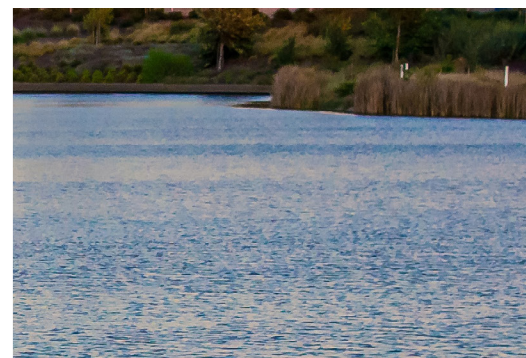
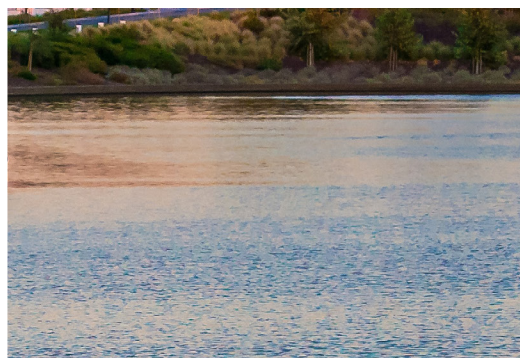
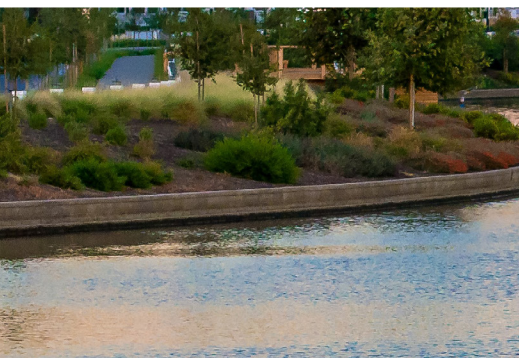
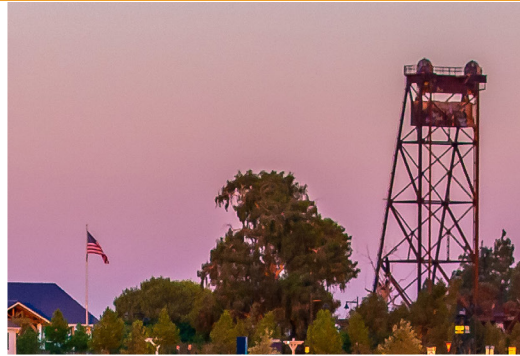


June 2021

# 2020 Urban Water Management Plan

for City of Lathrop





**TABLE OF CONTENTS**

- 1. INTRODUCTION ..... 1**
  - 1.1 Background and Purpose..... 1
  - 1.2 Urban Water Management Planning and the California Water Code..... 2
  - 1.3 Relationship to Other Planning Efforts ..... 3
  - 1.4 Plan Organization..... 3
  - 1.5 Demonstration of Consistency with the Delta Plan for Participants in Covered Actions 4
  - 1.6 Lay Description ..... 4
- 2. PLAN PREPARATION ..... 8**
  - 2.1 Compliance with the UWMP Act ..... 8
  - 2.2 Coordination and Outreach ..... 10
    - 2.2.1 Wholesale Coordination ..... 10
    - 2.2.2 Agency Coordination ..... 11
    - 2.2.3 Public Participation ..... 12
  - 2.3 UWMP Structure, Standard Units, and Basis for Reporting ..... 12
- 3. SERVICE AREA AND SYSTEM DESCRIPTION ..... 14**
  - 3.1 City Limits, Sphere of Influence, and Service Boundaries ..... 14
  - 3.2 Population Trends Within the Service Area ..... 17
  - 3.3 Other Social, Economic, and Demographic Factors..... 19
  - 3.4 Land Uses within Service Area ..... 20
    - 3.4.1 Specific Plans and Large Planned Unit Development ..... 22
  - 3.5 Climate ..... 24
    - 3.5.1 Climate Change Considerations..... 26
  - 3.6 Water Distribution System ..... 26
- 4. WATER USE CHARACTERIZATION ..... 28**
  - 4.1 Current and Historic Total Water Demand..... 28
    - 4.1.1 Current and Historical Potable Water Demand..... 28
    - 4.1.2 Current and Historical Recycled Water Demand..... 33
    - 4.1.3 Distribution System Water Loss ..... 33
  - 4.2 Projected Total Water Demand..... 34



