural	Mobile Homes	Other	Total
Folsom	13,296	7,792	317	1,744	755	17	854	574	25,349

Source: Sacramento County Assessor's Office

*Homeowners' Exemption

C.3.4. Population

The California Department of Finance estimated the January 1, 2015 total population for the City of Folsom was 74,909.

Select demographic information from the 2014 US Census American Community Survey (the most recent data available) is shown in Table C-7.

Table C-7 City of Folsom Demographic Information

Demographic Characteristic	Number	Percent
Race		
White	51,612	70.4%
Black or African American	4,276	5.8%
American Indian or Alaska Native	399	0.5%
Asian	10,374	14.1%
Hawaiian or Pacific Islander	416	0.6%
Two or more races	3,242	4.4%
Households*		

Demographic Characteristic	Number	Percent
Total Households	24,951	–
Average Household Size	2.61	–

Source: US Census Bureau American Community Survey 2010-2014 Estimates; *US Census Bureau, 2010

C.4 Hazard Identification

Folsom’s planning team identified the hazards that affect the City and summarized their geographic extent, probability of future occurrences, potential magnitude/severity, and significance specific to Folsom (see Table C-8).

Table C-8 City of Folsom—Hazard Identification Assessment

Hazard	Geographic Extent	Probability of Future Occurrences	Magnitude/Severity	Significance
Agricultural Hazards	Limited	Unlikely	Negligible	Low
Bird Strike	Limited	Unlikely	Negligible	Low
Climate Change	Significant	Likely	Critical	Low
Dam Failure	Significant	Unlikely	Critical	High
Drought and Water Shortage	Extensive	Occasional	Limited	Medium
Earthquake	Extensive	Unlikely	Catastrophic	Low
Earthquake: Liquefaction	Limited	Unlikely	Limited	Low
Flood: 100/200/500-year	Significant	Occasional/Unlikely	Critical	Medium
Flood: Localized Stormwater Flooding	Limited	Likely	Negligible	Medium
Landslides	Limited	Unlikely	Limited	Low
Levee Failure	N/A	N/A	N/A	N/A
River/Stream/Creek Bank Erosion	Limited	Likely	Limited	Medium
Severe Weather: Extreme Temperatures – Cold/Freeze	Limited	Likely	Negligible	Low
Severe Weather: Extreme Temperatures – Heat	Limited	Likely	Negligible	Low
Severe Weather: Fog	Significant	Likely	Negligible	Low
Severe Weather: Heavy Rains and Storms (Thunderstorms, Hail, and Lightning)	Limited	Likely	Negligible	Medium
Severe Weather: Wind and Tornadoes	Limited	Occasional	Limited	Low
Subsidence	N/A	N/A	N/A	N/A
Volcano	N/A	N/A	N/A	N/A
Wildfire:(Burn Area/Smoke)	Significant	Likely	Critical	Medium
Geographic Extent Limited: Less than 10% of planning area Significant: 10-50% of planning area Extensive: 50-100% of planning area		Magnitude/Severity Catastrophic —More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths Critical —25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability Limited —10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability Negligible —Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid		
Probability of Future Occurrences Highly Likely: Near 100% chance of occurrence in next year, or happens every year. Likely: Between 10 and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less. Occasional: Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years. Unlikely: Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.		Significance Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact		

C.5 Hazard Profile and Vulnerability Assessment

The intent of this section is to profile Folsom’s hazards and assess the City’s vulnerability separate from that of the Planning Area as a whole, which has already been assessed in Sections 4.2 Hazard Profiles and 4.3 Vulnerability Assessment in the main plan. The hazard profiles in the main plan discuss overall impacts to the Planning Area and describes the hazard problem description, hazard extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. Hazard profile information specific to the City of Folsom is included in this Annex. This vulnerability assessment analyzes the property, population, critical facilities, and other assets at risk to hazards ranked of medium or high significance specific to the City of Folsom and also includes a vulnerability assessment to the three primary hazards to the State of California: earthquake, flood, and wildfire. For more information about how hazards affect the County as a whole, see Chapter 4 Risk Assessment in the main plan.

C.5.1. Hazard Profile

Each hazard vulnerability assessment in Section C.5.3, includes a description as to how the hazard affects the City and information on past occurrences. The intent of these section is to provide jurisdictional specific information on hazards and further describe how the hazards and risks differ across the Planning Area.

C.5.2. Vulnerability Assessment and Total Assets at Risk

This section presents the vulnerability assessment for the City and identifies Folsom’s total assets at risk, including values at risk, critical facilities and infrastructure, natural resources, and historic and cultural resources. Growth and development trends are also presented for the community. This data is not hazard specific, but is representative of total assets at risk within the community.

Values at Risk

The following data from the Sacramento County Assessor’s Office is based on the 2015 Assessor’s data. The methodology used to derive property values is the same as in Section 4.3.1 of the Base Plan. This data should only be used as a guideline to overall values in the County, as the information has some limitations. The most significant limitation is created by Proposition 13. Instead of adjusting property values annually, the values are not adjusted or assessed at fair market value until a property transfer occurs. As a result, overall value information is most likely low and does not reflect current market value of properties within the County. It is also important to note, in the event of a disaster, it is generally the value of the infrastructure or improvements to the land that is of concern or at risk. Generally, the land itself is not a loss. Table C-9 shows the 2015 Assessor’s values (e.g., the values at risk) broken down by property type for the City of Folsom.

Table C-9 City of Folsom – Total Assets at Risk by Property Use

Property Use	Total Parcel Count	Improved Parcel Count	Total Land Value	Improved Structure Value	Total Value
Agricultural	17	0	\$56,930,100	\$0	\$56,930,100
Care / Health	33	27	\$30,572,662	\$139,628,498	\$170,201,160

Property Use	Total Parcel Count	Improved Parcel Count	Total Land Value	Improved Structure Value	Total Value
Church / Welfare	34	30	\$9,231,139	\$50,689,315	\$59,920,454
Industrial	39	34	\$28,569,542	\$97,359,974	\$125,929,516
Miscellaneous	685	1	\$635,638	\$65,000	\$700,638
Office	218	199	\$148,632,665	\$763,788,850	\$912,421,515
Public / Utilities	424	-	\$0	\$0	\$0
Recreational	17	13	\$15,543,139	\$38,863,089	\$54,406,228
Residential	20,433	19,930	\$2,376,060,690	\$5,877,871,359	\$8,253,932,049
Retail / Commercial	362	345	\$289,631,149	\$712,877,748	\$1,002,508,897
Vacant	810	18	\$218,249,715	\$2,499,240	\$220,748,955
No Data	-	-	\$0	\$0	\$0
Total	23,072	20,597	\$3,174,056,439	\$7,683,643,073	\$10,857,699,512

Source: Sacramento County 2016 Parcel/2015 Assessor's Data

Critical Facilities and Infrastructure

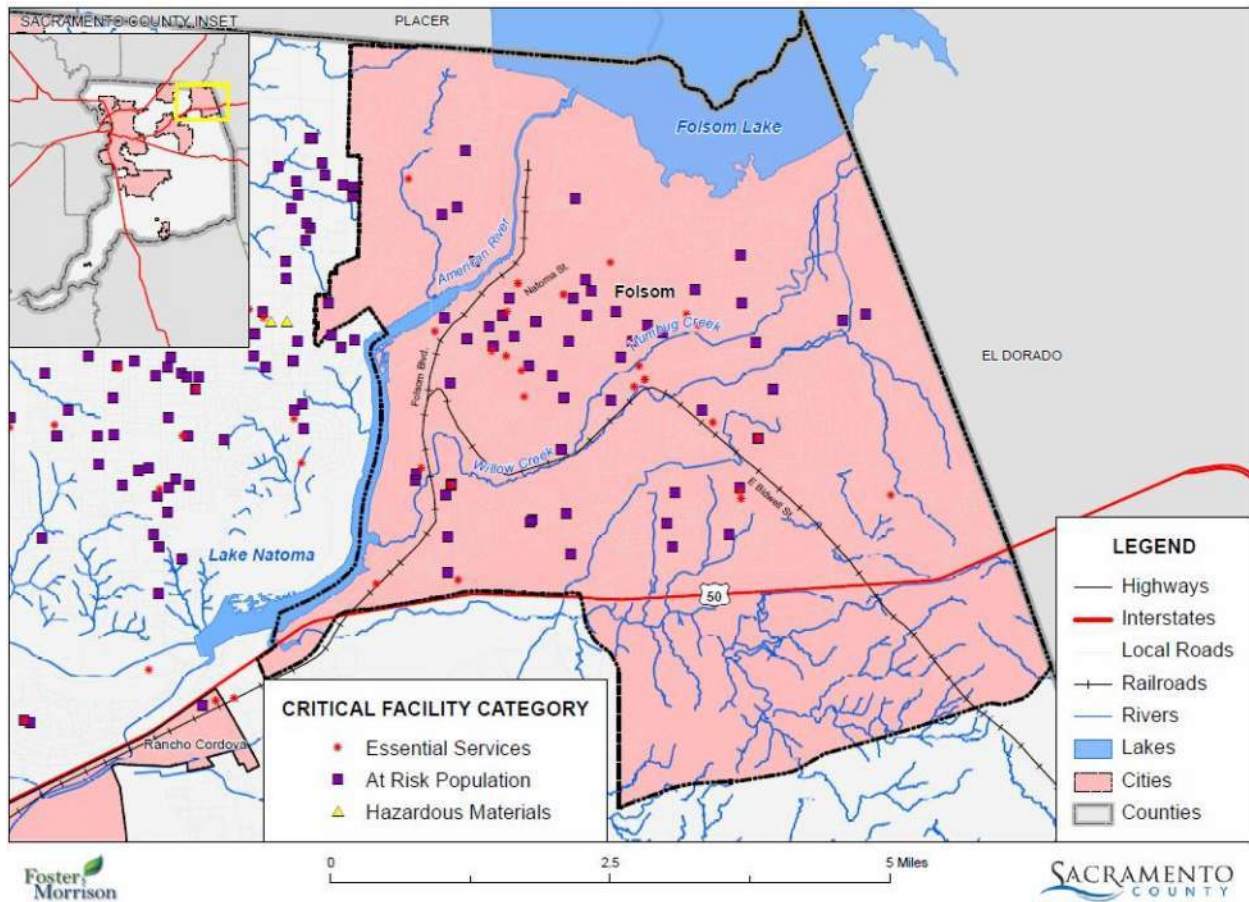
For purposes of this plan, a critical facility is defined as:

Any facility, including without limitation, a structure, infrastructure, property, equipment or service, that if adversely affected during a hazard event may result in severe consequences to public health and safety or interrupt essential services and operations for the community at any time before, during and after the hazard event.

This definition was refined by separating out three classes of critical facilities, that include Essential Services Facilities, At Risk Population Facilities, and Hazardous Materials Facilities, as further described in Section 4.3.1 of the Base Plan.

An inventory of critical facilities in the City of Folsom from Sacramento County GIS is shown on Figure C-2 and detailed in Table C-10. Details of critical facility definition, type, name, address, and jurisdiction by hazard zone are listed in Appendix E.

Figure C-2 City of Folsom – Critical Facilities



Data Source: Sacramento County GIS, Cal-Atlas; Map Date: 05/2016.

Table C-10 City of Folsom – Critical Facilities Inventory

Critical Facility Category	Facility Type	Facility Count
Essential Services Facilities	Emergency Evacuation Shelter	9
	Fire Station	4
	General Acute Care Hospital	2
	Government Facilities	3
	Light Rail Stop	3
	Medical Health Facility	5
	Police	1
	Water Treatment Plant	1
	Total	28
At Risk Population Facilities	Adult Residential	1
	Charter School	1

Critical Facility Category	Facility Type	Facility Count
	College/University	1
	Day Care Center	20
	Hotel	1
	Infant Center	2
	Prison	1
	Private Elementary School	6
	Private High School	1
	Public Continuation High School	1
	Public Elementary School	9
	Public High School	1
	Public Middle School	2
	Residential Care/Elderly	17
	Total	64
Grand Total		92

Source: Sacramento County GIS

Natural Resources

The natural environment of Folsom presents a variety of natural resources. Environmental considerations have been taken into consideration during development protecting hillsides, riparian habitats, vernal pools, local streams and other localized environmentally sensitive areas. Much of these areas have been preserved in open space.

The City of Folsom has a variety of natural resources of value to the community:

Vegetation Communities

The City of Folsom Planning Area includes the following vegetation communities:

- Chamise Chaparral
- Interior Live Oak Woodland
- Blue Oak Woodland and Savanna
- California Annual Grassland
- Cottonwood/Willow Riparian
- Freshwater Marsh
- Seasonal Wetlands
- Vernal Pools
- Lake Shoreline Fluctuation Zone
- Ruderal and Barren Areas

Special Status Animal Species

According to the California Department of Fish and Game, twenty nine special status wildlife species are known or suspected to occur in the Folsom area.

- Valley Elderberry Longhorn Beetle
- California Red-legged Frog
- Foothill Yellow-legged Frog
- Western Spadefoot
- Western Pond Turtle
- California Horned Lizard
- Bald Eagle
- Golden Eagle
- Peregrine Falcon
- Prairie Falcon
- Burrowing Owl
- Osprey
- Northern harrier
- Sharp-shinned hawk
- Cooper's hawk
- Ferruginous hawk
- Merlin (*Falco columbarius*)
- Long-eared owl
- Short-eared owl
- Loggerhead Shrike
- Tricolor blackbird
- Yellow-breasted Chat
- Yellow Warbler
- Greater Sandhill Crane
- Willow Flycatcher
- Purple Martin
- Pallid bat
- Townsends big-eared bat
- California mastiff bat

Special Status Plant Species

A special-status plant species, as defined here, meets one or more of the following criteria:

- Officially listed by the California Department of Fish and Game (CDFG) as rare, threatened, or endangered and/or by the U.S. Fish and Wildlife Service (USFWS) as threatened or endangered or proposed for listing.
- A federal or State candidate species for listing as threatened or endangered or State candidate for listing as rare. Such a species may become formally listed during the course of a project.
- Listed under one of the following categories in the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Vascular Plants of California (Skinner and Pavlik 1994) and/or the Electronic Inventory of Rare and Endangered Vascular Plants of California (Skinner and Pavlik 1994; update 2001):
 - ✓ List 1A – Plants presumed extinct in California.
 - ✓ List 1B – Plants rare, threatened, or endangered in California and elsewhere.

- ✓ List 2 – Plants rare, threatened, or endangered in California but more common elsewhere.

Table C-11 lists the special status plant species in the vicinity of Folsom.

Table C-11 Special-Status Plant Species Occurring in the General Vicinity of Folsom

Species	Status/Federal /State/CNPS ¹	Habitat Requirements ²	Blooming Period
<i>Atriplex joaquiniana</i> San Joaquin spearscale	-/-/1B	Chenopod scrub, alkali meadow, grassland; in seasonal alkali wetlands or alkali sink scrub.	Apr-Oct
<i>Balsamorhiza macrolepis var macrolepis</i> Big-scale balsamroot	-/-/1B	Grassland, cismontane woodland; sometimes on serpentine.	Mar-Jun
<i>Calystegia stebbinsii</i> Stebbin's morning glory	FE/SE/1B	Chaparral, cismontane woodland; in open areas on red clay soils of the Pine Hill formation, or on gabbroic or serpentine soils. (Endemic to Pine Hill formation in El Dorado and Nevada counties.)	Apr-Jul
<i>Ceanothus roderickii</i> Pine Hill ceanothus	FE/SR/1B	Cismontane woodland, chaparral; on gabbroic soils, often in "historically disturbed" areas. (Endemic to the Pine Hill Area in Eldorado County.)	May-Jun
<i>Chlorogalum grandiflorum</i> Red Hills soaproot	-/-/1B	Cismontane woodland, chaparral, lower montane coniferous forest; on serpentine and gabbro substrates; often on "historically disturbed" sites.	May-Jun
<i>Clarkia biloba ssp. Brandegeae</i> Brandegee's clarkia	-/-/1B	Chaparral, cismontane woodland; often on roadcuts.	May-Jul
<i>Cordylanthus mollis ssp. Hispidus</i> Hispid bird's-beak	-/-/1B	Meadows, playas, grassland; in damp alkaline soils, especially in alkali meadows and sinks.	Jun-Sep
<i>Downingia pusilla</i> Dwarf downingia	-/-/2	Mesic grassland, vernal pools; on margins of different types of vernal pools and vernal lakes.	Mar-May
<i>Eryngium pinnatisectum</i> Tuolumne button-celery	-/-/1B	Cismontane woodland, lower montane coniferous forest, vernal pools; on mesic sites.	Jun-Aug
<i>Fremontodendron decumbens</i> Pine Hill flannelbush	FE/SR/1B	Chaparral, cismontane woodland; on rocky ridges, often among rocks and boulders. Endemic to gabbroic and serpentine soils. (Endemic to Eldorado and Nevada Counties.)	Apr-Jul
<i>Fritillaria eastwoodiae</i> Butte County fritillary	-/-/3	Chaparral, cismontane woodland, lower montane coniferous forest; usually on dry slopes in serpentine, red clay, or sandy loam soils; sometimes on mesic sites.	Mar-May
<i>Galium californicum ssp. Sierra</i> El Dorado bedstraw	FE/SR/1B	Cismontane woodland, chaparral, lower montane coniferous forest; on gabbroic soils in mostly oak woodland. (Endemic to El Dorado County.)	May-Jun
<i>Gratiola heterosepala</i> Boggs Lake hedge- hyssop	-/SE/1B	Freshwater marshes and swamps, vernal pools; in clay soils, usually in vernal pools, sometimes on lake margins.	Apr-Aug

Species	Status/Federal /State/CNPS ¹	Habitat Requirements ²	Blooming Period
<i>Helianthemum suffrutescens</i> Bisbee Peak rush rose	-/-/3	Chaparral; in openings, often on serpentine, gabbroic, or Ione formation soils.	Apr-Jun
<i>Juncus leiospermus</i> var. <i>abartii</i> Ahart's dwarf rush	-/-/1B	Vernal pools; restricted to edges of pools.	Mar-May
<i>Juncus leiospermus</i> var. <i>leiospermus</i> Red Bluff dwarf rush	-/-/1B	Chaparral, grassland, cismontane woodland, vernal pools; in vernal mesic sites or at edges of vernal pools.	Mar-May
<i>Lathyrus sulphureus</i> var. <i>argillaceus</i> Dubious pea	-/-/3	Cismontane woodland, lower and upper montane coniferous forest.	Apr
<i>Legenere limosa</i> Legenere	-/-/1B	Vernal pools; in beds of pools. (Many historical occurrences extirpated.)	Apr-Jun
<i>Navarretia myersii</i> ssp. <i>Myersii</i> Pincushion navarretia	-/-/1B	Vernal pools, mesic grassland; on clay soils within non-native grassland.	May
<i>Orcuttia tenuis</i> Slender Orcutt grass	FT/SE/1B	Vernal pools.	May-Oct
<i>Orcuttia viscid</i> Sacramento Orcutt grass	FE/SE/1B	Vernal pools. (Endemic to Sacramento County.)	Apr-Jul
<i>Sagittaria sanfordii</i> Sanford's arrowhead	-/-/1B	Marshes and swamps; in standing or slow-moving, fresh-water ponds and ditches.	May-Oct
<i>Senecio layneae</i> Layne's ragwort	FT/SR/1B	Chaparral, cismontane woodland; on ultramafic soils; occasionally along streams.	Apr-Jul
<i>Wyethia reticulata</i> El Dorado County mule ears	-/-/1B	Chaparral, cismontane woodland, lower montane coniferous forest; in openings on stony red clay and gabbroic soils. (Endemic to El Dorado County.)	May-Jul

Footnotes:

1 Status:

FE - Federally-listed as endangered.

FT - Federally-listed as threatened.

SE - State-listed as endangered.

SR - State-listed as rare.

1B - CNPS (California Native Plant Society): Plants rare, threatened or endangered in California and elsewhere.

2 - CNPS: Plants rare, threatened, or endangered in California but more common elsewhere.