City of Lathrop

- 4.2.1 Projected Potable Water Demand..... 35
- 4.2.2 Projected Recycled Water Demand..... 37
- 4.2.3 Water Use for Lower Income Households..... 38
- 4.2.4 Characteristic Five-Year Water Use ..... 39
- 4.2.5 Water Savings from Codes, Standards, Ordinances, or Transportation and Land Use Plans ..... 39
- 4.2.6 Projected Total Water Demand..... 41
- 4.3 Water Use Sectors Not Included in the Demand Projections ..... 42
- 4.4 Climate Change Impacts to Demand ..... 42
- 4.5 Coordinating Water Use Projections ..... 43
- 4.6 Urban Water Use Objectives (Future Requirements) ..... 43
- 5. BASELINE WATER USE AND WATER CONSERVATION TARGETS ..... 46**
  - 5.1 Service Area Population..... 47
  - 5.2 Baseline Water Use..... 47
  - 5.3 Water Use Targets ..... 49
  - 5.4 2020 Target Compliance..... 50
- 6. WATER SYSTEM SUPPLIES ..... 52**
  - 6.1 Purchased or Imported Water..... 52
    - 6.1.1 South San Joaquin Irrigation District Water Supply ..... 53
    - 6.1.2 South San Joaquin Irrigation District Water Right..... 53
  - 6.2 Groundwater ..... 54
    - 6.2.1 Basin Description ..... 54
    - 6.2.2 Groundwater Management..... 56
    - 6.2.3 Groundwater Production..... 58
  - 6.3 Surface Water ..... 60
  - 6.4 Stormwater ..... 61
  - 6.5 Wastewater and Recycled Water ..... 61
    - 6.5.1 Recycled Water Coordination..... 61
    - 6.5.2 Wastewater Collection, Treatment, and Disposal..... 62
    - 6.5.3 Recycled Water System Description..... 68
    - 6.5.4 Potential, Current, and Projected Recycled Water Uses..... 68
    - 6.5.5 Actions to Encourage and Optimize Future Recycled Water Use ..... 72



- 6.6 Desalinated Water Opportunities ..... 72
- 6.7 Water Exchanges and Transfers ..... 73
- 6.8 Future Water Projects ..... 73
- 6.9 Summary of Existing and Planned Sources of Water ..... 74
- 6.10 Special Conditions..... 77
  - 6.10.1 Climate Change Effects ..... 77
  - 6.10.2 Regulatory Conditions and Project Development ..... 77
  - 6.10.3 Other Locally Applicable Criteria ..... 77
- 6.11 Energy Consumption ..... 78
- 7. WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT ..... 80**
  - 7.1 Water Service Reliability Assessment ..... 80
    - 7.1.1 Service Reliability - Constraints on Water Sources..... 80
    - 7.1.2 Service Reliability - Year Type Characterization ..... 88
    - 7.1.3 Service Reliability - Supply and Demand Assessment ..... 92
    - 7.1.4 Description of Water Management Tools and Options ..... 94
  - 7.2 Drought Risk Assessment ..... 96
    - 7.2.1 DRA Data, Methods, and Basis for Water Shortage Conditions ..... 96
    - 7.2.2 DRA Individual Water Source Reliability..... 96
    - 7.2.3 DRA Total Water Supply and Use Comparison ..... 97
- 8. WATER SHORTAGE CONTINGENCY PLAN..... 100**
- 9. DEMAND MANAGEMENT MEASURES ..... 107**
  - 9.1 Agency Water Conservation ..... 107
    - 9.1.1 DMM 1 – Water Waste Prevention Ordinances ..... 107
    - 9.1.2 DMM 2 – Metering ..... 110
    - 9.1.3 DMM 3 – Conservation Pricing ..... 110
    - 9.1.4 DMM 4 – Public Education and Outreach ..... 111
    - 9.1.5 DMM 5 – Programs to Assess and Manage Distribution System Real Loss ... 112
    - 9.1.6 DMM 6 – Water Conservation Program Coordination and Staffing Support. 112
    - 9.1.7 DMM 7 – Other DMMs ..... 113
  - 9.2 Implementation Over the Past Five Years ..... 113
  - 9.3 Planned Implementation to Achieve Water Use Targets ..... 116