3 - CNPS: Plants about which we need more information – a review list.

4 - CNPS: Plants of limited distribution – a watch list.

2 Sources: CNPS (2001); CNDDB (2002); Hickman (1993) 3 Source: CNDDB (2002)

Historic and Cultural Resources

Table C-12 shows registered historic sites the in the City of Folsom.

Table C-12 Registered Historic Sites in the City of Folsom

Name (Landmark Plaque Number)	National Register	State Landmark	California Register	Point of Interest	Date Listed
Chinese Diggings, Natoma Station Ground Sluice (P712)				X	11/22/1988
Chung Wah Cemetery (N1918)	X				8/21/1995
Cohn House (N1001)	X				1/21/1982
Coloma Road At Nimbus Dam (746)		X			7/5/1960
Folsom Depot (N1035)	X				2/19/1982
Folsom Powerhouse (N258)	X				10/2/1973
Folsom-Overland Pony Express Route In California (702)		X			9/11/1959
Negro Bar (P798)				X	5/31/1994
Old Folsom Powerhouse (633)		X			3/3/1958
Southern Pacific Railroad Superintendent House (N2411)	X				6/13/2008
Terminal Of California's First Passenger Railroad (558)		X			12/31/1956
Yeong Wo Cemetery (P810)				X	5/30/1995

Source: California Office of Historical Preservation

The National Park Service administers two programs that recognize the importance of historic resources, specifically those pertaining to architecture and engineering. While inclusion in these programs does not give these structures any sort of protection, they are valuable historic assets.

The Historic American Buildings Survey (HABS) and Historic American Engineering Record (HAER) document America's architectural and engineering heritage. Table C-13 lists the HABS and HAER structures in Sacramento County.

Table C-13 City of Folsom HABS and HAER Structures

Area	Historic Building/Structure
Folsom Vicinity	
	Folsom Powerhouse, Adjacent to American River, Folsom vicinity, Sacramento, CA
	Keefe-McDerby Mine Ditch, East of East Bidwell Street between Clarksville Road & Highway 50, Folsom vicinity, Sacramento, CA
	Natomas Ditch System, Blue Ravine Segment, Juncture of Blue Ravine & Green Valley Roads, Folsom vicinity, Sacramento, CA
Folsom	
	Folsom Powerhouse, Adjacent to American River, Folsom vicinity, Sacramento, CA.
	Guiseppe Murer House, 1121 Folsom Boulevard, Folsom, Sacramento, CA
	House, Folsom, Sacramento, CA
	Keefe-McDerby Mine Ditch, East of East Bidwell Street between Clarksville Road & Highway 50, Folsom vicinity, Sacramento, CA
	Methodist Episcopal Church, Folsom, Sacramento, CA
	Natomas Ditch System, Blue Ravine Segment, Juncture of Blue Ravine & Green Valley Roads, Folsom vicinity, Sacramento, CA
	Natomas Ditch System, Rhodes Ditch, West of Bidwell Street, north of U.S. Highway 50, Folsom, Sacramento, CA
	Trinity Episcopal Church, Folsom, Sacramento, CA
	Wells Fargo & Company Building, Folsom, Sacramento, CA

Source: The Library of Congress, American Memory, http://memory.loc.gov/ammem/collections/habs_haer/

It should be noted that these lists may not be complete, as they may not include those currently in the nomination process and not yet listed. Additionally, as defined by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), any property over 50 years of age is considered a historic resource and is potentially eligible for the National Register. Thus, in the event that the property is to be altered, or has been altered, as the result of a major federal action, the property must be evaluated under the guidelines set forth by CEQA and NEPA. Structural mitigation projects are considered alterations for the purpose of this regulation.

In addition to the registered sites, there are several assets within Folsom that define the community and represent the City’s history. Some of the historical sites of importance to Folsom are listed below.

- Gold Creek Bridge (formerly part of Lincoln Highway)
- Hinkle Creek Nature Area (prehistoric archeological site)

Growth and Development Trends

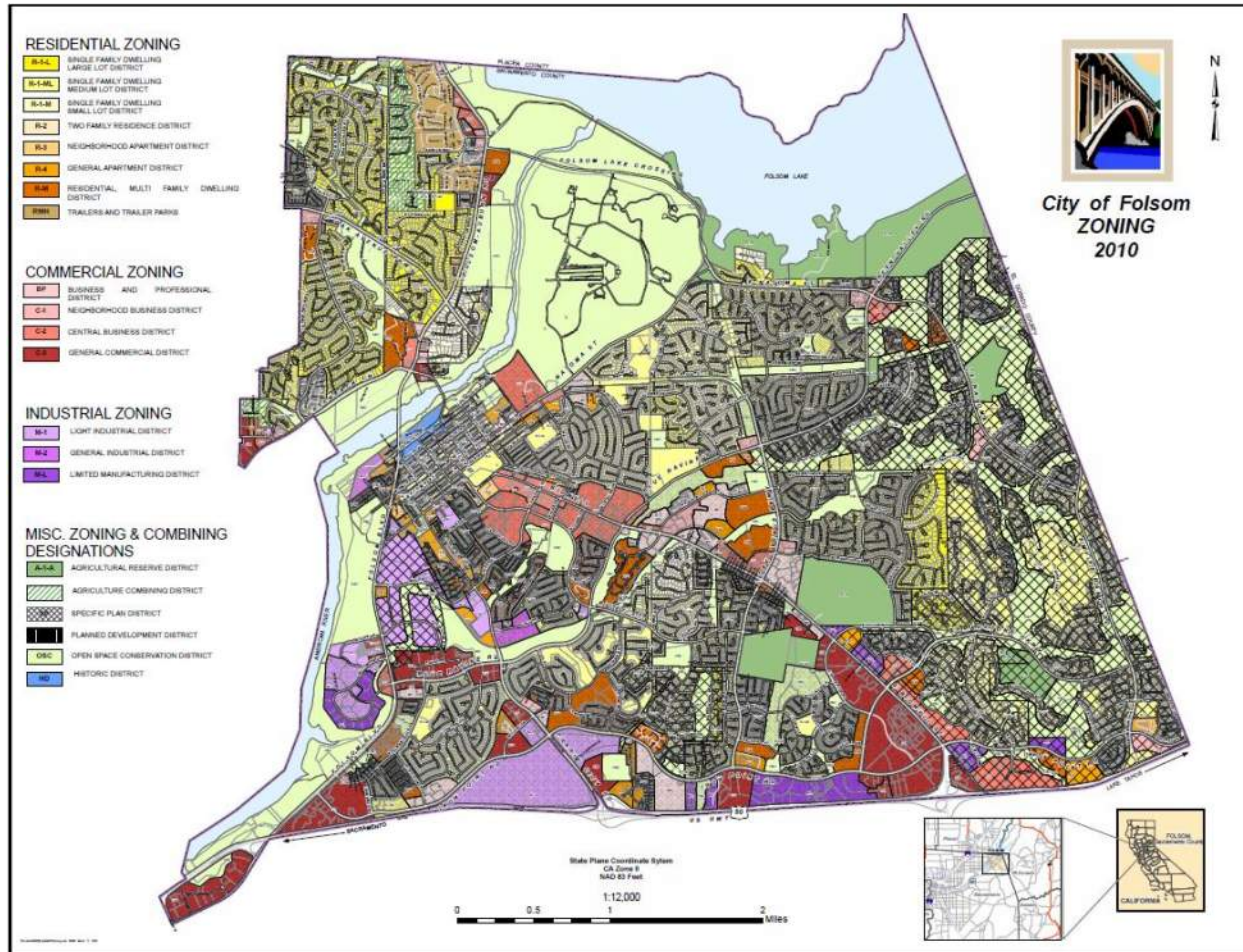
Growth within the City of Folsom has been strong and steady. Past growth is shown in Table C-14. Current zoning for the City is shown on Figure C-3.

Table C-14 City of Folsom Population 1990 to 2010

Date	1990	2000	2010
Population	29,802	51,884	72,203

Source: California Department of Finance

Figure C-3 City of Folsom Zoning Map



Source: City of Folsom

Development since 2011 Plan

As shown in Table C-15, Folsom has seen a growth of 3.7% of population between 2010 and January 1, 2015.

Table C-15 City of Folsom Population Changes Since 2011

Year	Population	Change	% Change
2010 ¹	72,203	—	—
2015 ²	74,909	2,706	3.7%

Source: ¹US Census Bureau, ²California Department of Finance

The Folsom Building Department and Planning Department tracked total building permits issued since 2011 for the City. These are tracked by total development, property use type, and hazard risk area. These are shown in Table C-16 and Table C-17. All development in the identified hazard areas, including the 1% annual chance floodplains, areas protected by levees, and high wildfire risk areas, were completed in accordance with all current and applicable development codes and standards and should be adequately protected. Thus, with the exception of more people living in the area potentially exposed to natural hazards, this growth should not cause a significant change in vulnerability of the City to identified priority hazards.

Table C-16 City of Folsom Total Development Since 2011

Property Use	2011	2012	2013	2014	2015
Residential	71	166	332	279	242
Commercial	3	7	3	2	2
Industrial	1	2	0	1	0
Other	0	0	0	0	0
Total	75	175	335	282	244

Source: City of Folsom

Table C-17 City of Folsom Development in Hazard Areas since 2011

Property Use	1% Annual Chance Flood	Area Protected by Levee	Wildfire Risk Area ¹	Other
Residential	1	0	1,090	0
Commercial	1	0	17	0
Industrial	0	0	4	0
Other	0	0	0	0
Total	2	0	1,111	0

Source: City of Folsom

¹Moderate or higher wildfire risk area

Future Development

The Sacramento Council on Governments (SACOG) modeled population projections for the City of Folsom and other areas of the region in 2012 for a Metropolitan Transportation Plan/Sustainable Communities Strategy report. This forecast uses a 2008 base year estimate with projections to 2020 and 2035 for population, housing units, households and employment. SACOG estimated the City population in 2020 and 2035 to be 74,664 and 78,689 respectively.

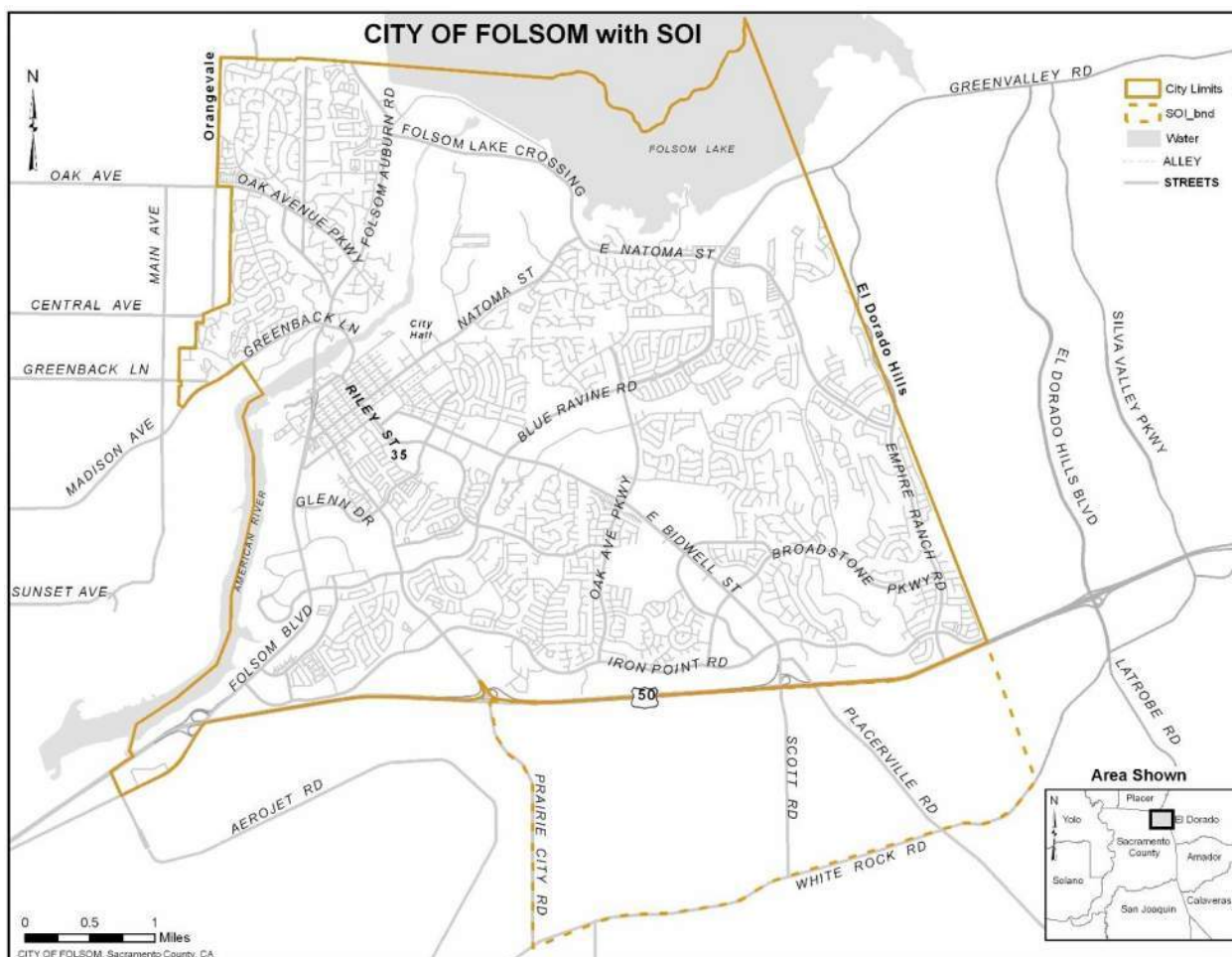
In June 2005, the City Council selected a preferred land use plan for the Folsom Plan Area (FPA), formerly known as the Sphere of Influence (SOI), area located south of Highway 50. and directed staff to prepare the environmental documents required for annexation. The SOI FPA encompasses 3,600 acres bounded by Highway 50, Prairie City Road, White Rock Road and the El Dorado County line. In June 2006, the landowners for the SOI FPA area unveiled their proposed land use plan. The plan includes over 1,000 acres for open space, 130 acres of parks, 500 acres designated for commercial, office, and retail use, and over

1,400 acres set aside for residential use. (see Figure C-4 and Figure C-5). Approximately 30 percent of the area would be maintained as open space to preserve oak woodlands and creek corridors.

Folsom Plan Area Land Uses

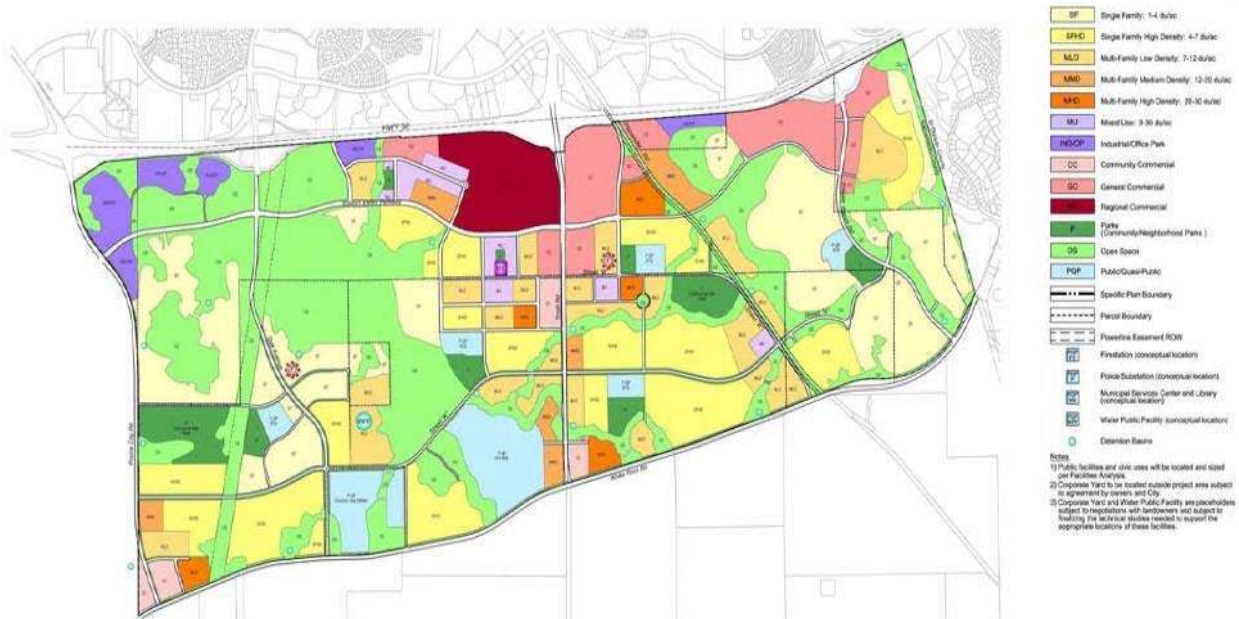
- Residential (units cap) 10,045
- Open Space (acres) 1,046
- Parks (acres) 165
- Schools/Civic Uses (acres) 179
- Commercial/Retail (acres) 340
- Mixed-Use (acres) 41
- Office Park (acres) 106

Figure C-4 City of Folsom Future Development Areas



Source: City of Folsom GIS

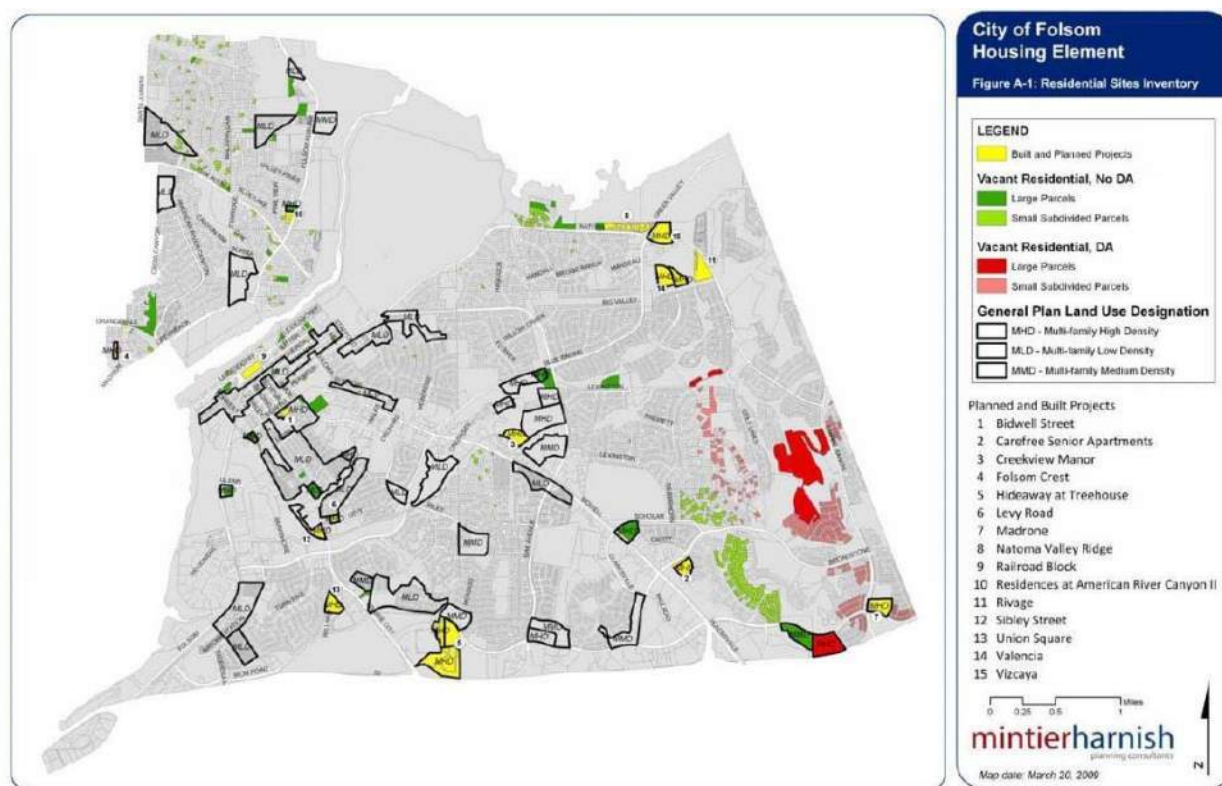
Figure C-5 Folsom Plan Area Land Use Diagram



Source: City of Folsom Housing Element Background Report

During the planning process for the City of Folsom Housing Element, an assessment was conducted of the vacant land suitable for residential development within the City of Folsom. The data was compiled by City staff and mapped. The inventory includes some vacant sites that were in the discussion or pre-application stages in the City of Folsom development project approval process as of the effective date of the inventory (January 1, 2009), but were not included in the inventory of built and planned projects. These locations are shown in Figure C-6.

Figure C-6 City of Folsom Future Growth Areas



Source: City of Folsom Housing Element

C.5.3. Vulnerability to Specific Hazards

This section provides the vulnerability assessment, including any quantifiable loss estimates, for those hazards identified above in Table C-8 as high or medium significance hazards and primary hazards to the State of California. Impacts of past events and vulnerability of the City to specific hazards are further discussed below (see Section 4.1 Hazard Identification in the Base Plan for more detailed information about these hazards and their impacts on the Sacramento County Planning Area). Methodologies for calculating loss estimates are the same as those described in Section 4.3 of the Base Plan. In general, the most vulnerable structures are those located within the flood risk areas, wildfire risk areas, unreinforced masonry buildings, and buildings built prior to the introduction of modern building codes.

An estimate of the vulnerability of the City to each identified priority hazard, in addition to the estimate of risk of future occurrence, is provided in each of the hazard-specific sections that follow. Vulnerability is measured in general, qualitative terms and is a summary of the potential impact based on past occurrences, spatial extent, and damage and casualty potential. It is categorized into the following classifications:

- **Extremely Low**—The occurrence and potential cost of damage to life and property is very minimal to nonexistent.
- **Low**—Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.

- **Medium**—Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.
- **High**—Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past.
- **Extremely High**—Very widespread with catastrophic impact.

Dam Failure

Likelihood of Future Occurrence—Unlikely

Vulnerability—High

Hazard Profile and Problem Description

Dam failures can result from a number of natural or man-made causes such as earthquakes, erosion of the face or foundation, improper siding, rapidly rising flood waters, structural/design flaws, and deliberate human actions. A dam failure can cause loss of life, damage to property, and other ensuing hazards, as well as the displacement of persons residing in the inundation path. Damage to electric generating facilities and transmission lines could also impact life support systems in communities outside the immediate hazard areas.

A catastrophic dam failure, depending on size of dam and population downstream, could exceed the response capability of local communities. Damage control and disaster relief support would be required from other local governmental and private organizations, and from state and federal governments.

Warning ability is generally determined by the frequency of inspections for structural integrity, the flood wave arrival time (the time it takes for the flood wave to reach its maximum distance of inundation), or the ability to notify persons downstream and their ability to evacuate. The existence and frequency of updating and exercising an evacuation plan that is site-specific assists in warning and evacuation functions.

Folsom Dam, owned by the US Bureau of Reclamation, is the primary dam of concern which has the potential to affect the Sacramento County Planning Area and the local jurisdictions and populations in the inundation areas. Figure 4.75 in Section 4.3.6 in the Base Plan shows the areas of Sacramento County at risk to a dam failure of the Folsom Dam.

Past Occurrences

On the morning of July 17, 1995, spillway gate 3 failed at the Folsom Dam. The failure resulted in an uncontrolled release of nearly 40 percent of Folsom Lake at a peak rate of approximately 40, 000 cubic feet per second. The failure caused no fatalities.

There has been no new occurrence of a dam failure since the 2011 update to the Sacramento County Local Hazard Mitigation Plan.

Vulnerability to Dam Failure

A failure of the Folsom or other high or significant hazard dam can cause significant loss of life, property damage, loss of critical facilities and infrastructure, and displacement of city residents.

Mass evacuation of the inundation area may be essential to save lives, if warning time should permit. Extensive search and rescue operations may be required to assist trapped or injured persons. Emergency medical care, food, and temporary shelter would be required for injured or displaced persons. Identification and burial of many dead persons would pose difficult problems; public health would be a major concern. Many families would be separated, particularly if the failure should occur during working hours, and a personal inquiry or locator system would be essential. These and other emergency operations could be seriously hampered by the loss of communications, damage to transportation routes, and the disruption of public utilities and other essential services.

Governmental assistance could be required and may continue for an extended period. These efforts would be required to remove debris and clear roadways, demolish unsafe structures, assist in re-establishing public services and utilities, and provide continuing care and welfare for the affected population including, as required, temporary housing for displaced persons.

Values at Risk

Sacramento County provided inundation as a GIS layer for the Folsom Dam system, as part of the following breaks:

- Folsom Right Wing
- Folsom Mormon
- Folsom Dike 4
- Folsom Dike 5
- Folsom Dike 6
- Folsom Dike 7
- Folsom Dike 8
- Folsom Dam

GIS was used to determine the possible impacts of dam failure flooding within the City of Folsom. The methodology described in Section 4.3.6 of the Base Plan was followed in determining structures and values at risk in potential dam inundation areas. Table C-18 shows the property use, improved parcel count, improved values, estimated contents, total values and estimated loss of parcels that fall in an inundation zone in the City.

Table C-18 City of Folsom– Count of Parcels and Values in Dam Inundation Zone

Property Use	Total Parcel Count	Improved Parcel Count	Total Land Value	Improved Structure Value	Total Value
Agricultural	2	0	\$594,274	\$0	\$594,274
Care / Health	32	27	\$30,215,669	\$139,628,498	\$169,844,167
Church / Welfare	33	29	\$8,570,498	\$46,000,192	\$54,570,690

Property Use	Total Parcel Count	Improved Parcel Count	Total Land Value	Improved Structure Value	Total Value
Industrial	36	32	\$22,437,499	\$87,959,365	\$110,396,864
Miscellaneous	491	0	\$211,523	\$0	\$211,523
Office	207	189	\$113,012,184	\$649,471,037	\$762,483,221
Public / Utilities	349	0	\$0	\$0	\$0
Recreational	12	10	\$6,397,301	\$22,547,552	\$28,944,853
Residential	15,349	15,082	\$1,710,264,456	\$4,148,956,987	\$5,859,221,443
Retail / Commercial	298	285	\$230,937,623	\$565,346,544	\$796,284,167
Vacant	272	7	\$51,750,518	\$210,721	\$51,961,239
No Data	0	0	\$0	\$0	\$0
Total	17,081	15,661	\$2,174,391,545	\$5,660,120,896	\$7,834,512,441

Source: Sacramento County 2016 Parcel/2015 Assessor's Data

Table C-19 shows potential losses from a Folsom Dam failure with loss estimate and loss ratios for the City. The loss ratio is the loss estimate (i.e., total of improved and contents value for all parcels located in the dam inundation zone in the City) divided by the total potential exposure and displayed as a percentage of loss. Due to the varying flood depths that may occur during flooding, the loss estimate uses 3 scenarios: 3-foot flood depth (30% damage), 6-foot flood depth (60% damage to structure and contents), and total loss (all structure and contents are lost). Land values are not included in the loss estimates, as the land itself is usually not a loss. FEMA considers loss ratios greater than 10% to be significant and an indicator that a community may have more difficulties recovering from a dam failure.

Table C-19 City of Folsom – Dam Inundation Loss Estimates

Flood Zone	Improved Parcel Count*	Improved Structure Value	Estimated Contents Value	Total Value	Loss Estimate*	Loss Ratio
Folsom Dam Inundation	15,661	\$5,660,120,896	\$3,629,411,364	\$9,289,532,260	\$2,786,859,678	25.7%
					\$5,573,719,356	51.3%
					\$9,289,532,260	85.6%

Source: Sacramento County GIS, Sacramento County 2016 Parcel/2015 Assessor's Data

*Three values are shown here due to varying flood depths expected – 3 foot, 6 foot, and total loss.

According to the information in Table C-18 and Table C-19, the City of Folsom has 15,626 improved parcels and roughly \$9.3 billion of structure and contents value in the Folsom Dam inundation area. The 3-foot loss ratio of 25.7%, the 6-foot loss ratio of 51.3%, and the total loss ratio of 85.6% indicates that the City has very large amounts of assets at risk to a possible Folsom Dam failure.

Population at Risk

The dam inundation zones were overlaid on the parcel layer using GIS. Those residential parcel centroids that intersect the dam inundation zones were counted and multiplied by the 2010 Census Bureau average household factors for the City. According to this analysis, there is a total population of 40,061 residents of the City at risk to dam inundation. This is shown in Table C-25.

Table C-20 City of Folsom – Count of Improved Residential Parcels and Population in Dam Inundation Zones

Improved Residential Parcels	Population*
15,082	39,364

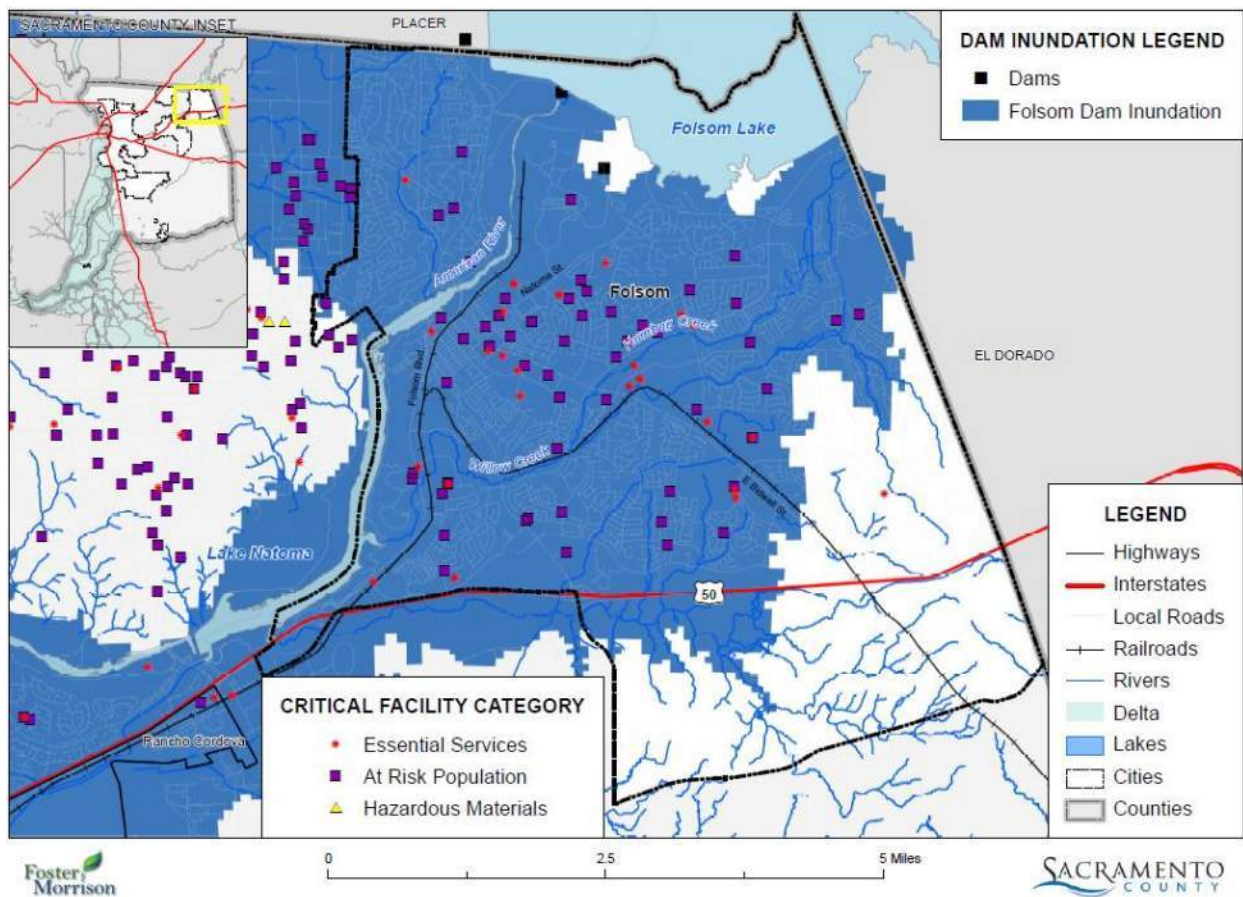
Source: FEMA 4/16/2016 DFIRM, Sacramento County 2016 Parcel/2015 Assessor’s Data, 2010 US Census Bureau

* Average household populations from the 2010 US Census were used: Folsom – 2.61.

Critical Facilities at Risk

An analysis was performed on the critical facility inventory in the City of Folsom in identified Folsom Dam inundation zones. GIS was used to determine whether the facility location intersects the inundation area. Details of critical facilities in the inundation area in the City of Folsom are shown in Figure C-7 and Table C-21. As shown on the table and figure, Folsom has 91 critical facilities located in the Folsom Dam inundation areas. Details of critical facility definition, type, name and address and jurisdiction by flood zone are listed in Appendix E.

Figure C-7 City of Folsom – Critical Facilities in Dam Inundation Zones



Data Source: Sacramento County GIS, Cal-Atlas, National Inventory of Dams; Map Date: 05/2016.

Table C-21 City of Folsom – Critical Facilities in Dam Inundation Zones

Critical Facility Category	Facility Type	Facility Count
Essential Services Facilities	Emergency Evacuation Shelter	8
	Fire Station	4
	General Acute Care Hospital	2
	Government Facilities	3
	Light Rail Stop	3
	Medical Health Facility	5
	Police	1
	Water Treatment Plant	1
	Total	27
At Risk Population Facilities	Adult Residential	1
	Charter School	1
	College/University	1
	Day Care Center	20
	Hotel	1
	Infant Center	2
	Prison	1
	Private Elementary School	6
	Private High School	1
	Public Continuation High School	1
	Public Elementary School	9
	Public High School	1
	Public Middle School	2
	Residential Care/Elderly	17
Total	64	
Total		91

Source: Sacramento County GIS

Future Development

There is future development within the Folsom Dam inundation zone.

Drought

Likelihood of Future Occurrence—Occasional

Vulnerability—Medium

Hazard Profile and Problem Description

Drought is different than many of the other natural hazards in that it is not a distinct event and usually has a slow onset. Drought can severely impact a region both physically and economically. Drought affects different sectors in different ways and with varying intensities. Adequate water is the most critical issue and is critical for manufacturing, tourism, recreation, and commercial and domestic use. As the population in the area continues to grow, so will the demand for water.

Past Occurrences

From 2012 to 2015, the City of Folsom experienced a drought, which affected water supply. During that period, water agencies implemented conservation efforts and Folsom Lake reached record low water levels.

Vulnerability to Drought

Based on historical information, the occurrence of drought in California, including the City of Folsom, is cyclical, driven by weather patterns. Drought has occurred in the past and will occur in the future. Periods of actual drought with adverse impacts can vary in duration, and the period between droughts is often extended. Although an area may be under an extended dry period, determining when it becomes a drought is based on impacts to individual water users. The vulnerability of the City of Folsom to drought is City-wide, but impacts may vary and include reduction in water supply and an increase in dry fuels.

Future Development

The City of Folsom has the capacity in their water rights appropriations to supply water to the Folsom Plan Area. Conservation efforts were put in place to account for the projected increase in water demand due to the development.

As the population in the area continues to grow, so will the demand for water. Water shortages in the future may be worsened by drought, as the City relies on surface water for its water source. Increased planning will be needed to account for population growth and increased water demands.

Flood: 100/200/500-year

Likelihood of Future Occurrence—Unlikely

Vulnerability—Medium

Hazard Profile and Problem Description

The City of Folsom is traversed by several stream systems and is at risk to both riverine flooding and localized stormwater flooding. As previously described in Section 4.2.10 of the Base Plan, the Sacramento

County Planning Area and the City of Folsom have been subject to previous occurrences of flooding. In the City of Folsom, much of the flood damage occurs in the floodplains of the American River, Willow Creek, and Humbug Creek.

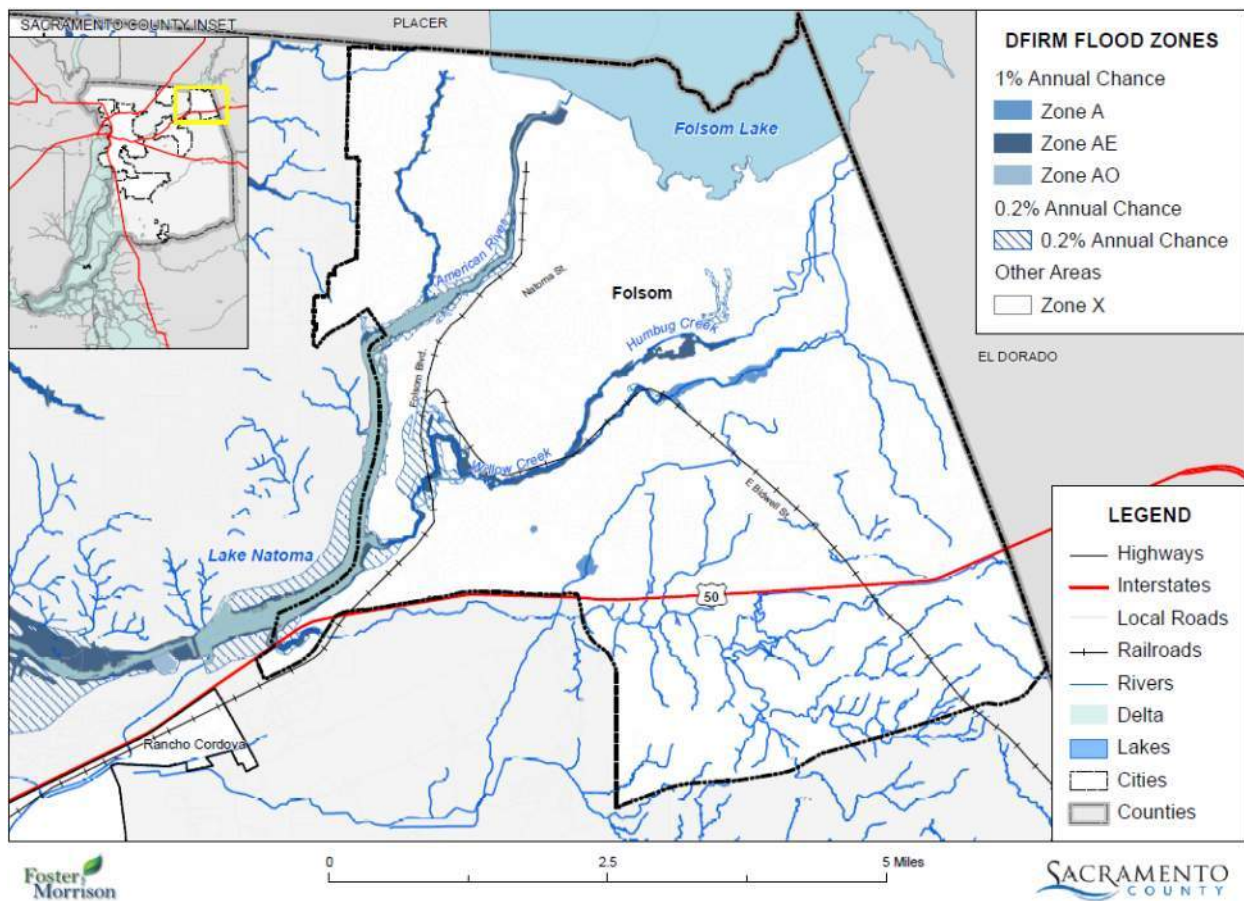
Past Occurrences

There have been no new flooding due to the 100-, 200-, 500-year storm events since the 2011 update to the Sacramento County Hazard Mitigation Plan.

Flood Zones

A small portion of the City is located inside of the 100 year flood zone as defined by the Federal Emergency Management Agency (FEMA). This is seen in Figure C-8.