Table of Contents

2020 Urban Water Management Plan

City of Lathrop



**10. PLAN ADOPTION AND SUBMITTAL..... 117**

    10.1 Notification of UWMP Preparation ..... 117

    10.2 Notification of Public Hearing..... 117

        10.2.1 Notice to Cities and Counties ..... 117

        10.2.2 Notice to the Public ..... 118

    10.3 Public Hearing and Adoption ..... 118

    10.4 Plan Submittal..... 119

    10.5 Public Availability..... 119

    10.6 Amending an Adopted UWMP or Water Shortage Contingency Plan..... 120

**REFERENCES..... 121**

## Table of Contents

### 2020 Urban Water Management Plan

#### City of Lathrop



#### **TABLES**

Table 2-1	Public Water Systems (DWR Table 2-1)
Table 2-2	Plan Identification Type (DWR Table 2-2)
Table 2-3	Water Supplier Information Exchange (DWR Table 2-4)
Table 2-4	Notification to Cities and Counties (DWR Table 10-1)
Table 2-5	Supplier Identification (DWR Table 2-3)
Table 3-1	Population - Current and Projected (DWR Table 3-1)
Table 3-2	Demographic and Housing Characteristics
Table 3-3	Climate Characteristics
Table 4-1	Current and Historical Potable Water Demand and Population (Draft DWR Table 4-6)
Table 4-2	Demands for Potable and Non-Potable Water - Actual (DWR Table 4-1)
Table 4-3	12 Month Water Loss Audit Reporting (DWR Table 4-4)
Table 4-4	Potable Water Demand Factors
Table 4-5	Use for Potable and Non-Potable - Projected (DWR Table 4-2)
Table 4-6	Inclusion in Water Use Projections (DWR Table 4-5)
Table 4-7	Projected Potable Water Demand for Lower-Income Households
Table 4-8	Characteristic Five-Year Water Use
Table 4-9	Projected Potable Water Demand and Projected Passive and Active Water Conservation
Table 4-10	Gross Water Use (DWR Table 4-3)
Table 4-11	Current and Projected Residential Per Capita Water Use
Table 5-1	Baselines and Targets Summary (DWR Table 5-1)
Table 5-2	2020 Compliance (DWR Table 5-2)
Table 6-1	Groundwater Production Well Capacities and Annual Yields
Table 6-2	Groundwater Volume Pumped (DWR Table 6-1)
Table 6-3	Wastewater Collected Within Area in 2020 (DWR Table 6-2)
Table 6-4	Wastewater Capacity Allocation at MWQCF
Table 6-5	Wastewater Treatment and Discharge Within Service Area in 2020 (DWR Table 6-3)
Table 6-6	2015 UWMP Recycled Water Use Projection Compared to 2020 Actual (DWR Table 6-5)
Table 6-7	Current and Projected Recycled Water Direct Beneficial Uses Within Service Area (DWR Table 6-4)
Table 6-8	Methods to Expand Future Recycled Water Use (DWR Table 6-6)

## Table of Contents

### 2020 Urban Water Management Plan

#### City of Lathrop



Table 6-9	Expected Future Water Supply Projects or Programs (DWR Table 6-7)
Table 6-10	Water Supplies - Actual (DWR Table 6-8)
Table 6-11	Water Supplies - Projected (DWR Table 6-9)
Table 6-12	Recommended Energy Intensity - Total Utility Approach (DWR Table O-1B)
Table 7-1	Projected SCWSP Supply Availability
Table 7-2	Projected SCWSP Supply Available to City of Lathrop
Table 7-3	Basis of Water Year Data (Reliability Assessment) (DWR Table 7-1)
Table 7-4	Projected Water Supply in Normal Years (Responds to DWR Table 7-1)
Table 7-5	Projected Water Supply in Single Dry Years (Responds to DWR Table 7-1)
Table 7-6	Projected Water Supply in Multiple Dry Years (Responds to DWR Table 7-1)
Table 7-7	Normal Year Supply and Demand Comparison (DWR Table 7-2)
Table 7-8	Single Dry Year Supply and Demand Comparison (DWR Table 7-3)
Table 7-9	Multiple Dry Years Supply and Demand Comparison (DWR Table 7-4)
Table 7-10	Five-Year Drought Risk Assessment Tables to Address Water Code 10635(b) (DWR Table 7-5)
Table 8-1	Stages of Water Shortage Contingency Plan (DWR Table 8-1)
Table 8-2	Stages of Action and Water Shortage Responses (DWR Table 8-2)
Table 8-3	Supply Augmentation and Other Actions (DWR Table 8-3)
Table 9-1	Summary of DMMs and Implementation over the Past Five Years (2016-2020)