Figure C-8 City of Folsom – FEMA DFIRM Flood Zones



Data Source: Sacramento County GIS, Cal-Atlas, FEMA NFHL 04/16/2016; Map Date: 05/2016.

Vulnerability to Flood

Values at Risk

GIS was used to determine the possible impacts of flooding within the City of Folsom. The methodology described in Section 4.3.10 of the Base Plan was followed in determining structures and values at risk to the 1% (100-year) and 0.2% (500-year) annual chance flood event. Table C-22 shows the property use, improved parcel count, improved values, estimated contents, total values and estimated loss of parcels that fall in a floodplain in the City.

Table C-22 City of Folsom – Count and Improved Value by Property Use and Detailed Flood Zone

Property Use	Total Parcel Count	Improved Parcel Count	Total Land Value	Improved Structure Value	Estimated Contents Value	Total Value
Zone A						
Agricultural	0	0	\$0	\$0	\$0	\$0
Care / Health	1	0	\$1,784,965	\$0	\$1,784,965	\$3,569,930
Church / Welfare	0	0	\$0	\$0	\$0	\$0
Industrial	0	0	\$0	\$0	\$0	\$0
Miscellaneous	2	0	\$0	\$0	\$0	\$0
NO DATA	0	0	\$0	\$0	\$0	\$0
Office	0	0	\$0	\$0	\$0	\$0
Public / Utilities	2	0	\$0	\$0	\$0	\$0
Recreational	0	0	\$0	\$0	\$0	\$0
Residential	0	0	\$0	\$0	\$0	\$0
Retail / Commercial	0	0	\$0	\$0	\$0	\$0
Vacant	0	0	\$0	\$0	\$0	\$0
Total	5	0	\$1,784,965	\$0	\$1,784,965	\$3,569,930
Zone AE						
Agricultural	0	0	\$0	\$0	\$0	\$0
Care / Health	0	0	\$0	\$0	\$0	\$0
Church / Welfare	0	0	\$0	\$0	\$0	\$0
Industrial	0	0	\$0	\$0	\$0	\$0
Miscellaneous	5	0	\$39	\$0	\$39	\$78
NO DATA	0	0	\$0	\$0	\$0	\$0
Office	1	1	\$185,000	\$385,000	\$185,000	\$755,000

Property Use	Total Parcel Count	Improved Parcel Count	Total Land Value	Improved Structure Value	Estimated Contents Value	Total Value
Public / Utilities	9	0	\$0	\$0	\$0	\$0
Recreational	0	0	\$0	\$0	\$0	\$0
Residential	7	7	\$585,406	\$1,972,379	\$292,703	\$2,850,488
Retail / Commercial	1	0	\$1,100,000	\$0	\$1,100,000	\$2,200,000
Vacant	3	0	\$6,602	\$0	\$0	\$6,602
Total	26	8	\$1,877,047	\$2,357,379	\$1,577,742	\$5,812,168
Zone AH						
Agricultural	0	0	\$0	\$0	\$0	\$0
Care / Health	0	0	\$0	\$0	\$0	\$0
Church / Welfare	0	0	\$0	\$0	\$0	\$0
Industrial	0	0	\$0	\$0	\$0	\$0
Miscellaneous	0	0	\$0	\$0	\$0	\$0
NO DATA	0	0	\$0	\$0	\$0	\$0
Office	0	0	\$0	\$0	\$0	\$0
Public / Utilities	0	0	\$0	\$0	\$0	\$0
Recreational	0	0	\$0	\$0	\$0	\$0
Residential	0	0	\$0	\$0	\$0	\$0
Retail / Commercial	0	0	\$0	\$0	\$0	\$0
Vacant	0	0	\$0	\$0	\$0	\$0
Total	0	0	\$0	\$0	\$0	\$0
Zone AO						
Agricultural	0	0	\$0	\$0	\$0	\$0
Care / Health	0	0	\$0	\$0	\$0	\$0
Church / Welfare	0	0	\$0	\$0	\$0	\$0
Industrial	0	0	\$0	\$0	\$0	\$0
Miscellaneous	0	0	\$0	\$0	\$0	\$0
NO DATA	0	0	\$0	\$0	\$0	\$0
Office	0	0	\$0	\$0	\$0	\$0
Public / Utilities	0	0	\$0	\$0	\$0	\$0
Recreational	0	0	\$0	\$0	\$0	\$0
Residential	0	0	\$0	\$0	\$0	\$0

Property Use	Total Parcel Count	Improved Parcel Count	Total Land Value	Improved Structure Value	Estimated Contents Value	Total Value
Retail / Commercial	0	0	\$0	\$0	\$0	\$0
Vacant	0	0	\$0	\$0	\$0	\$0
Total	0	0	\$0	\$0	\$0	\$0
Zone A99						
Agricultural	0	0	\$0	\$0	\$0	\$0
Care / Health	0	0	\$0	\$0	\$0	\$0
Church / Welfare	0	0	\$0	\$0	\$0	\$0
Industrial	0	0	\$0	\$0	\$0	\$0
Miscellaneous	0	0	\$0	\$0	\$0	\$0
NO DATA	0	0	\$0	\$0	\$0	\$0
Office	0	0	\$0	\$0	\$0	\$0
Public / Utilities	0	0	\$0	\$0	\$0	\$0
Recreational	0	0	\$0	\$0	\$0	\$0
Residential	0	0	\$0	\$0	\$0	\$0
Retail / Commercial	0	0	\$0	\$0	\$0	\$0
Vacant	0	0	\$0	\$0	\$0	\$0
Total	0	0	\$0	\$0	\$0	\$0
Total 1%						
	31	8	\$3,662,012	\$2,357,379	\$1,371,190	\$7,390,581
0.2% Annual Chance Flood Zone*						
Agricultural	0	0	\$0	\$0	\$0	\$0
Care / Health	1	1	\$261,369	\$699,873	\$261,369	\$1,222,611
Church / Welfare	0	0	\$0	\$0	\$0	\$0
Industrial	2	2	\$4,162,241	\$31,692,307	\$6,243,362	\$42,097,910
Miscellaneous	22	0	\$1,598	\$0	\$1,598	\$3,196
NO DATA	0	0	\$0	\$0	\$0	\$0
Office	32	29	\$20,862,785	\$77,933,202	\$20,862,785	\$119,658,772
Public / Utilities	16	0	\$0	\$0	\$0	\$0
Recreational	0	0	\$0	\$0	\$0	\$0
Residential	99	76	\$12,631,115	\$22,656,437	\$6,315,558	\$41,603,110
Retail / Commercial	14	14	\$14,066,273	\$20,143,632	\$14,066,273	\$48,276,178

Property Use	Total Parcel Count	Improved Parcel Count	Total Land Value	Improved Structure Value	Estimated Contents Value	Total Value
Vacant	8	0	\$5,084,060	\$0	\$0	\$5,084,060
Total	194	122	\$57,069,441	\$153,125,451	\$47,750,944	\$257,945,836
X Protected by Levee Zone						
Agricultural	0	0	\$0	\$0	\$0	\$0
Care / Health	0	0	\$0	\$0	\$0	\$0
Church / Welfare	0	0	\$0	\$0	\$0	\$0
Industrial	0	0	\$0	\$0	\$0	\$0
Miscellaneous	0	0	\$0	\$0	\$0	\$0
NO DATA	0	0	\$0	\$0	\$0	\$0
Office	0	0	\$0	\$0	\$0	\$0
Public / Utilities	0	0	\$0	\$0	\$0	\$0
Recreational	0	0	\$0	\$0	\$0	\$0
Residential	0	0	\$0	\$0	\$0	\$0
Retail / Commercial	0	0	\$0	\$0	\$0	\$0
Vacant	0	0	\$0	\$0	\$0	\$0
Total	0	0	\$0	\$0	\$0	\$0
Zone X						
Agricultural	17	0	\$56,930,100	\$0	\$56,930,100	\$113,860,200
Care / Health	31	26	\$28,526,328	\$138,928,625	\$28,526,328	\$195,981,281
Church / Welfare	34	30	\$9,231,139	\$50,689,315	\$9,231,139	\$69,151,593
Industrial	37	32	\$24,407,301	\$65,667,667	\$36,610,952	\$126,685,920
Miscellaneous	656	1	\$634,001	\$65,000	\$634,001	\$1,333,002
NO DATA	0	0	\$0	\$0	\$0	\$0
Office	185	169	\$127,584,880	\$685,470,648	\$127,584,880	\$940,640,408
Public / Utilities	397	0	\$0	\$0	\$0	\$0
Recreational	17	13	\$15,543,139	\$38,863,089	\$15,543,139	\$69,949,367
Residential	20,327	19,847	\$2,362,844,169	\$5,853,242,543	\$1,181,422,085	\$9,397,508,797
Retail / Commercial	347	331	\$274,464,876	\$692,734,116	\$274,464,876	\$1,241,663,868
Vacant	799	18	\$213,159,053	\$2,499,240	\$0	\$215,658,293
Total	22,847	20,467	\$3,113,324,986	\$7,528,160,243	\$1,730,947,499	\$12,372,432,728

Source: FEMA 6/16/2015 DFIRM, Sacramento County 2016 Parcel/2015 Assessor's Data

*This parcel count only includes those parcels in the 0.2% annual chance floodplain, exclusive of the 1% annual chance floodplain. The 0.2% annual chance flood will also include all parcels in the 1% annual chance floodplain.

Table C-23 summarizes Table C-22 above and shows City of Folsom loss estimates and shows improved values at risk by FEMA 1% and 0.2% annual chance flood zones.

Table C-23 City of Folsom – Flood Loss Summary

Flood Zone	Improved Parcel Count	Total Improved Value	Estimated Contents Value	Total Improved/Contents Value	Loss Estimate	Loss Ratio
1% Annual Change	8	\$2,357,379	\$1,371,190	\$3,728,569	\$745,713.80	0.0004%
0.2% Annual Chance*	122	\$153,125,451	\$157,643,386	\$310,768,837	\$62,153,767.40	3.97%

Source: FEMA 6/16/2015 DFIRM, Sacramento County 2016 Parcel/2015 Assessor's Data

*This parcel count only includes those parcels in the 0.2% annual chance floodplain, exclusive of the 1% annual chance floodplain. The 0.2% annual chance flood will also include all parcels in the 1% annual chance floodplain.

According to Table C-22 and Table C-23, the City of Folsom has 8 improved parcels and \$3,728,569 of structure and contents value in the 1% annual chance floodplain. These values can be refined a step further. Applying the 20 percent damage factor as previously described in Section 4.3.10 of the Base Plan, there is a 1% chance in any given year of a flood event causing roughly \$745,713.80 in damage in the City of Folsom. The City of Folsom has 122 improved parcels and \$310,768,837 of structure and contents value in the 0.2% annual chance floodplain. Applying the 20 percent damage factor as previously described in, there is a 0.2% chance in any given year of a flood event causing roughly \$62.2 million in damage in the City of Folsom. A loss ratio of 0.004% indicates that losses in Folsom to a 1% chance flood would be relatively minor; however, a loss ratio of 3.97% indicates losses in Folsom to a 0.2% annual chance flood would be more significant.

Flooded Acres

Also of interest is the land area affected by the various flood zones. The following is an analysis of flooded acres in the City in comparison to total area within the City limits. The same methodology, as discussed in Section 4.3.10 of the Base Plan, was used for the City of Folsom as well as for the County as a whole. Table C-24 represents a detailed and summary analysis of total acres for each FEMA DFIRM flood zone in the City.

Table C-24 City of Folsom – Flooded Acres

Flood Zone	Property Use	Total Flooded Acres	Improved Flooded Acres	% of Improved Flooded Acres
A	Agricultural	0	0	0.00%
	Care / Health	1.24	0	0.00%
	Church / Welfare	0	0	0.00%
	Industrial	0	0	0.00%
	Miscellaneous	0.34	0	0.00%
	No Data	0	0	0.00%

Flood Zone	Property Use	Total Flooded Acres	Improved Flooded Acres	% of Improved Flooded Acres
	Office	0	0	0.00%
	Public / Utilities	32.05	0	0.00%
	Recreational	0	0	0.00%
	Residential	0	0	0.00%
	Retail / Commercial	0	0	0.00%
	Vacant	0	0	0.00%
	Total	33.63	0	0.00%
AE	Agricultural	0	0	0.00%
	Care / Health	0	0	0.00%
	Church / Welfare	0	0	0.00%
	Industrial	0	0	0.00%
	Miscellaneous	21.29	0	0.00%
	No Data	0	0	0.00%
	Office	0.09	0.09	4.01%
	Public / Utilities	37.28	0	0.00%
	Recreational	0	0	0.00%
	Residential	2.15	2.15	95.99%
	Retail / Commercial	1.02	0	0.00%
	Vacant	14.75	0	0.00%
	Total	76.58	2.24	100.00%
AH	Agricultural	0	0	0.00%
	Care / Health	0	0	0.00%
	Church / Welfare	0	0	0.00%
	Industrial	0	0	0.00%
	Miscellaneous	0	0	0.00%
	No Data	0	0	0.00%
	Office	0	0	0.00%
	Public / Utilities	0	0	0.00%
	Recreational	0	0	0.00%
	Residential	0	0	0.00%
	Retail / Commercial	0	0	0.00%
	Vacant	0	0	0.00%
	Total	0	0	0.00%
AO	Agricultural	0	0	0.00%
	Care / Health	0	0	0.00%

Flood Zone	Property Use	Total Flooded Acres	Improved Flooded Acres	% of Improved Flooded Acres
	Church / Welfare	0	0	0.00%
	Industrial	0	0	0.00%
	Miscellaneous	0	0	0.00%
	No Data	0	0	0.00%
	Office	0	0	0.00%
	Public / Utilities	0	0	0.00%
	Recreational	0	0	0.00%
	Residential	0	0	0.00%
	Retail / Commercial	0	0	0.00%
	Vacant	0	0	0.00%
	Total	0	0	0.00%
A99	Agricultural	0	0	0.00%
	Care / Health	0	0	0.00%
	Church / Welfare	0	0	0.00%
	Industrial	0	0	0.00%
	Miscellaneous	0	0	0.00%
	No Data	0	0	0.00%
	Office	0	0	0.00%
	Public / Utilities	0	0	0.00%
	Recreational	0	0	0.00%
	Residential	0	0	0.00%
	Retail / Commercial	0	0	0.00%
	Vacant	0	0	0.00%
Total	0	0	0.00%	
	Total 1%	110.21	2.24	100.00%
Shaded X (0.2% Annual Chance)*	Agricultural	0	0	0.00%
	Care / Health	1.16	1.16	1.26%
	Church / Welfare	0	0	0.00%
	Industrial	19.01	19.01	20.51%
	Miscellaneous	7.88	0	0.00%
	No Data	0	0	0.00%
	Office	46.36	41.76	45.07%
	Public / Utilities	61.21	0	0.00%
	Residential	13.55	12.25	13.22%

Flood Zone	Property Use	Total Flooded Acres	Improved Flooded Acres	% of Improved Flooded Acres
	Retail / Commercial	18.48	18.48	19.94%
	Vacant	9.49	0	0.00%
	Total	177.15	92.67	100.00%
X Protected by Levee	Agricultural	0	0	0.00%
	Care / Health	0	0	0.00%
	Church / Welfare	0	0	0.00%
	Industrial	0	0	0.00%
	Miscellaneous	0	0	0.00%
	No Data	0	0	0.00%
	Office	0	0	0.00%
	Public / Utilities	0	0	0.00%
	Recreational	0	0	0.00%
	Residential	0	0	0.00%
	Retail / Commercial	0	0	0.00%
	Vacant	0	0	0.00%
	Total	0	0	0.00%
Zone X	Agricultural	1,603.51	0	0.00%
	Care / Health	81.07	76.25	1.30%
	Church / Welfare	75.64	74.68	1.27%
	Industrial	93.49	90.03	1.53%
	Miscellaneous	1,034.27	1.71	0.03%
	No Data	0	0	0.00%
	Office	458.82	421.89	7.18%
	Public / Utilities	2,953.47	0	0.00%
	Recreational	231.15	118.39	2.01%
	Residential	4,871.63	4,536.14	77.17%
	Retail / Commercial	599.81	550.14	9.36%
	Vacant	1,929.84	8.95	0.15%
	Total	13,932.70	5,878.17	100.00%

Source: FEMA 6/16/2015 DFIRM, Sacramento County 2016 Parcel/2015 Assessor's Data

*This parcel count only includes those parcels in the 0.2% annual chance floodplain, exclusive of the 1% annual chance floodplain. The 0.2% annual chance flood will also include all parcels in the 1% annual chance floodplain.

Population at Risk

The DFIRM flood zones were overlaid on the parcel layer. Those residential parcel centroids that intersect the flood zones were counted and multiplied by the 2010 Census Bureau average household factors for

Folsom. According to this analysis, there is a total population of 216 residents of the City at risk to flooding, 18 in the 1% annual chance and 198 in the 0.2% floodplain. This is shown in Table C-25.

Table C-25 City of Folsom – Count of Improved Residential Parcels and Population by Flood Zone

Flood Zone	Improved Residential Parcels	Population*
1% Annual Chance	7	18
0.2% Annual Chance*	76	198
Total	83	216

Source: FEMA 6/16/2015 DFIRM, Sacramento County 2016 Parcel/2015 Assessor’s Data, US Census Bureau

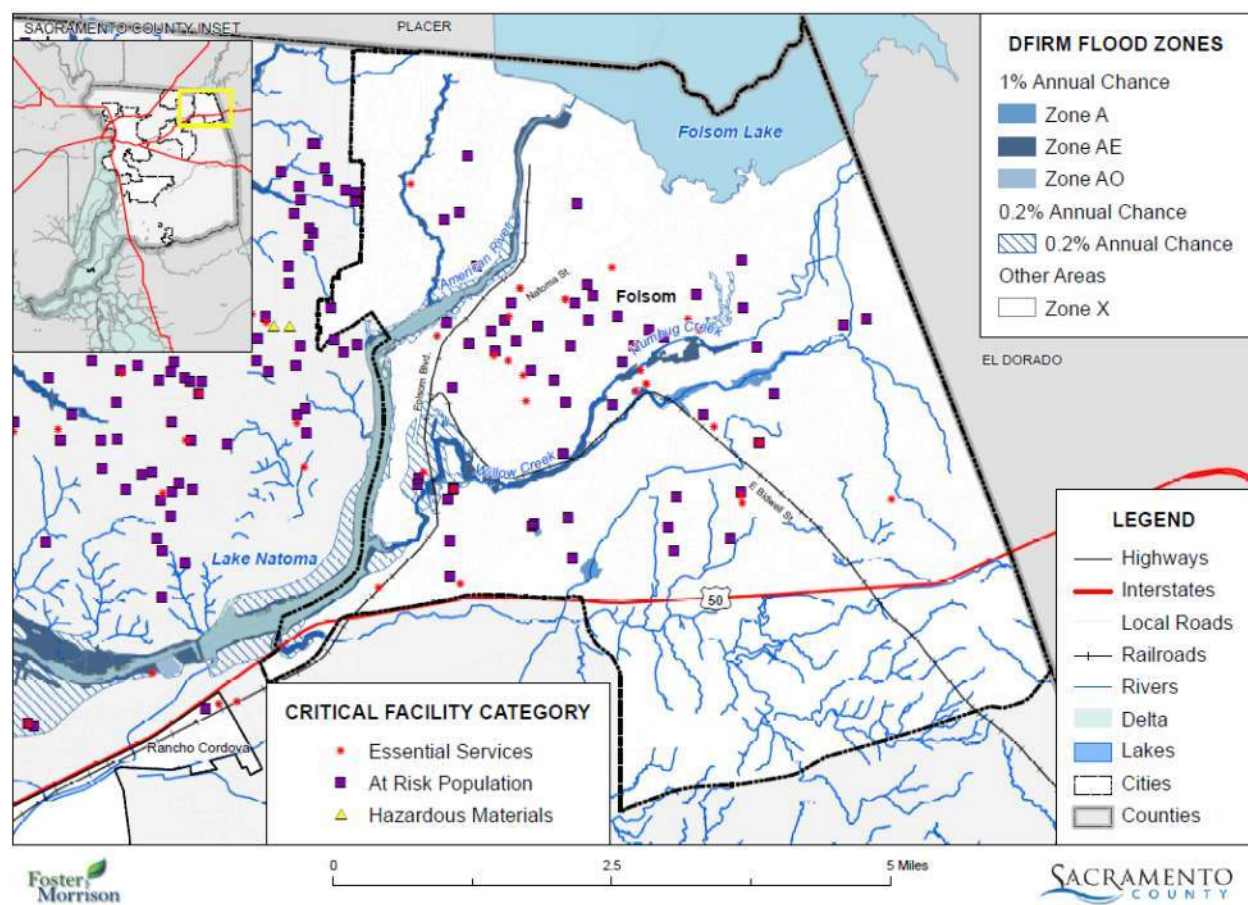
* Average household populations from the 2010 US Census were used: Folsom– 2.61.

**This parcel count only includes those parcels in the 0.2% annual chance floodplain, exclusive of the 1% annual chance floodplain. The 0.2% annual chance flood will also include all parcels in the 1% annual chance floodplain.

Critical Facilities at Risk

An analysis was performed on the critical facility inventory in Folsom in identified FEMA DFIRMs. GIS was used to determine whether the facility locations intersects a DFIRM flood hazard areas, and if so, which zone it intersects. Details of critical facilities in the floodplain in the City of Folsom are shown in Figure C-9 and Table C-26. As shown on the table and figure, Folsom has 0 critical facilities located in 1% annual chance and 5 critical facilities in the 0.2% annual chance DFIRM flood zones. Details of critical facility definition, type, name and address and jurisdiction by flood zone are listed in Appendix E.

Figure C-9 City of Folsom – Critical Facilities and Flood Zones



Data Source: Sacramento County GIS, Cal-Atlas, FEMA NFHL 04/16/2016; Map Date: 05/2016.

Table C-26 City of Folsom – Critical Facilities and Flood Zones

Critical Facility Category	Facility Type	Facility Count
0.2% Annual Chance		
Essential Services Facilities	Light Rail Stop	1
	Medical Health Facility	1
	Total	2
At Risk Population Facilities	Day Care Center	1
	Hotel	1
	Private Elementary School	1
	Total	3
0.2% Annual Chance Total*		5
Zone X		
Essential Services Facilities	Emergency Evacuation Shelter	9
	Fire Station	4

Critical Facility Category	Facility Type	Facility Count
	General Acute Care Hospital	2
	Government Facilities	3
	Light Rail Stop	2
	Medical Health Facility	4
	Police	1
	Water Treatment Plant	1
	Total	26
At Risk Population Facilities	Adult Residential	1
	Charter School	1
	College/University	1
	Day Care Center	19
	Infant Center	2
	Prison	1
	Private Elementary School	5
	Private High School	1
	Public Continuation High School	1
	Public Elementary School	9
	Public High School	1
	Public Middle School	2
	Residential Care/Elderly	17
	Total	61
Zone X Total	87	
Grand Total		92

Source: FEMA 6/16/2015 DFIRM, Sacramento County GIS

*This count only includes those critical facilities in the 0.2% annual chance floodplain, exclusive of the 1% annual chance floodplain. The 0.2% annual chance flood will also include all critical facilities in the 1% annual chance floodplain.

Insurance Coverage, Claims Paid, and Repetitive Losses

The City of Folsom joined the National Flood Insurance Program (NFIP) on January 6, 1982. The City does not participate in the CRS program.

NFIP data indicates that as of February 16, 2016, there were 293 flood insurance policies in force in the City with \$94,778,400 of coverage. Of the 293 policies, 286 were residential (single-family homes) and 7 were nonresidential; 13 of the policies were in A zones (the remaining 280 were in B, C, and X zones). The GIS parcel analysis detailed above identified 7 parcels in the 100-year flood zone. 13 policies for 7 parcels in the 100-year floodplain (A zones) equates to insurance coverage of 100 percent.

There have been 14 historical claims for flood losses totaling \$403,345.45. 11 of these were for pre-FIRM structures; 3 were for post-FIRM structures. There has been one substantial damage claim since 1978.

NFIP data further indicates that there are 3 repetitive loss (RL) buildings, with 0 RL buildings being insured. There has been a total of 7 RL losses, with total payments of \$348,648.23. This represents the majority of claim costs in the City of Folsom. None of the insured RL buildings has incurred 4 or more losses. All of the properties are located outside of the 100- and 500-year floodplain in the B, C, or X zones. The RL properties are located in an older, built-out residential neighborhood with older infrastructure. Recent drainage improvements in the area may have alleviated some of the flooding issues to these RL structures.

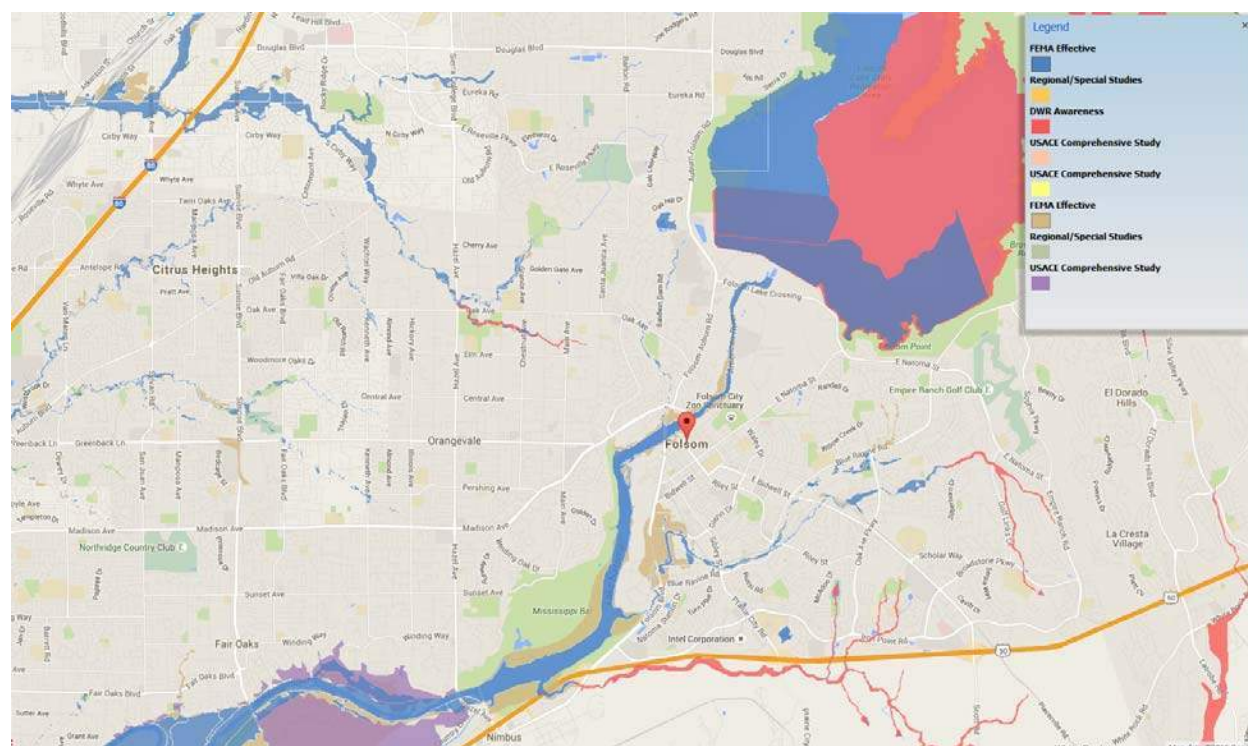
California Department of Water Resources Best Available Maps (BAM)

The FEMA regulatory maps provide just one perspective on flood risks in Sacramento County. Senate Bill 5 (SB 5), enacted in 2007, authorized the California DWR to develop the Best Available Maps (BAM) displaying 100- and 200-year floodplains for areas located within the Sacramento-San Joaquin (SAC-SJ) Valley watershed. SB 5 requires that these maps contain the best available information on flood hazards and be provided to cities and counties in the SAC-SJ Valley watershed. This effort was completed by DWR in 2008. DWR has expanded the BAM to cover all counties in the State and to include 500-year floodplains.

Different than the FEMA DFIRMs which have been prepared to support the NFIP and reflect only the 100-year event risk, the BAMs are provided for informational purposes and are intended to reflect current 100-, 200-, and 500-year event risks using the best available data. The 100-year floodplain limits on the BAM are a composite of multiple 100-year floodplain mapping sources. It is intended to show all currently identified areas at risk for a 100-year flood event, including FEMA's 100-year floodplains. The BAM are comprised of different engineering studies performed by FEMA, Corps, and DWR for assessment of potential 100-, 200-, and 500-year floodplain areas. These studies are used for different planning and/or regulatory applications. They are for the same flood frequency, however, they may use varied analytical and quality control criteria depending on the study type requirements.

The value in the BAMs is that they provide a bigger picture view of potential flood risk to the City than that provided in the FEMA DFIRMs. This provides the community and residents with an additional tool for understanding potential flood hazards not currently mapped as a regulated floodplain. Improved awareness of flood risk can reduce exposure to flooding for new structures and promote increased protection for existing development. Informed land use planning will also assist in identifying levee maintenance needs and levels of protection. By including the FEMA 100-year floodplain, it also supports identification of the need and requirement for flood insurance. The BAM map for Folsom is shown in Figure C-10.

Figure C-10 City of Folsom Best Available Map



Source: California DWR

Legend explanation: Blue - FEMA 100-Year, Orange – Local 100-Year (developed from local agencies), Red – DWR 100-year (Awareness floodplains identify the 100-year flood hazard areas using approximate assessment procedures.), Pink – USACE 100-Year (2002 Sac and San Joaquin River Basins Comp Study), Yellow – USACE 200-Year (2002 Sac and San Joaquin River Basins Comp Study), Tan – FEMA 500-Year, Grey – Local 500-Year (developed from local agencies), Purple – USACE 500-Year (2002 Sac and San Joaquin River Basins Comp Study).

Natural Resources at Risk

Various natural resources (i.e. vegetation communities, special status animal species, special status plant species) would be at risk during a flood. Flooding conditions may wash out the above natural resources.

Historic and Cultural Resources at Risk

Two historic sites are located with the 100- and 200-year floodplain; Coloma Road at Nimbus Dam and the old Folsom Powerhouse.

Future Development

The City enforces the floodplain ordinance. If any development is to occur in the floodplain, it would have to conform to the elevation standards of the floodplain ordinance. No development is expected in the floodplain in the future.

Alder Creek is located in the Folsom Plan Area development. The City of Folsom is currently developing the 100-year floodplain for this portion of Alder Creek. Structures within the new development will not

encroach within the floodplain. Development that affects the floodplain boundaries will provide Conditional Letter of Map Revision (CLOMR) and/or Letter of Map Revision (LOMR) reports.

Flood: Localized Stormwater Flooding

Likelihood of Future Occurrence–Likely

Vulnerability–Medium

Hazard Profile and Problem Description

Flooding and other issues caused by severe weather events, primarily heavy rains and thunderstorms, can often pose a risk to the community. Primary concerns include impacts to infrastructure that provides a means of ingress and egress throughout the community.

Past Occurrences

There are areas of localized flooding within the City. Most have been addressed with capital improvement projects and adjustments in maintenance activities.

Vulnerability to Localized Flooding

Table C-27 identifies known and past occurrences of such areas and the associated problems encountered. This list is an initial inventory of key problem areas and is not intended to be a complete inventory of all problems and locations associated with severe weather events and localized flooding in the City of Folsom.

Table C-27 City of Folsom’s Road List of Localized Flooding Problem Areas

Road Name	Flooding	High Water/Creek Crossing	Flooded by Runoff from Neighboring Property	Damaged/ Insufficient Storm Drain System
Blue Ravine/Folsom Blvd.	X			X
Humbug Creek Drive		X		
Orchard Terrace Court			X	
N. American River Canyon Drive	X			X
Bayline Circle			X	
Pinegrove Way	X			X
Ruth Court	X		X	
Ballard Court		X		
Parkshore	X			X
Hollyann & Handford				X
Berma Road	X	X		
Bittercreek	X		X	X
Redevelopment Area				

Road Name	Flooding	High Water/Creek Crossing	Flooded by Runoff from Neighboring Property	Damaged/ Insufficient Storm Drain System
Rumsey Way	X			X
Duchow	X			X
Price	X			X
Coloma	X			X
Sibley Street	X			X
Wool Street	X			X
Glenn Drive & Lembi Drive	X		X	
Morman Street	X			X

Source: City of Folsom

Future Development

Future development in the City will add more impervious surfaces and need to drain those waters. The City’s design standards will ensure future development transportation and drainage facilities are designed to prevent local flooding. The risk of localized flooding to future development can also be minimized by accurate recordkeeping of repetitive localized storm activity. Mitigating the root causes of the localized stormwater flooding will reduce future risks of losses.

Severe Weather: Heavy Rain and Storms

Likelihood of Future Occurrence–Likely

Vulnerability–Medium

Hazard Profile and Problem Description

According to historical hazard data, severe weather is an annual occurrence in the City of Folsom. Damage and disaster declarations related to severe weather have occurred and will continue to occur in the future. Heavy rain and thunderstorms are the most frequent type of severe weather occurrence in the area. Wind and lightning often accompany these storms and have caused damage in the past.

Past Occurrences

The storms in February 1986 caused the Folsom dam to exceed its design capacity. Heavy rains affected Sacramento County and the other areas of the American River drainage basin. Rainfalls of up to 29” fell between February 11 and 20. The Folsom Dam did not fail, but Folsom Lake was 1.56 ft into surcharge storage, holding 18,200 acre-feet more than design capability. Dam improvements since 1986 have and will increase capacity of the dam.

Vulnerability to Severe Weather: Heavy Rain and Storms

Problems associated with the primary effects of severe weather include flooding, pavement deterioration, washouts, high water crossings, landslide/mudslides, debris flows, and downed trees. Table C-27 presented above in the discussion of the flood hazard details those areas within the City that are most often affected during these heavy storm events. Heavy rains and storms can cause flooding from dam failure. Record heavy rains, in addition to causing localized flooding, could cause the dam to overtop as well, inundating Folsom.

Future Development

New critical facilities such as communications towers should be built to withstand hail damage, lightning, and heavy rains.

Wildfire

Likelihood of Future Occurrence—Likely

Vulnerability—Medium

Hazard Profile and Problem Description

Major fires are generally categorized as either a conflagration or wildland/forestland. A conflagration may involve residential or commercial areas and spreads across both natural and constructed barriers. Wildland is associated with open range grasslands and into the foothills of a particular area. Because of development in rural areas adjacent to and within the Folsom community, the Wildland Urban Interface (WUI) fire is of increasing concern. The WUI fire can burn along the urban/rural interface resulting in major losses of property and structures.

A number of factors affect the behavior of wildland and interface fires, including terrain, weather, wind, fuels and seasons. It is well known that fire travels faster uphill than down and is more difficult to fight on steep slopes than on level ground. When weather is hot and the humidity is low, wildland fires can explode with intensity of rapid combustion. Even in the absence of strong winds, a fast-moving fire can generate its own updrafts, particularly in canyons, causing burning brands to be carried high in the air and drop a long distance ahead. This results in spot fires over a wide radius as the wind changes its direction.

The City of Folsom is not immune to numerous types of grass and brush fires and any one of them may accelerate into a large urban interface wildfire. Such a situation could lead to evacuation of large portions of the population and the potential for significant loss of personal property, structures and rangeland. The natural fuels available in the City vary greatly in the rate and intensity of burning. Fires in heavy brush and stands of trees burn with great intensity but more slowly than in dry grass and leaves. Dense fuels will propagate fire better than sparse fuels. The local fire season generally extends from June through late September or early October.

During extremely windy conditions, both small and large-scale fires will generate enough smoke to necessitate the closing of key transportation routes, including US Route 50. It may be necessary to close streets and/or re-route traffic to maintain traffic lanes and access for firefighting apparatus. Large parking

areas may be cordoned off for the staging of various types of resources needed during large-scale emergencies.

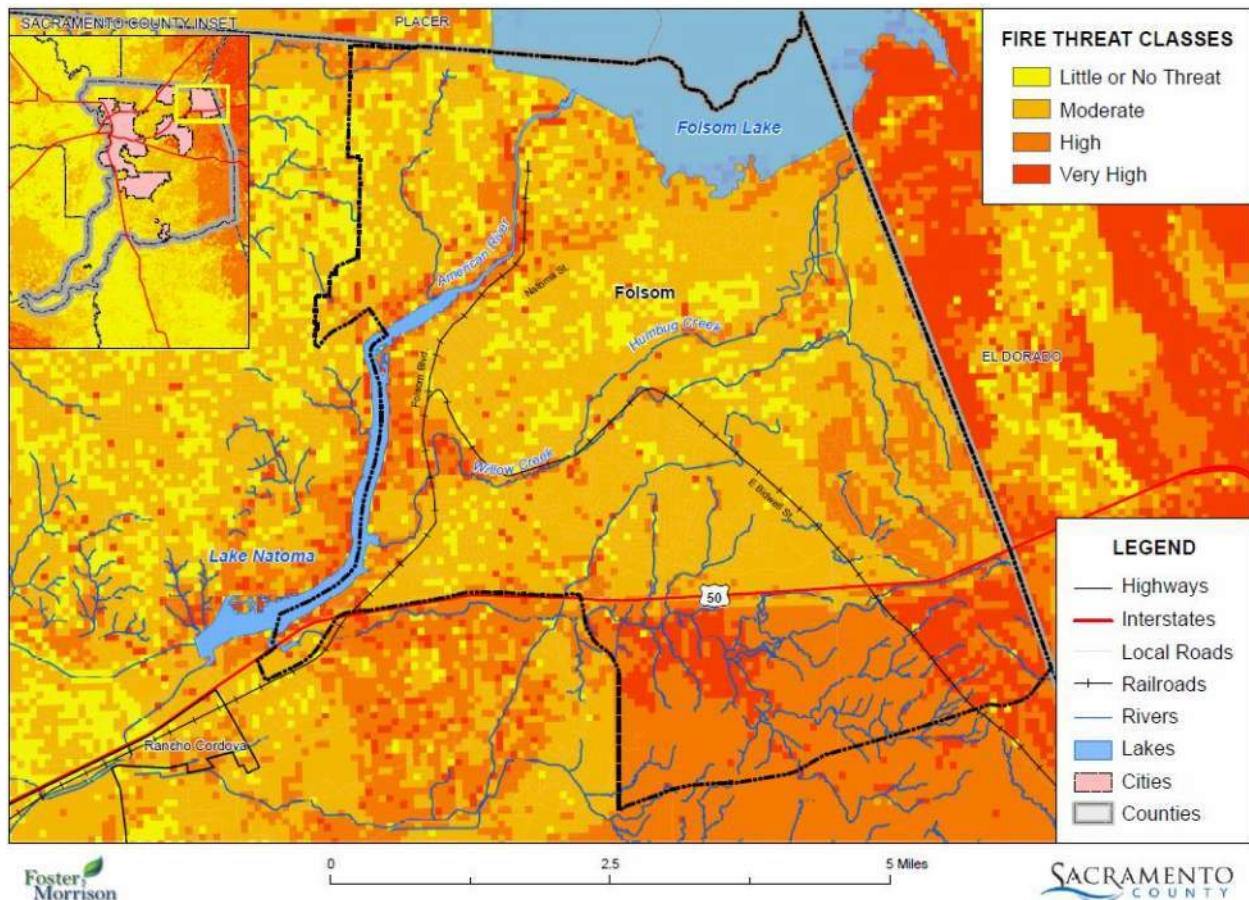
Past Occurrences

There is no history of wildfires near the City of Folsom. The closest occurrence being the King Fire in the City of Pollock Pines located in the neighboring El Dorado County

Vulnerability to Wildfire

Following the methodology described in Section 4.3.2 Vulnerability of Sacramento County to specific hazards, a wildfire map for the City of Folsom was created (see Figure C-11). Wildfire threat within the City ranges from moderate to very high.