## FIGURES

Figure 3-1	Lathrop Water Service Area
Figure 3-2	City Land Use (Adopted from the City's General Plan Map (Lathrop, 2017))
Figure 6-1	Groundwater Basin and Subbasin Map
Figure 6-2	Existing City Owned Recycled Water System Infrastructure

## APPENDICES

Appendix A.	Completed UWMP Checklist
Appendix B.	Water Supply Development and Operating Agreement between the City and SSJID
Appendix C.	UWMP Agency Notification Letters
Appendix D.	UWMP Public Notification
Appendix E.	Projected Demand Estimation Methodology

## Table of Contents

### 2020 Urban Water Management Plan

#### City of Lathrop



Appendix F.	SB x7-7 Compliance Tables
Appendix G.	Supply Reliability Information Provided by SSJID
Appendix H.	Water Service Reliability and Drought Risk Assessment Assuming Implementation of Bay-Delta Plan Amendment
Appendix I.	Water Shortage Contingency Plan
Appendix J.	Resolution 21-4909 on UWMP and WSCP 2020 Update



## Table of Contents

### 2020 Urban Water Management Plan

#### City of Lathrop



#### ABBREVIATIONS

AAFES	Army & Air Force Exchange Services
AB	Assembly Bill
ACE	Altamont Commuter Express
AF	acre-foot
AFY	acre-foot per year
AMI	Advanced Metering Infrastructure
AOI	Area of Interest
ASR	aquifer storage and recovery
AWWA	American Water Works Association
BBMR	Basin Boundary Modification Request
BMOs	Basin Management Objectives
CA	California
CASGEM	California Statewide Groundwater Elevation Monitoring
CCR	California Code of Regulations
CII	Commercial, Industrial, and Institutional
CIMIS	California Irrigation Management Information System
CLSP	Central Lathrop Specific Plan
COVID	Coronavirus virus
CTF	Consolidated Treatment Facility
CWC	California Water Code
DBCP	1,2-dibromo-3-chloropropane
DDW	Division of Drinking Water
DGWTP	DeGroot Water Treatment Plant
DMM	demand management measures
DOF	Department of Finance
DRA	Drought Risk Assessment
DRT	Drought Response Tool
DWR	California Department of Water Resources
EDB	ethylene dibromide
EO	Executive Order
ERP	Emergency Response Plan
ESJ	East San Joaquin
ET	Evapotranspiration
ETo	reference evapotranspiration
ft	foot
ft bgs	feet below ground surface
GPCD	gallons per capita per day
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
GWA	Groundwater Authority
GWMP	Groundwater Management Plan
IPR	Indirect Potable Reuse
IWRMP	Integrated Water Resources Management Plan
kWh/AF	kilowatt hours per acre-foot
LAAs	Land Application Areas
LAWTF	Louise Avenue Water Treatment Facility

## Table of Contents

### 2020 Urban Water Management Plan

#### City of Lathrop



LHMP	Local Hazard Mitigation Plan
LMC	Lathrop Municipal Code
MCLs	Maximum Contaminant Levels
MFR	Multi-Family Residential
mg/L	milligrams per liter
MGD	million gallon per day
MUSD	Manteca Unified School District
MWELo	Model Water Efficient Landscape Ordinance
MWQCF	Manteca Wastewater Quality Control Facility
ng/L	nanograms per liter
NLs	Notification Levels
OCC	Occidental Chemical Corporation
PFAS	per- and polyfluoroalkyl substances
PFAS	per- and polyfluoroalkyl substances
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
RD	Reclamation District
R-GPCD	residential gallons per capita per day
RLs	Response Levels
RUWMP	Regional Urban Water Management Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SB x7	Water Conservation Act of 2009
SCADA	Supervisory Control and Data Acquisition
SCWSP	South County Water Supply Project
SDA	Supply-Demand Assessment
SFR	Single Family Residential
SGMA	Sustainable Groundwater Management Act
SJC	San Joaquin County
SOI	Sphere of Influence
SSJID	South San Joaquin Irrigation District
SWRCB	State Water Resources Control Board
TAP	Water Loss Technical Assistance Program
TDS	Total Dissolved Solids
U.S.	United States
USBR	United States Bureau of Reclamation
UWMP	Urban Water Management Plan
WDR	Waste Discharge Requirements
WSCP	Water Shortage Contingency Plan
WSMP	Water System Master Plan
WTF	Water Treatment Plant
WUE	Water Use Efficiency
WWTP	Wastewater Treatment Plant