Figure C-11 City of Folsom’s Fire Threat Zones



Data Source: Sacramento County GIS, Cal-Atlas, Cal-Fire 2004 Fire Threat Data; Map Date: 05/2016.

The City has many areas that are susceptible to small fires that could grow into some form and size of urban interface fire. These areas can be divided into four main areas: the American River/Lake Natoma corridor, the various parkways and easements, natural areas involving wetlands and dredger tailings, and open fields and rangelands.

American River/Lake Natoma Corridor

The American River flows from the base of Folsom Dam into the Lake Natoma Recreation area. The property adjacent to the river is owned by the State of California, maintained by the State of California Parks and Recreation Department. The area is mostly natural habitat accessed through limited roadways, a bicycle/horse trail and numerous footpaths. These means of ingress provide access to remote areas in which fires can begin and access for fire equipment is difficult.

The area upstream from the Rainbow Bridge is mostly rough and steep terrain with very limited access. This creates an opportunity for fires to grow at a rapid rate and gain momentum while continuing to burn towards the residential structures that are scattered about the edge of the beltway. The natural growth, type of construction, and roofing materials provide ample opportunity for fire to spread into residential areas. Negro Bar, Folsom Powerhouse, and Willow Creek Recreation areas are downstream of the bridge. At the west end of Negro Bar are bluffs that are 300 feet high in some locations.

Adjacent to the Negro Bar area is the bluff area on Greenback Lane and an area known as the Orangevale cut. Both of these locations have very steep terrain with dry, flashy, rapid burning fuels. They directly interface with residential and multi-family structures with wood shake roofs. These areas have occasional fires throughout the fire season and require continuous monitoring and aggressive fire suppression activities to prevent a catastrophic event from occurring.

Parkways & Easements

Throughout the City, there exist numerous un-maintained alleyways, easements, and rights-of-way. In many locations, these provide easy access to residential structures or other types of vegetation, which could increase the likelihood that a fire may rapidly spread beyond the capabilities of responding units. Areas of concern include the Hinkle Creek, Willow Creek, Humbug Creek and Blue Ravine Parkway beltways.

Natural Areas, Wetlands, and Dredger Tailings

Continuous development of the City has created many landlocked areas, mandatory wetland areas and the preservation of pre-existing dredger tailings. Areas of this nature tend to be surrounded by residential developments and are difficult to access. Their proximity to development provides an opportunity for ideal fire conditions to spread fire via flying brands and consumption of small stands of trees.

Open Fields and Rangelands

The east areas of Folsom provide the greatest opportunity for a large-scale fire to start and spread uncontrollably into developed areas or into the foothills of El Dorado Hills. This undeveloped area is considered a Local Response Area (LRA) because it is within the city limits. The land south of U.S. 50 is within the State Response Area (SRA) and a fire in this area, pushed by a southerly or westerly wind, could severely impact the City of Folsom. This LRA is also classified as a Mutual Threat Zone by the California Department of Forestry and Fire Protection, thereby requiring their fire response due to the potential of a major fire. The hilly, rocky terrain with its numerous rock outcroppings around developed areas and along the Sacramento/El Dorado County line makes it very difficult to contain a fire before it rapidly grows and threatens structures. This portion of the City is also where numerous transmission towers and repeater

antennas are located on the ridge tops. They can be both a source of ignition for a wildland fire and an exposure from a fire starting in lowlands.

Values at Risk

Analysis results for Folsom are shown in Table C-28, which summarizes total and improved parcel counts and their land and structure values by property use.

Table C-28 City of Folsom – Count and Value of Parcels by Property Use and Fire Threat Zone

Property Use	Total Parcel Count	Total Land Value	Improved Parcel Count	Improved Structure Value	Total Value
Little or No Threat					
Care / Health	3	\$3,020,797	3	\$1,606,330	\$4,627,127
Church / Welfare	3	\$212,908	2	\$493,333	\$706,241
Industrial	4	\$1,997,118	4	\$3,270,741	\$5,267,859
Miscellaneous	70	\$61,745	0	\$0	\$61,745
Office	12	\$4,606,007	11	\$9,587,141	\$14,193,148
Public / Utilities	58	\$0	0	\$0	\$0
Recreational	1	\$12,364	1	\$21,597	\$33,961
Residential	3,038	\$320,096,776	3,000	\$730,584,313	\$1,050,681,089
Retail / Commercial	22	\$10,893,723	19	\$22,121,160	\$33,014,883
Vacant	27	\$5,003,878	1	\$884	\$5,004,762
Total	3,238	\$345,905,316	3,041	\$767,685,499	\$1,113,590,815
Moderate					
Agricultural	2	\$594,274	-	\$0	\$594,274
Care / Health	27	\$24,190,163	23	\$79,998,459	\$104,188,622
Church / Welfare	29	\$7,463,346	26	\$43,580,327	\$51,043,673
Industrial	30	\$20,258,959	26	\$56,321,087	\$76,580,046
Miscellaneous	478	\$559,290	1	\$65,000	\$624,290
Office	168	\$119,882,386	154	\$651,873,404	\$771,755,790
Public / Utilities	278	\$0	0	\$0	\$0
Recreational	15	\$15,190,775	11	\$37,181,492	\$52,372,267
Residential	15,278	\$1,774,490,202	14,991	\$4,396,363,782	\$6,170,853,984
Retail / Commercial	326	\$269,962,341	312	\$673,781,110	\$943,743,451
Vacant	429	\$103,430,629	13	\$1,717,809	\$105,148,438
Total	17,060	\$2,336,022,365	15,557	\$5,940,882,470	\$8,276,904,835
High					

Property Use	Total Parcel Count	Total Land Value	Improved Parcel Count	Improved Structure Value	Total Value
Agricultural	12	\$47,685,790	0	\$0	\$47,685,790
Care / Health	3	\$3,361,702	1	\$58,023,709	\$61,385,411
Church / Welfare	1	\$451,353	1	\$877,638	\$1,328,991
Industrial	5	\$6,313,465	4	\$37,768,146	\$44,081,611
Miscellaneous	114	\$13,525	0	\$0	\$13,525
Office	38	\$24,144,272	34	\$102,328,305	\$126,472,577
Public / Utilities	66	\$0	0	\$0	\$0
Recreational	1	\$340,000	1	\$1,660,000	\$2,000,000
Residential	1,755	\$238,711,540	1,594	\$648,601,933	\$887,313,473
Retail / Commercial	9	\$6,526,215	9	\$11,428,613	\$17,954,828
Vacant	344	\$97,530,881	4	\$780,547	\$98,311,428
Total	2,348	\$425,078,743	1,648	\$861,468,891	\$1,286,547,634
Very High					
Agricultural	3	\$8,650,036	0	\$0	\$8,650,036
Church / Welfare	1	\$1,103,532	1	\$5,738,017	\$6,841,549
Miscellaneous	23	\$1,078	0	\$0	\$1,078
Public / Utilities	22	\$0	0	\$0	\$0
Residential	362	\$42,762,172	345	\$102,321,331	\$145,083,503
Retail / Commercial	5	\$2,248,870	5	\$5,546,865	\$7,795,735
Vacant	10	\$12,284,327	0	\$0	\$12,284,327
Total	426	\$67,050,015	351	\$113,606,213	\$180,656,228
Grand Total					
	23,072	\$3,174,056,439	20,597	\$7,683,643,073	\$10,857,699,512

Source: Sacramento County 2016 Parcel/2015 Assessor's Data, CAL FIRE

Population at Risk

The Fire Threat dataset was overlaid on the parcel layer. Those residential parcel centroids that intersect the threat zones were counted and multiplied by the 2010 Census Bureau average household factors for each jurisdiction and unincorporated area. Results were tabulated by jurisdiction. According to this analysis, there is a total population of 44,187 residents of Folsom at risk to moderate or higher wildfire risk. This is shown in Table C-29.

Table C-29 City of Folsom – Count of Improved Residential Parcels and Population by Fire Threat Zone

Fire Threat Zone	Improved Residential Parcels	Population*
Little or No Threat	3,000	7,830
Moderate	14,991	39,127
High	1,594	4,160
Very High	345	900
Total	19,930	52,017

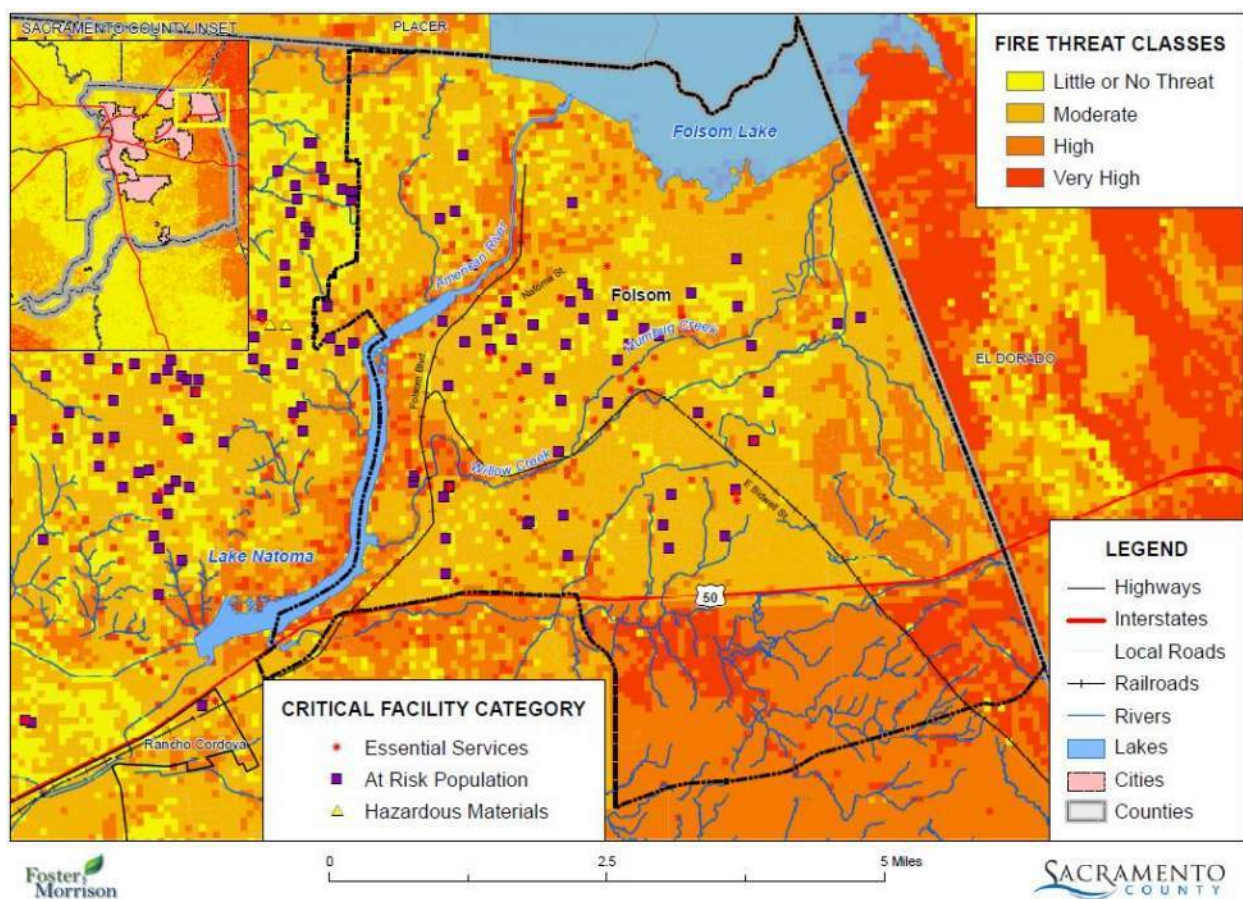
Source: Sacramento County 2015 Parcel/Assessor's Data, CAL FIRE

* Average household populations for Folsom (2.61) from the 2010 US Census were used

Critical Facilities at Risk

Wildfire analysis was performed on the critical facility inventory in Sacramento County and all jurisdictions. GIS was used to determine whether the facility locations intersect a fire threat zone provided by CAL FIRE, and if so, which zone it intersects. There are seven facilities in the moderate or higher fire threat zone in the City. These are shown in Figure C-12 and detailed in Table C-30. Details of critical facility definition, type, name and address and jurisdiction by fire threat zone are listed in Appendix E.

Figure C-12 City of Folsom – Critical Facilities in the Fire Threat Zone



Data Source: Sacramento County GIS, Cal-Atlas, Cal-Fire 2004 Fire Threat Data; Map Date: 05/2016.

Table C-30 City of Folsom – Critical Facilities in the Fire Threat Zone

Critical Facility Category	Facility Type	Facility Count
Little or No Threat		
Essential Services Facilities	Emergency Evacuation Shelter	1
	Government Facilities	1
	Light Rail Stop	2
	Police	1
	Total	5
At Risk Population Facilities	Adult Residential	1
	Day Care Center	2
	Hotel	1
	Public Continuation High School	1
	Public Elementary School	4
	Public Middle School	2

Critical Facility Category	Facility Type	Facility Count
	Residential Care/Elderly	3
	Total	14
Little or No Threat Total		19
Moderate		
Essential Services Facilities Total	Emergency Evacuation Shelter	7
	Fire Station	4
	General Acute Care Hospital	1
	Government Facilities	2
	Light Rail Stop	1
	Medical Health Facility	4
	Water Treatment Plant	1
	Total	20
At Risk Population Facilities	Charter School	1
	College/University	1
	Day Care Center	18
	Infant Center	2
	Prison	1
	Private Elementary School	6
	Private High School	1
	Public Elementary School	5
	Residential Care/Elderly	13
	Total	48
Moderate Total		68
High		
Essential Services Facilities	General Acute Care Hospital	1
	Medical Health Facility	1
	Total	2
At Risk Population Facilities	Public High School	1
	Total	1
High Total		3
Very High		
Essential Services Facilities	Emergency Evacuation Shelter	1
	Total	1
At Risk Population Facilities	Residential Care/Elderly	1
	Total	1
Very High	Total	2

Critical Facility Category	Facility Type	Facility Count
Grand Total		92

Source: CAL FIRE, Sacramento County GIS

Natural Resources at Risk

The American River/Lake Natoma corridor, and the City’s parkways, easements, natural areas, wetlands, and dredger tailings areas contains various types of vegetation, plant, and animal species that would be susceptible to wildfire risk.

Historic and Cultural Resources at Risk

Along the American River/Lake Natoma Corridor are multiple historic resources that are susceptible to wildfire. These include: Chung Wah Cemetery, Young Wo Cemetery, Coloma Road at Nimbus Dam, Folsom Powerhouse, and Negro Bar.

The Chinese Diggings site is located in a natural area with some areas of dredger tailings. Due to the amount of vegetation, the site is susceptible to wildfires.

Future Development

Development may occur in the moderate or higher wildfire threat areas; however, City ordinances for building in these areas are enforced. As population increases, specifically in the Folsom Plan Area, the vulnerability to wildfire will increase due to the presence of parkways and easements. Also, the Folsom Plan Area will be surrounded by open fields and rangelands.

C.6 Capability Assessment

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capabilities assessment is divided into five sections: regulatory mitigation capabilities, administrative and technical mitigation capabilities, fiscal mitigation capabilities, mitigation education, outreach, and partnerships, and other mitigation efforts.

C.6.1. Regulatory Mitigation Capabilities

Table C-31 lists regulatory mitigation capabilities, including planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are in place in the City of Folsom.

Table C-31 City of Folsom’s Regulatory Mitigation Capabilities

Plans	Y/N Year	Does the plan/program address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Y 1998	General Plan map is available on the City’s website. The General Plan document is available for viewing or purchase at the City’s Planning Department. Economic Development and Transportation is addressed in the General Plan.
Capital Improvements Plan	Y	The fiscal Operating Budget and Capital Improvement Plan is available on the City’s website.
Economic Development Plan	Y	
Local Emergency Operations Plan	Y	
Continuity of Operations Plan		
Transportation Plan		
Stormwater Management Plan/Program	Y	
Engineering Studies for Streams		
Community Wildfire Protection Plan	N	
Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)	Y	Open Space Mitigation Plan – Covers the Folsom Plan Area and include Oak Tree Mitigation Plan and Wildfire Protection Plan.
Building Code, Permitting, and Inspections	Y/N	Are codes adequately enforced?
Building Code	Y	Version/Year: 2013
Building Code Effectiveness Grading Schedule (BCEGS) Score	Y	Score: 2
Fire department ISO rating:	Y	Rating: 3
Site plan review requirements	Y	
Land Use Planning and Ordinances	Y/N	Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?
Zoning ordinance	Y	
Subdivision ordinance	Y	
Floodplain ordinance	Y	
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	Y	Weed/Brush Hazard Abatement/Fuel Modification (FMC 8.36 and 8.37) Stormwater Management and Discharge Control Ordinance (FMC 8.70) Hillside Development Standards Ordinance (FMC 14.33)
Flood insurance rate maps	Y	
Elevation Certificates	Y	
Acquisition of land for open space and public recreation uses		

Erosion or sediment control program	Y
Other	
How can these capabilities be expanded and improved to reduce risk?	

Source: City of Folsom

General Plan

Folsom’s General Plan is a long term policy guide for the physical, economic, and environmental growth of the City. It is comprised of goals, policies, and implementation programs which are based on an assessment of current and future needs and available resources.

Folsom’s General Plan is strongly oriented toward physical development of land uses, a circulation network, and supporting facilities and services. Because of this, the General Plan document is the principle tool for City use in evaluating public and private building projects and municipal service improvements.

Emergency Operations Plan

The City of Folsom Emergency Operations Plan (EOP) addresses the planned response for the City of Folsom to emergencies associated with disasters, technological incidents, or other dangerous conditions created by either man or nature. It provides an overview of operational concepts, identifies components of the City emergency management organization, and describes the overall responsibilities of local, state, and federal entities.

Ordinances

The City of Folsom has ordinances related to mitigation. Specific ordinances directly related to mitigation from the City of Folsom municipal code are:

Zoning Code (Title 17)

There is adopted a zoning enabling plan for the City, which constitutes a precise plan based upon the adopted master plan of the City. The plan is adopted to provide reasonable protective regulations designed to promote and protect the health, safety, peace, morals, comfort, convenience and general welfare, and:

- To protect the established character and the social and economic stability of agricultural, residential, commercial, industrial and other types of improved areas; and
- To assist in providing a definite comprehensive plan for sound and orderly development, and to guide and regulate such development in accordance with the master plan and the objectives and standards set forth therein

The zoning plan consists of the establishment of various districts within some, all, or none of which shall it be lawful, and within some, all or none of which it shall be unlawful to erect, construct, alter, move, locate or maintain certain buildings or to carry on certain trades or occupations or conduct certain uses of land or of buildings; within which the height and bulk of future buildings shall be limited; within which certain open spaces shall be required about future buildings and consisting further of appropriate additional

regulations to be enforced in such districts. The zoning plan is intended to apply to all private, public, quasi-public, institutional, and public utility properties and all other lands, buildings and structures within the incorporated area of the City.

Subdivision Ordinance (Title 16)

It is the purpose of this title to regulate and control the division of land within the City and to supplement the provisions of the Subdivision Map Act concerning the design, improvement and survey data of subdivisions, the form and content of all required maps provided by the Subdivision Map Act, and the procedure to be followed in securing the official approval of the City regarding the maps. To accomplish this purpose, the regulations contained in this title are determined to be necessary to preserve the public health, safety and general welfare; to promote orderly growth and development and to promote open space, conservation, protection and proper use of land; and to ensure provision for adequate traffic circulation, utilities and other services in the City.

Building Code (Chapter 14.02)

The chief building official of the City is designated to be the authority having jurisdiction of the Folsom construction codes. The California Building Code, 2010 Edition, based on the 2009 International Building Code, including Appendix Chapters H, J, and K, published as Parts 1 and 2, Title 24, C.C.R., published by the International Code Council, is adopted and made part of this title as though fully set forth herein to provide technical requirements and the procedures for administration and enforcement of the provisions of the Folsom construction codes. The purpose of the Folsom Building Code is to provide minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, installation, quality of materials, use and occupancy, location and maintenance of all buildings and structures within this jurisdiction, and certain equipment specifically regulated herein, and to provide procedures for administration and enforcement of the provisions of the Folsom construction codes and to adopt and enforce rules and regulations supplemental to this code as may be deemed necessary to clarify the application of the provisions of this code.