## 1. INTRODUCTION

### CWC § 10630.5

*Each plan shall include a simple lay description of how much water the agency has on a reliable basis, how much it needs for the foreseeable future, what the agency's strategy is for meeting its water needs, the challenges facing the agency, and any other information necessary to provide a general understanding of the agency's plan.*

This chapter discusses the importance and uses of this Urban Water Management Plan (UWMP or Plan), the relationship of this Plan to the California Water Code (CWC), the relationship of this Plan to other local and regional planning efforts, and how this Plan is organized and developed in general accordance with the *Urban Water Management Plan Guidebook 2020* (UWMP Guidebook 2020).<sup>1</sup>

### 1.1 Background and Purpose

The City of Lathrop (also referred to herein as the City) was incorporated on July 1, 1989. The City delivers water to residential, commercial, industrial, institutional/governmental, irrigation, agricultural<sup>2</sup>, and other/construction customers. The City's potable water supplies include local groundwater produced from five active wells operated by the City and purchased surface water from the South San Joaquin Irrigation District (SSJID). Additionally, the City's Consolidated Treatment Facility (CTF) produces disinfected tertiary recycled water suitable for irrigation at parks, landscape strips, median islands, pond berms, and agricultural fields. Currently, the City discharges recycled water on permitted agricultural land application areas as its primary means of disposal. As of 2020, the City served 7,934 total connections within its service area.

This UWMP is a foundational document and source of information about the City's historical and projected water demands, water supplies, supply reliability and potential vulnerabilities, water shortage contingency planning, and demand management programs.

The City's last UWMP was completed in 2018 in response to 2015 UWMP submittal requirements and therefore is referred to herein as the "2015 UWMP."<sup>3</sup> This Plan is an update to the 2015 UWMP and carries forward information from that plan that remains current and is relevant. This Plan also provides additional information as required by amendments to the UWMP Act (CWC §10610 – 10657). Although this Plan is an update to the 2015 UWMP, it has been developed to be a self-contained, stand-alone document and does not require readers to reference information contained in previous plans.

---

1 The UWMP Guidebook 2020 is available at: <https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans>

2 Lathrop's single agricultural customer will be replaced by development at the Lathrop Gateway project.

3 The UWMP Act requires urban water suppliers to prepare an UWMP every five years, in years ending in "five" or "zero".



## 1.2 Urban Water Management Planning and the California Water Code

The UWMP Act requires urban water suppliers to prepare an UWMP every five years and to submit this plan to the California Department of Water Resources (DWR), the California State Library, and any city or county within which the supplier provides water supplies. All urban water suppliers, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet annually are required to prepare an UWMP (CWC §10617).

The UWMP Act was enacted in 1983. Over the years it has been amended in response to water resource challenges and planning imperatives confronting California. A significant amendment was made in 2009 as a result of the governor’s call for a statewide 20% reduction in urban water use by 2020, referred to as “20x2020,” the Water Conservation Act of 2009, and “SB X7-7.” This amendment required urban retail water suppliers to establish water use targets for 2015 and 2020 that would result in statewide per capita water savings of 20% by 2020. Beginning in 2016, urban retail water suppliers were required to comply with the water conservation requirements in SB x7-7 to be eligible for state water grants or loans. Chapter 5 of this Plan contains the data and calculations used to determine compliance with these requirements.

A subsequent substantial revision to the UWMP Act was made in 2018 through a pair of bills (i.e., Assembly Bill 1668 and Senate Bill 606), referred to as “Making Water Conservation a California Way of Life” or the “2018 Water Conservation Legislation.” These changes include, among other things, additional requirements for Water Shortage Contingency Plans (WSCPs), expansion of dry year supply reliability assessments to a five-year drought period, establishment of annual drought risk assessment procedures and reporting, and new conservation targets referred to as “annual water use objectives,” which will require retailers to continue to reduce water use beyond the 2020 SB x7-7 targets.