Floodplain Ordinance (Chapter 14.323)

The flood hazard areas of the City are subject to periodic inundation which may result in losses of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare. These flood losses are caused by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities and, when inadequately anchored, damage uses in other areas. Uses that are inadequately flood proofed, elevated, or otherwise protected from flood damage also contribute to the flood loss. It is the purpose of this chapter to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- Protect human life and health;
- Minimize expenditure of public money for costly flood-control projects;
- Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

- Minimize prolonged business interruptions;
- Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of special flood hazard;
- Help maintain a stable tax base by providing for the second use and development of areas of special flood hazard so as to minimize future flood blight areas;
- Insure that potential buyers are notified that property is in an area of special flood hazard; and
- Insure that those who occupy the areas of special flood hazard assume responsibility for their actions.

In order to accomplish its purposes, this chapter includes methods and provisions for:

- Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
- Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel floodwaters;
- Controlling filling, grading, dredging, and other development which may increase flood damage; and
- Preventing or regulating the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas

In all areas of special flood hazards the following standards are required:

- Anchoring.
 - ✓ All new construction and substantial improvements shall be adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
 - ✓ All manufactured homes shall meet the anchoring standards of Section 14.32.050(D).
- Construction Materials and Methods. All new construction and substantial improvements shall be constructed:
 - ✓ With materials and utility equipment resistant to flood damage;
 - ✓ Using methods and practices that minimize flood damage;
 - ✓ With electrical, heating, ventilation, plumbing and air-conditioning equipment and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;
 - ✓ For all new construction and substantial improvements, fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit to floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria: A minimum of 2 openings having total net area of not less than 1 square inch for every square foot of enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one 1 foot above grade. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
- Elevation and flood proofing.
 - ✓ Residential construction, new or substantial improvement, shall have the lowest floor, including basement, elevated at least 2 feet above the base flood elevation as determined by this community.

Upon completion of the structure, the elevation of the lowest floor including basement shall be certified by a California registered professional engineer or land surveyor and verified by the chief building official for the City to be properly elevated. Such certification and verification shall be provided to the floodplain administrator.

- ✓ Nonresidential construction, new or substantial improvements, shall either meet the standards in subsection (A)(3)(a) of this section or together with attendant utility and sanitary facilities:
 - Be floodproofed below the elevation recommended in subsection (A)(3)(a) of this section so that the structure is watertight with walls substantially impermeable to the passage of water;
 - Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
 - Be certified by a California registered professional engineer or architect that standards of this subsection (A)(3)(b) are satisfied. Such certification shall be provided to the floodplain administrator.
 - ✓ All new construction and substantial improvement with fully enclosed areas below the lowest flow (excluding basements) that are usable solely for parking of vehicles, building access or storage, and which are subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood-water. Designs for meeting this requirement must meet or exceed the following minimum criteria:
 - Be certified by a California registered professional engineer or architect; or
 - Have a minimum of 2 openings having a total net area of not less than 1 square inch for every square foot of enclosed area subject to flooding. The bottom of all openings shall be no higher than 1 foot above grade. Openings may be equipped with screens, louvers, valves or other coverings or devices provided that they permit the automatic entry and exit of floodwater.
 - ✓ Manufactured homes shall meet the above standards and also the standards for manufactured home parks or subdivisions. (See subsection D of this section).
- Standards For Utilities.
- ✓ All new and replacement water supply and sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and discharge from systems into floodwaters;
 - ✓ On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.
- Standards For Subdivisions.
- ✓ All preliminary subdivision proposals shall identify the flood hazard area and the elevation of the base flood.
 - ✓ All final subdivision plans will provide the elevation of proposed structure(s) and pad(s). If the site is filled above the base flood, the final pad elevation shall be certified by a California registered professional engineer or land surveyor and provided to the floodplain administrator.
 - ✓ All subdivision proposals shall be consistent with the need to minimize flood damage.
 - ✓ All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
 - ✓ All subdivisions shall provide adequate drainage to reduce exposure to flood damage.
- Standards for Manufactured Homes.

- ✓ All manufactured homes that are placed or substantially improved, within Zones A and A1-A30 on the community's flood insurance rate maps, on sites located outside of a manufactured home park or subdivision, in a new manufactured home park or subdivision, in an expansion to an existing manufactured home park or subdivision or in an existing manufactured home park or subdivision on a site upon which a manufactured home has incurred "substantial damage" as a result of a flood, shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated 2 feet above the base flood elevation and securely fastened to an adequately anchored foundation system to resist flotation collapse and lateral movement.
 - ✓ All manufactured homes that are placed or substantially improved on sites in an existing manufactured home park or subdivision within Zones A or A1-A30 on the communities flood insurance rate maps that are not subject to provisions of Section 14.32.050(D)(1) will be securely fastened to an adequately anchored foundation system to resist flotation collapse, and lateral movement and be elevated so that either the lower floor of the manufactured home is 2 feet above the base flood elevation or the manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade.
- Standards for Recreational Vehicles. All recreational vehicles placed on sites within Zones A or A1-30 on the communities flood insurance rate maps will either be on the site for fewer than 180 consecutive days, and be fully licensed and ready for highway use (a recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions) or meets the permit requirements of Section 14.32.040 of this chapter and the elevation and anchoring requirements for manufactured homes in Section 14.32.050(D)(1) of this chapter.
 - Floodways. Located within areas of special flood hazard established in subsection B of Section 14.32.030 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles, and erosion potential, the following provisions apply:
 - ✓ Prohibit encroachments, including fill, new construction, substantial improvements, and other development unless certification by a registered professional engineer or architect is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge;
 - ✓ If subsection (F)(1) of this section is satisfied, all new construction, substantial improvement and other proposed new development shall comply with all other applicable flood hazard reduction provisions of Section 14.32.050, Provisions for flood hazard reduction;
 - ✓ If no floodway is identified, then a setback of 20 feet from the bank(s) of the watercourse will be established, where encroachment will be prohibited.

Fire Code (Section 8.36)

This chapter adopts the 2009 Edition of the International Fire Code with amendments adopted by the California Building Standards Commission and published as the 2010 Edition of the California Fire Code, together with Appendices B, C, H, I, J and K, and all other chapters, supplements and errata with the express purpose of prescribing regulations governing the safeguarding of life and property from fire and explosion

hazards arising from the storage, handling and use of hazardous substances, materials and devices, and from conditions hazardous to life or property in the occupancy of buildings and premises.

Grading and Erosion Control (Chapter 14.29)

This chapter establishes standards for the preparation of sites and construction activities to protect the health, safety and general welfare of those working or living on or near the site by protecting against unwarranted or unsafe grading, drainage works or other aspects of site development as follows:

- To establish standards and procedures for grading and excavation so as to minimize hazards to life and limb, protect against erosion, maintain the natural environment, and protect the safety, use and stability of public rights-of-way and drain-age channels;
- To assure that projects approved under this chapter will be free from harmful effects of runoff, including inundation and erosion, and that neighboring and downstream properties will be protected from drainage problems resulting from new development;
- To assure proper restoration of vegetation and soil systems disturbed by grading or fill activities authorized under this chapter. It is intended through this chapter to maintain an attractive and healthy landscape and to control against dust and erosion and their consequent effects on soil structure and water quality.

C.6.2. Administrative/Technical Mitigation Capabilities

Table C-32 identifies the City department(s) responsible for activities related to mitigation and loss prevention in Folsom.

Table C-32 City of Folsom’s Administrative and Technical Mitigation Capabilities

Administration	Y/N	Describe capability Is coordination effective?
Planning Commission	Y	
Mitigation Planning Committee		
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	Y	There are various maintenance programs in place to reduce risks.
Mutual aid agreements	Y	California Master Mutual Aid Agreement, Law Enforcement Mutual Aid Agreement, Fire and Rescue Mutual Aid Agreement, Public Works Mutual Aid Agreement, County of Sacramento Operational Area Council, U.S. Army Corps of Engineers Rehabilitation Inspection PL84-99 Program, NFIP, County of Sacramento OES, County of Sacramento EMD.
Other		
Staff	Y/N FT/PT	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	Y FT	Staff is adequate to enforce regulations. Staff is trained on hazards and mitigations. There is coordination between agencies and staff and it is effective.

Floodplain Administrator	Y FT	Staff is adequate to enforce regulations. Staff is trained on hazards and mitigations. There is coordination between agencies and staff and it is effective.
Emergency Manager	Y FT	Staff is adequate to enforce regulations. Staff is trained on hazards and mitigations. There is coordination between agencies and staff and it is effective.
Community Planner (Community Development/Public Works Director)	Y FT	Staff is adequate to enforce regulations. Staff is trained on hazards and mitigations. There is coordination between agencies and staff and it is effective.
Civil Engineer	Y FT	Staff is adequate to enforce regulations. Staff is trained on hazards and mitigations. There is coordination between agencies and staff and it is effective.
GIS Coordinator	Y FT	Staff is adequate to enforce regulations. Staff is trained on hazards and mitigations. There is coordination between agencies and staff and it is effective.
Other		
Technical	Comments	
Warning systems/services (Reverse 911, outdoor warning signals)	Y	Reverse 911/City-owned AM station/SMS messaging (Nixle)
Hazard data and information		
Grant writing	Y	
Hazus analysis		
Other		
How can these capabilities be expanded and improved to reduce risk?		

Source: City of Folsom

C.6.3. Fiscal Mitigation Capabilities

Table C-33 identifies financial tools or resources that the City could potentially use to help fund mitigation activities.

Table C-33 City of Folsom's Fiscal Mitigation Capabilities

Funding Resource	Access/ Eligibility (Y/N)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital improvements project funding	Y	There are funding resources that have been used in the past and can be used in the future.
Authority to levy taxes for specific purposes	Y	There are funding resources that have been used in the past and can be used in the future.
Fees for water, sewer, gas, or electric services	Y	There are funding resources that have been used in the past and can be used in the future.
Impact fees for new development	Y	There are funding resources that have been used in the past and can be used in the future.

Funding Resource	Access/ Eligibility (Y/N)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Storm water utility fee	N	
Incur debt through general obligation bonds and/or special tax bonds	Y	
Incur debt through private activities	Y	
Community Development Block Grant	Y	There are funding resources that have been used in the past and can be used in the future.
Other federal funding programs	Y	FEMA, U.S. Army Corps of Engineers Rehabilitation Inspection PL84-99 Program
State funding programs	Y	Cal OES
Other		
How can these capabilities be expanded and improved to reduce risk?		

Source: City of Folsom

C.6.4. Mitigation Education, Outreach, and Partnerships

Table C-34 identifies education and outreach programs and methods already in place that could be/or are used to implement mitigation activities and communicate hazard-related information. More information can be found below the table.

Table C-34 City of Folsom’s Mitigation Education, Outreach, and Partnerships

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Y	City of Folsom Community Emergency Response Team.
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Y	Ongoing public outreach material regarding water conservation, household hazardous waste pickup, emergency preparedness, fire safety,
Natural disaster or safety related school programs	Y	
StormReady certification	N	
Firewise Communities certification	N	
Public-private partnership initiatives addressing disaster-related issues	Y	Frequent training with regional partners such as SMUD, PG&E, County of Operational Emergency Services, Sacramento County Water Agency, and Department of Homeland Security.
Other		

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
How can these capabilities be expanded and improved to reduce risk?		

C.6.5. Other Mitigation Efforts

The City of Folsom maintains many annual programs to mitigate against natural hazards:

- Fuel modification program (fire management for open space)
- Annual weed hazard abatement program
- Creek/outfall vegetation maintenance
- Public education/outreach for extreme weather
- Routine storm drain operations and maintenance
- Wildfire prevention outreach
- Wildfire Hazard Identification
- Detention Basin Maintenance and Operation
- Stream and Creek Routine Maintenance Agreement with California Department of Fish and Wildlife

C.7 Mitigation Strategy

C.7.1. Mitigation Goals and Objectives

The City of Folsom adopts the hazard mitigation goals and objectives developed by the HMPC and described in Chapter 5 Mitigation Strategy.

C.7.2. NFIP Mitigation Strategy

As a participant in the Regular Phase of the National Flood Insurance Program (NFIP), the City of Folsom has administered floodplain management regulations that meet the minimum requirements of the NFIP. In our compliance with the NFIP, the City’s management program objective is to protect people and property within the City of Folsom. The City of Folsom will continue to comply with the requirements of the NFIP in the future.

The City’s regulatory activities apply to existing and new development areas of the City; implementing flood protection measures for existing structures and maintaining drainage systems. The goal of our program is to enhance public safety, and reduce impacts and losses while protecting the environment.

The City of Folsom Community Development Department provides public outreach activities which include map information services, public awareness, public hazard disclosure, and flood protection information. This information is readily available to the public and consists of current and accurate flood mapping. Information about our stormwater management program and up-to-date information related to the maintenance of our drainage system may be found through our Public Works Department.

The National Flood Insurance Program’s (NFIP) Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS which are to reduce flood losses, facilitate accurate insurance rating, and promote the awareness of flood insurance. The City of Folsom will evaluate the benefits that joining the CRS may have on our community.

More information about the floodplain administration in the City of Folsom can be found in Table C-35.

Table C-35 City of Folsom Compliance with NFIP

NFIP Topic	Comments
Insurance Summary	
How many NFIP policies are in the community? What is the total premium and coverage?	293 \$119,594 \$94,778,400
How many claims have been paid in the community? What is the total amount of paid claims? How many of the claims were for substantial damage?	14 \$403,345.45 1
How many structures are exposed to flood risk within the community?	8 (1%) 122 (0.2%)
Describe any areas of flood risk with limited NFIP policy coverage	None
Staff Resources	
Is the Community Floodplain Administrator or NFIP Coordinator certified?	No
Provide an explanation of NFIP administration services (e.g., permit review, GIS, education or outreach, inspections, engineering capability)	Permit review, GIS, education or outreach, inspections, engineering capability, Storm Drainage and Flood Control Management Program
What are the barriers to running an effective NFIP program in the community, if any?	None
Compliance History	
Is the community in good standing with the NFIP?	Yes
Are there any outstanding compliance issues (i.e., current violations)?	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	
Is a CAV or CAC scheduled or needed?	
Regulation	
When did the community enter the NFIP?	January 6,1982
Are the FIRMs digital or paper?	Digital
Do floodplain development regulations meet or exceed FEMA or State minimum requirements? If so, in what ways?	Yes, General Plan and Floodplain Policy strongly discourages building in the floodplain, unless it can be mitigated

NFIP Topic	Comments
Provide an explanation of the permitting process.	Plans are reviewed to determine flood zone information
Community Rating System	
Does the community participate in CRS?	No
What is the community's CRS Class Ranking?	N/A
What categories and activities provide CRS points and how can the class be improved?	N/A
Does the plan include CRS planning requirements?	N/A

C.7.3. Mitigation Actions

The planning team for the City of Folsom identified and prioritized the following mitigation actions based on the risk assessment. Background information and information on how each action will be implemented and administered, such as ideas for implementation, responsible office, potential funding, estimated cost, and timeline are also included.

Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan

Hazards Addressed: All hazards

Goals Addressed: 1, 2, 3, 4

Issue/Background: Local jurisdictional reimbursement for mitigation projects and cost recovery after a disaster is guided by Government Code Section 8685.9 (AB 2140). Specifically, this section requires that each jurisdiction adopt a local hazard mitigation plan (LHMP) in accordance with the federal Disaster Mitigation Act of 2000 as part of the Safety Element of its General Plan. Adoption of the LHMP into the Safety Element of the General Plan may be by reference or incorporation.

Other Alternatives: No action

Existing Planning Mechanisms through which Action will be Implemented: Safety Element of General Plan

Responsible Office: City of Folsom Planning Department

Priority (H, M, L): High

Cost Estimate: Jurisdictional board/staff time

Potential Funding: Local budgets

Benefits (avoided Losses): Incorporation of an adopted LHMP into the Safety Element of the General Plan will help jurisdictions maximize the cost recovery potential following a disaster.

Schedule: As soon as possible

Action 2. Stormwater Basin Maintenance and Operation Project

Hazards Addressed: Flooding

Goals Addressed: 1, 2, 3, 4

Issue/Background: The detention basins within the City have significant natural growth, causing the design capacities to decrease. A regular maintenance and operational schedule was necessary to ensure the field conditions of each detention basin is consistent with the design capacities.

Project Description: Rehabilitation of 22 City-maintained storm drainage detention basins throughout the City of Folsom.

Other Alternatives: No action.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Public Works Department

Responsible Office/Partners: Public Works Department

Project Priority: Medium

Cost Estimate: \$1.05 Million

Benefits (Losses Avoided): Potential losses avoided including residential, commercial, and public infrastructures.

Potential Funding: Fund is provided by the General Fund until a stormwater utility fee is adopted.

Timeline: Ongoing – funding constrained.

Action 3. Alder Creek Watershed Council

Hazards Addressed: Flooding

Goals Addressed: 1, 2, 3, 4

Issue/Background: In 2010 the City of Folsom and the Alder Creek Watershed Stakeholders completed the Alder Creek Watershed Management Action Plan. A recommended action item within the Plan is to establish a watershed stewardship group and coordinator position. Currently the majority of the watershed is undeveloped with development plans underway. A regional watershed council is needed to bring together resources for comprehensive planning and decision making to ensure implementation of the Plan. Funding is needed to establish the Watershed Council and Coordinator position.

Project Description: A regional watershed council for comprehensive planning and decision making to ensure implementation of the Alder Creek Watershed Management Action Plan.

Other Alternatives: No action.

Existing Planning Mechanism(s) through which Action Will Be Implemented:

Responsible Office/Partners: City of Folsom/Public Works and Sacramento County

Project Priority: Medium

Cost Estimate: \$100,000

Benefits (Losses Avoided): Life safety; reduction of property loss, improved planning

Potential Funding: Grants, local government, landowners

Timeline: Ongoing

Action 4. Drainage System Maintenance Tax Assessment

Hazards Addressed: Flooding

Goals Addressed: 1, 2, 3, 4

Issue/Background: The City of Folsom does not have a dedicated stormwater utility to fund operation and maintenance of the storm drainage system or implementation of its Stormwater Quality Program. Funds are needed for maintenance of the drainage system including, pipes, structures, detention basins and creeks/streams and water quality protection. Due to current California Law a ballot measure is required to assess taxes for a stormwater utility. In 2006 the City completed a Funding Feasibility Study; next steps include an opinion research and survey, fee development, ballot measure development and fee implementation.

Project Description: Implementation of a dedicated stormwater utility to fund operation and maintenance of the storm drainage system.

Other Alternatives: Continue an underfunded program and/or reduce services.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Public Works Department Administration.

Responsible Office/Partners: Folsom Public Works/Utilities Department

Project Priority: High

Cost Estimate: \$100,000

Benefits (Losses Avoided): Improved maintenance, increase reliability, reduction of property loss

Potential Funding: City of Folsom budget

Timeline: Ongoing

Action 5. Floodplain Mapping

Hazards Addressed: Flooding

Goals Addressed: 1, 2, 3, 4

Issue/Background: Current floodplain maps for the Humbug and Willow Creek watersheds do not reflect as built conditions for structures built within the floodplain. As built surveys are needed to accurately define the base flood elevations and map the limits of the current floodplain within each watershed.

Project Description: Complete as built surveys for structures built within the floodplain such as creek crossings. Update floodplain maps for the Humbug/Willow Creek Watersheds. Develop new floodplain maps for the Alder Creek and Hinkle Creek Watersheds.

Other Alternatives: Utilize the current FEMA mapping effort.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Continuation of floodplain mapping project that was suspended a few years ago due to funding issues.

Responsible Office/Partners: Folsom Community Development Department

Project Priority: High

Cost Estimate: \$200,000

Benefits (Losses Avoided): Life Safety; Reduction of Property Loss, Improved Planning

Potential Funding: City of Folsom budget, grants

Timeline: Ongoing

Action 6. Redevelopment Area Drainage Improvements

Hazards Addressed: Flooding

Goals Addressed: 1, 2, 3, 4

Issue/Background: In 2005 the City completed a Drainage Master Plan for its Redevelopment Area. The plan identifies nine drainage CIP's. The City has constructed one of the CIP's; funding is needed to construct the remaining eight drainage improvement projects.

Project Description: Capital Improvement Drainage Projects.

Other Alternatives: Establish an assessment district to obtain funding.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Public Works CIP Program.

Responsible Office/Partners: Folsom Public Works Department

Project Priority: Medium

Cost Estimate: \$8,000,000

Benefits (Losses Avoided): Life Safety; Reduction of Property Loss

Potential Funding: Redevelopment Agency, pending status. Establish an assessment district.

Timeline: Ongoing

Action 7. Stormwater Basin Maintenance and Operation Project

Hazards Addressed: Flooding

Goals Addressed: 1, 2, 3, 4

Issue/Background: The detention basins within the City have significant natural growth, causing the design capacities to decrease. A regular maintenance and operational schedule was necessary to ensure the field conditions of each detention basin is consistent with the design capacities.

Project Description: Rehabilitation of 22 City-maintained storm drainage detention basins throughout the City of Folsom.

Other Alternatives: No action.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Public Works Department

Responsible Office/Partners: Public Works Department

Project Priority: Medium

Cost Estimate: \$1.05 Million

Benefits (Losses Avoided): Potential losses avoided including residential, commercial, and public infrastructures.

Potential Funding: Fund is provided by the General Fund until a stormwater utility fee is adopted.

Timeline: Ongoing – funding constrained.

Action 8. Heating and Cooling Centers

Hazards Addressed: Life safety to vulnerable populations caused by severe weather, and temperature extremes.

Goals Addressed: 1, 2, 3

Issue/Background: Older adults and special needs populations are particularly vulnerable to extremes of temperature that are common throughout the Sacramento Valley. Extreme temperatures stress existing utility infrastructure causing outages that impact those populations to a higher degree.

Project Description: This project would focus on identifying locations that could be used for heating and cooling centers during severe weather. These locations would require backup power supplies in order to function during outages.

Other Alternatives: No local City provided facilities and would rely on non-governmental support or defer to County.

Existing Planning Mechanism(s) through which Action Will Be Implemented:

Responsible Office/Partners: Folsom Fire Department

Project Priority: High

Cost Estimate: No cost to approximately \$200,000 per identified location if an existing building requires the installation of emergency generator(s)

Benefits (Losses Avoided): Reduction of the life hazard to populations at risk during extreme weather events, which includes the very young, very old, medically fragile, cognitively-impaired, physically-impaired, and other special needs groups.

Potential Funding: Fund-raising, grant funds, public/private donations

Timeline: Ongoing

Action 9. Public Education/Outreach Extreme Weather

Hazards Addressed: Life safety to vulnerable populations caused by severe weather, and temperature extremes.

Goals Addressed: 1, 2, 3

Issue/Background: Older adults and special needs populations are particularly vulnerable to extremes of temperature that are common throughout the Sacramento Valley. Extreme temperatures stress existing utility infrastructure causing outages that impact those populations to a higher degree.

Project Description: This project would focus on preparedness and notification actions to reach out to those groups prior to and during extreme weather events.

Other Alternatives: No action.

Existing Planning Mechanism(s) through which Action Will Be Implemented:

Responsible Office/Partners: Folsom Fire Department

Project Priority: Medium

Cost Estimate: \$15,000/yr for materials and technology for notification

Benefits (Losses Avoided): Reduction of the life hazard to populations at risk during extreme weather events, which includes the very young, very old, medically fragile, cognitively-impaired, physically-impaired, and other special needs groups.

Potential Funding: Fund-raising, grant funds, public/private donations

Timeline: Ongoing

Action 10. Weed Abatement Program

Hazards Addressed: Wildfire

Goals Addressed: 1, 2, 3

Issue/Background: The primary function of this program is to reduce the danger of fires within the City by proactively establishing defensible space and to reduce / remove combustible materials on properties.

Project Description: The City of Folsom requires property owners to clear their property of all dry grass, weeds, dead trees, and noxious vegetation or rubbish that may constitute a fire hazard. The Fire Department is authorized to abate any potential fire hazard that has not been addressed by June 1, 2016 at the owner's expense. The Fire Department will conduct a second survey of your property to ensure the fire hazard has been abated on or after June 1, 2016.

Other Alternatives: No action.

Existing Planning Mechanism(s) through which Action Will Be Implemented: City of Folsom Fire Department

Responsible Office/Partners: City of Folsom Fire Department

Project Priority: Medium

Cost Estimate: \$2.2 Million

Benefits (Losses Avoided): Potential losses avoided including residential, commercial, and public infrastructures.

Potential Funding: Fund is provided by the General Fund with some sources from programming revenue, and State and Federal grants.

Timeline: Ongoing

Action 11. Arson Prevention and Control Outreach

Hazards Addressed: Wildfire

Goals Addressed: 1, 2, 3, 4

Issue/Background: Many areas within the City of Folsom lie within a wildland-urban interface exposing them to a high risk of wildfire. Implementing an aggressive arson awareness, prevention, and control program can mitigate much of the wildfire risk.

Project Description: Arson prevention and control program aimed at mitigating wildfire hazards and reducing or preventing exposure of citizens, public agencies, private property owners and businesses to natural hazards.

Other Alternatives: No action.

Existing Planning Mechanism(s) through which Action Will Be Implemented: The Fire and Police Departments will form a joint task force to prevent and control the risk of arson-caused wildfire.

Responsible Office/Partners: Folsom Fire Department

Project Priority: Medium

Cost Estimate: Dependent on scope of project: \$10,000 to \$50,000/yr

Benefits (Losses Avoided): Life safety, reduction of property loss

Potential Funding: City of Folsom budget, private donation, grants

Timeline: Ongoing

Action 12. Fuel Reduction and Modification

Hazards Addressed: Wildfire

Goals Addressed: 1, 2, 3, 4

Issue/Background: The expense of removing and/or modifying materials which create a wildfire hazard can often be cost prohibitive for both private and public property owners. Encouraging joint efforts such as

volunteer cleanup days and chipper programs can reduce the cost to anyone stakeholder and facilitate mitigation efforts

Project Description: Remove and/or modify materials which create a wildfire hazard.

Other Alternatives: No action.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Community Wildfire Protection Plan through the Fire Safe Council.

Responsible Office/Partners: Folsom Fire Department and Fire Safe Council

Project Priority: High

Cost Estimate: Up to \$75,000 per year

Benefits (Losses Avoided): Life safety, reduction of property loss

Potential Funding: Fund raising, private donation, grant funding

Timeline: Ongoing

Action 13. Wildfire Hazard Identification

Hazards Addressed: Wildfire

Goals Addressed: 1, 2, 3, 4

Issue/Background: Land ownership and maintenance responsibilities in the City of Folsom are complicated due in part to the presence of multiple public agencies including the US Bureau of Reclamation, US Bureau of Land Management, California State Parks, and California Department of Corrections. Mitigation projects, even by private land owners, often require the review and approval of one if not all of these entities often resulting in the delay if not cancellation of the project.

Project Description: Increase communication, coordination and collaboration between private property owners and city, state, and federal agencies to address the wildfire risks and existing mitigation measures.

Other Alternatives: No action.

Existing Planning Mechanism(s) through which Action Will Be Implemented: The Fire Department and Folsom Fire Safe Council

Responsible Office/Partners: Folsom Fire Department, Community Development

Project Priority: Medium

Cost Estimate: Staff time

Benefits (Losses Avoided): Life safety, reduction of property loss

Potential Funding: Existing budget

Timeline: Ongoing

Action 14. Ignition Resistant Building Construction Upgrades

Hazards Addressed: Wildfire

Goals Addressed: 1, 2, 3, 4

Issue/Background: The expense of retrofitting existing building with ignition resistant construction in order to mitigate the effects of ember storms or direct flame impingement during a wildfire can often be cost prohibitive for private property owners. Developing a plan to identify buildings and risk and working with property owners find funding sources can reduce facilitate mitigation efforts.

Project Description: Facilitate private and public agency partnerships to upgrade/retrofit buildings in high fire hazard areas using ignition resistant building construction methods.

Other Alternatives: No action.

Existing Planning Mechanism(s) through which Action Will Be Implemented: City of Folsom Community Development Dept.

Responsible Office/Partners: City of Folsom Community Development Dept.

Project Priority: Medium

Cost Estimate: \$500,000 to \$2,000,000 (materials & labor)

Benefits (Losses Avoided): Life safety, reduction of property loss

Potential Funding: Fund raising, private donation, grant funding

Timeline: Ongoing

Action 15. Wildfire Prevention Outreach

Hazards Addressed: Wildfire

Goals Addressed: 1, 2, 3, 4

Issue/Background: Many areas within the City of Folsom lie within a wildland-urban interface exposing them to a high risk of wildfire. Educating the public as to the risk and methods of reducing the exposure is a prime component in any mitigation efforts.

Project Description: Public education

Other Alternatives: No action.

Existing Planning Mechanism(s) through which Action Will Be Implemented: The Fire Department and Folsom Fire Safe Council currently conduct home evaluations and education programs.

Responsible Office/Partners: Folsom Fire Department

Project Priority: High

Cost Estimate: Cost of purchase and reproduction of printed materials; up to \$15,000/year.

Benefits (Losses Avoided): Life Safety, Reduction of Property Loss

Potential Funding: Fire Department budget, private donation, grants

Timeline: Ongoing

Appendix B City of Folsom WSCP Adoption Resolution

RESOLUTION NO. 10643

A RESOLUTION ADOPTING THE 2020 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN AND AUTHORIZING THE CITY MANAGER TO SUBMIT THE PLANS TO THE CALIFORNIA DEPARTMENT OF WATER RESOURCES AND TO THE CALIFORNIA STATE LIBRARY

WHEREAS, the Urban Water Management Planning Act requires every urban water supplier providing water for municipal purposes to more than 3,000 customers to adopt and submit a Urban Water Management Plan to the California Department of Water Resources and the California State Library every five years; and

WHEREAS, the City of Folsom wishes to comply with California Water Code (CWC) Section 10610 regarding the preparation of an Urban Water Management Plan; and

WHEREAS, the CWC Section 10620(a) requires an urban water supplier to adopt an Urban Water Management Plan consistent with CWC 10640; and

WHEREAS, the CWC Section 10320(a) requires an urban water supplier to adopt a Water Shortage Contingency Plan consistent with CWC 10640; and

WHEREAS, the City of Folsom is in compliance with Senate Bill X7-7, also known as the Water Conservation Bill of 2009, by reducing per capita water use by 20% by 2020; and

WHEREAS, an adopted Urban Water Management Plan is required for an urban water supplier to be eligible for grants administered by the Department of Water Resources; and

WHEREAS, the City of Folsom has prepared the required plans, published a Notice of Public Hearing pursuant to California Government Code 6066, published May 20 and 27, 2021, and held the appropriate Public Hearing.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Folsom that the 2020 Urban Water Management Plan and Water Shortage Contingency Plan are hereby adopted, subject to minor and typographical edits as deemed necessary by the City Manager.

BE IT FURTHER RESOLVED that the City Manager is hereby authorized to Submit the Plans to the California Department of Water Resources and the California State Library.


PASSED AND ADOPTED this 8th day of June 2021, by the following roll-call vote:

AYES:	Councilmember(s):	Rodriguez, Aquino, Chalamcherla, Howell, Kozlowski
NOES:	Councilmember(s):	None
ABSENT:	Councilmember(s):	None
ABSTAIN:	Councilmember(s):	None



Michael D. Kozlowski, MAYOR

ATTEST:



Christa Freemantle, CITY CLERK

Appendix C Notice of Public Hearing

NOTICE OF PUBLIC HEARING

77304

**CITY OF FOLSOM
NOTICE OF PUBLIC HEARING
LEGAL NOTICE**

Notice is given herewith that the City of Folsom City Council, at its regular council meeting on Tuesday, June 8, 2021, at 6:30 pm, in the City Council Chambers, 50 Natoma Street, Folsom, California, will hold a public hearing in accordance with Section 6066 of the California Government Code to consider adoption of the City of Folsom's 2020 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP).

The purpose of this UWMP is to document the City's water supply planning strategies for the existing municipal jurisdiction. The Urban Water Management Plan, as required by Urban Water Management Act and the Water Conservation Bill of 2009, contains an assessment of current and projected supplies, an evaluation of the reliability of these supplies given a range of hydrologic conditions, an assessment of demands by customer type, and an explanation of water management strategies designed to integrate supply and demand conditions.

The Water Shortage Contingency Plan (WSCP) is a detailed plan for how the City intends to identify and respond to foreseeable and unforeseeable water shortages. A water shortage occurs when the supply is reduced to a level that cannot support the normal demand at any given time or if the state mandates a cutback regardless of supplies.

Copies of the Draft Urban Water Management Plan and Water Shortage Contingency Plan are on file and available for public review at the Environmental and Water Resources Department on the first floor of City Hall at 50 Natoma Street, at the City Clerk's office and online at www.folsom.ca.us. Interested persons are invited to express their opinion. If you challenge the action in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice or written correspondence delivered to the City Council at, or prior to, the public hearing.

City of Folsom
Christa Freemantle
City Clerk

PUBLISHED IN THE FOLSOM TELEGRAPH: MAY 20, 27, 2021

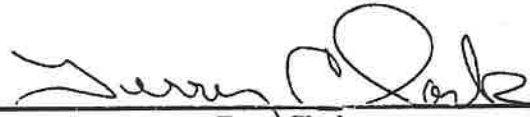
The above space is reserved for Court/County Filed Date Stamp

**PROOF OF PUBLICATION
(2015.5 C.C.P.)****STATE OF CALIFORNIA
County of Sacramento**

I am a citizen of the United States and employed by a publication in the County aforesaid. I am over the age of eighteen years, and not a party to the mentioned matter. I am the principal clerk of **The Folsom Telegraph**, a newspaper of general circulation, in the **City of Folsom**, which is printed and published in the **County of Placer**. This newspaper has been judged a newspaper of general circulation by the Superior Court of the State of California, in and for the **County of Sacramento**, on the date of April 1, 1952, (Case Number 89429). The notice, of which the attached is a printed copy (set in type not smaller than nonpareil) has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

MAY 20, 27

I certify, under penalty of perjury, that the foregoing is true and correct.



Terry Clark

Dated in Folsom, California

MAY 27, 2021

**PROOF OF PUBLICATION
THE FOLSOM TELEGRAPH
921 Sutter Street
Folsom, CA 95630**

Appendix F **2020 UWMP Adoption** **Resolution**

RESOLUTION NO. 10643

A RESOLUTION ADOPTING THE 2020 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN AND AUTHORIZING THE CITY MANAGER TO SUBMIT THE PLANS TO THE CALIFORNIA DEPARTMENT OF WATER RESOURCES AND TO THE CALIFORNIA STATE LIBRARY

WHEREAS, the Urban Water Management Planning Act requires every urban water supplier providing water for municipal purposes to more than 3,000 customers to adopt and submit a Urban Water Management Plan to the California Department of Water Resources and the California State Library every five years; and

WHEREAS, the City of Folsom wishes to comply with California Water Code (CWC) Section 10610 regarding the preparation of an Urban Water Management Plan; and

WHEREAS, the CWC Section 10620(a) requires an urban water supplier to adopt an Urban Water Management Plan consistent with CWC 10640; and

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WHEREAS, the City of Folsom has prepared the required plans, published a Notice of Public Hearing pursuant to California Government Code 6066, published May 20 and 27, 2021, and held the appropriate Public Hearing.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Folsom that the 2020 Urban Water Management Plan and Water Shortage Contingency Plan are hereby adopted, subject to minor and typographical edits as deemed necessary by the City Manager.


BE IT FURTHER RESOLVED that the City Manager is hereby authorized to Submit the Plans to the California Department of Water Resources and the California State Library.

PASSED AND ADOPTED this 8th day of June 2021, by the following roll-call vote:

AYES:	Councilmember(s):	Rodriguez, Aquino, Chalamcherla, Howell, Kozlowski
NOES:	Councilmember(s):	None
ABSENT:	Councilmember(s):	None
ABSTAIN:	Councilmember(s):	None


Michael D. Kozlowski, MAYOR

ATTEST:


Christa Freemantle, CITY CLERK

Appendix G DWR Population Tool Output

Please print this page to a PDF and include as part of your UWMP submittal.

Confirmation Information

Generated By	Water Supplier Name	Confirmation #	Generated On
Kaylie Tavenner	Folsom City Of	7397992789	4/27/2021 3:22:24 PM

Boundary Information

Census Year	Boundary Filename	Internal Boundary ID
1990	Folsom Water Service (1).kml	1088
2000	Folsom Water Service (1).kml	1088
2010	Folsom Water Service (1).kml	1088
1990	Folsom Water Service (1).kml	1088
2000	Folsom Water Service (1).kml	1088
2010	Folsom Water Service (1).kml	1088
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2010	Folsom Water Service (1).kml	1088
1990	Folsom Water Service (1).kml	1088
2000	Folsom Water Service (1).kml	1088
2010	Folsom Water Service (1).kml	1088

Baseline Period Ranges

10 to 15-year baseline period

Number of years in baseline period:

Year beginning baseline period range:

Year ending baseline period range¹: 2008

5-year baseline period

Year beginning baseline period range:

Year ending baseline period range²: 2008

¹ The ending year must be between December 31, 2004 and December 31, 2010.

² The ending year must be between December 31, 2007 and December 31, 2010.

Persons per Connection

Year	Census Block Level	Number of Connections *	Persons per Connection
	Total Population		
1990	20,545	<input type="text"/>	3.21
1991	-	-	3.21
1992	-	-	3.21
1993	-	-	3.21
1994	-	-	3.21
1995	-	-	3.21
1996	-	-	3.21
1997	-	-	3.21
1998	-	-	3.21
1999	-	-	3.21
2000	41,677	<input type="text"/>	3.21
2001	-	-	3.21
2002	-	-	3.21
2003	-	-	3.21
2004	-	-	3.21
2005	-	-	3.21
2006	-	-	3.21
2007	-	-	3.21
2008	-	-	3.21
2009	-	-	3.21
2010	61,187	<input type="text" value="19040"/>	3.21
2011	-	-	3.21
2012	-	-	3.21
2013	-	-	3.21
2014	-	-	3.21
2015	-	-	3.21

2020	-	-	3.21 **
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Population Using Persons-Per-Connection				
Year		Number of Connections *	Persons per Connection	Total Population
10 to 15 Year Baseline Population Calculations				
Year 1	1996	<input type="text"/>	3.21	
Year 2	1997	<input type="text"/>	3.21	
Year 3	1998	<input type="text"/>	3.21	
Year 4	1999	<input type="text"/>	3.21	
Year 5	2000	<input type="text"/>	3.21	
Year 6	2001	<input type="text"/>	3.21	
Year 7	2002	<input type="text"/>	3.21	
Year 8	2003	<input type="text"/>	3.21	
Year 9	2004	<input type="text"/>	3.21	
Year 10	2005	<input type="text"/>	3.21	
Year 11	2006	<input type="text"/>	3.21	
Year 12	2007	<input type="text"/>	3.21	
Year 13	2008	<input type="text"/>	3.21	
5 Year Baseline Population Calculations				
Year 1	2004	<input type="text"/>	3.21	
Year 2	2005	<input type="text"/>	3.21	
Year 3	2006	<input type="text"/>	3.21	
Year 4	2007	<input type="text"/>	3.21	
Year 5	2008	<input type="text"/>	3.21	
2020 Compliance Year Population Calculations				
	2020	<input type="text"/>	3.21 **	

[Hide Print Confirmation](#)

QUESTIONS / ISSUES? CONTACT THE WUEdata HELP DESK
 MWELo QUESTIONS / ISSUES? CONTACT THE MWELo HELP DESK