As applicable, the City’s 2020 UWMP reflects the following significant revisions to the UWMP Act that have been made since 2015.

- **Five Consecutive Dry-Year Water Reliability Assessment.** The Legislature modified the dry-year water reliability planning from a “multiyear” time period to a “drought lasting five consecutive water years” designation.
- **Drought Risk Assessment.** The Drought Risk Assessment (DRA) requires a supplier to assess water supply reliability over a five-year period from 2021 to 2025 that examines water supplies, water uses, and the resulting water supply reliability under a reasonable prediction for five consecutive dry years.
- **Energy Analysis.** UWMPs are now required to include water system energy usage information that can be readily obtained.
- **Seismic Risk.** The Water Code now requires suppliers to specifically address seismic risk to various water system facilities and to have a mitigation plan.
- **Water Shortage Contingency Plan.** In 2018, the Legislature modified the UWMP laws to require a WSCP with specific elements.
- **Groundwater Supplies Coordination.** Water Code now requires 2020 UWMPs to be consistent with Groundwater Sustainability Plans, in areas where those plans have been completed by the Groundwater Sustainability Agencies.

## Introduction

### 2020 Urban Water Management Plan

#### City of Lathrop



- **Lay Description.** The Legislature included a new statutory requirement for suppliers to include a lay description of the fundamental determinations of the UWMP, especially regarding water service reliability, challenges ahead, and strategies for managing reliability risks.

The UWMP Act contains numerous other requirements that an UWMP must satisfy. Appendix A to this Plan lists each of these requirements and where in the Plan they are addressed.

### 1.3 Relationship to Other Planning Efforts

This Plan provides information specific to water management and planning by the City. However, water management does not happen in isolation; there are other planning processes that integrate with the UWMP to accomplish urban planning. Some of these relevant planning documents include relevant city and county General Plans, Water Master Plans, Wastewater Master Plans, Groundwater Management Plans, Groundwater Sustainability Plans, and others.

This Plan is informed by and helps to inform these other planning efforts. In particular, this Plan utilizes information contained in the City's 2019 Water System Master Plan, Wastewater System Master Plan, and Recycled Water System Master Plan which are collectively known as the 2019 Integrated Water Resources Master Plan (IWRMP), the draft Tracy Subbasin Groundwater Sustainability Plan chapters, and the 2017 San Joaquin County Local Hazard Mitigation Plan to the extent data from these plans are applicable and available. In addition, this Plan was prepared in close coordination with the City's Planning Division regarding the River Islands Phase 2 Development planning process.

### 1.4 Plan Organization

The organization of this Plan follows the same sequence as outlined in the UWMP Guidebook 2020.<sup>4</sup>

Chapter 1 Introduction

Chapter 2 Plan Preparation

Chapter 3 Service Area and System Description

Chapter 4 Water Use Characterization

Chapter 5 Baseline Water Use and Water Conservation Targets

Chapter 6 Water System Supplies

Chapter 7 Water Service Reliability and Drought Risk Assessment

Chapter 8 Water Shortage Contingency Plan

Chapter 9 Demand Management Measures

Chapter 10 Plan Adoption and Submittal

In addition to these ten chapters, this Plan includes a number of appendices providing supporting documentation and supplemental information. Pursuant to CWC §10644(a)(2), this Plan utilizes the

---

<sup>4</sup> The UWMP Guidebook 2020 is available at: <https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans>



standardized forms, tables, and displays developed by DWR for the reporting of water use and supply information required by the UWMP Act. This Plan also includes additional tables, figures, and maps to augment the set developed by DWR, as appropriate. The table headers indicate if the table is part of DWR’s standardized set of submittal tables.

### 1.5 Demonstration of Consistency with the Delta Plan for Participants in Covered Actions

Although not required by the UWMP Act, in the UWMP Guidebook 2020, DWR recommends that all suppliers that are participating in, or may participate in, receiving water from a proposed project that is considered a “covered action” under the Delta Plan—such as a (1) multiyear water transfer; (2) conveyance facility; or (3) new diversion that involves transferring water through, exporting water from, or using water in the Sacramento-San Joaquin Delta (Delta)—provide information in their UWMP to demonstrate consistency with the Delta Plan policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code of Regulations, Title 23, Section 5003).

The City is not participating in, planning to participate in, or receiving water from a proposed project that is considered a “covered action”. As such, this required is not applicable.

### 1.6 Lay Description

**CWC § 10630.5**

*Each plan shall include a simple lay description of how much water the agency has on a reliable basis, how much it needs for the foreseeable future, what the agency’s strategy is for meeting its water needs, the challenges facing the agency, and any other information necessary to provide a general understanding of the agency’s plan.*

This Urban Water Management Plan (UWMP or Plan) is prepared for the City of Lathrop (also referred to as the City), which serves drinking water to a population of approximately 26,833 in San Joaquin County. The City is located approximately 10 miles south of the City of Stockton and directly west of the City of Manteca. This UWMP serves as a foundational planning document and includes descriptions of the City’s historical and projected water demands, as well as its water supplies and their associated reliability over a 20-year planning horizon. This document also describes the actions the City is taking to promote water conservation, both by the City itself and by its customers (referred to as “demand management measures”), and includes a plan to address potential water supply shortages such as drought or other impacts to supply availability (the “Water Shortage Contingency Plan”). This UWMP is updated every five years in accordance with state requirements under the Urban Water Management Planning Act (UWMP Act) and amendments (Division 6 Part 2.6 of the California Water Code [CWC] §§10610 – 10656). Past plans developed for the City are available on the California Department of Water Resources (DWR) Water Use Efficiency Data Portal website: <https://wuedata.water.ca.gov/>. This document includes 10 chapters, which are summarized below.

#### Chapter 1 Introduction

This chapter presents the background and purpose of the UWMP, identifies the Plan organization, and provides this lay description overview of the document. Although the City relies on water from the Sacramento-San Joaquin Delta, the City does not anticipate any major developments or projects after the



30 September 2009 cutoff to be considered as a “covered action”. Thus, the City does not need to demonstrate consistency with the Delta Plan.

### **Chapter 2 Plan Preparation**

This chapter discusses key structural aspects related to the preparation of the UWMP, and describes the coordination and outreach conducted as part of the preparation of the Plan, including coordination with local agencies (i.e., City of Tracy, City of Manteca, San Joaquin County, South San Joaquin Irrigation District [SSJID], and Groundwater Sustainability Agencies [GSAs] in the Tracy Subbasin) and the public.

### **Chapter 3 Service Area and System Description**

This chapter provides a description of the City’s water system and the service area, including information related to the climate, population, and demographics. The City has a population of approximately 26,833 and has a semi-arid climate characterized by warm springs, summers, falls and mild winters. Most of the precipitation falls during wet season from late October to early May, averaging 12.2 inches of rainfall annually.

### **Chapter 4 Water Use Characterization**

This chapter provides a description and quantifies the City’s current and projected demands through buildout, which is anticipated beyond 2045. The City provides drinking water (also referred to as “potable water”) and recycled water to customers. This chapter details total water demand and potable demand. Recycled water demand is discussed further in Chapter 6. Water demands refer not only to the water used by customers, but also includes the water used as part of the system maintenance and operation, as well as unavoidable losses inherent in the operation of a water distribution system. Water demand within the City was 4,460 acre-feet per year (AFY) on average between 2016 and 2020. Accounting for historical water use, expected population increase and other growth, climatic variability, and other assumptions, water demand within the City is projected to increase to 14,188 AFY by 2040 and 16,684 AFY at buildout, an increase of 218% and 274% respectively compared to the 2016-2020 average.

### **Chapter 5 Baseline Water Use and Water Conservation Targets**

In this chapter, the City demonstrates compliance with its per capita water use target for the year 2020. The Water Conservation Act of 2009 (Senate Bill x7-7) was enacted in November 2009 and requires the state of California to achieve a 20% reduction in urban per capita water use by December 31, 2020. To achieve this statewide reduction, each urban retail water supplier was required to establish water use targets for 2015 and 2020 using methodologies established by DWR. The City is in compliance with its 2020 water use target of 188 gallons per capita per day (GPCD), having reduced its water use in 2020 to 182 GPCD.

### **Chapter 6 Water System Supplies**

This chapter presents an analysis of the City’s water supplies, as well as an estimate of water-related energy-consumption. The intent of this chapter is to present a comprehensive overview of the City’s water supplies, estimate the volume of available supplies over the 20-year planning horizon, and assess the sufficiency of the City’s supplies to meet projected demands under “normal” hydrologic conditions.

The City obtains potable water supplies from both imported surface water through the South County Water Supply Project (SCWSP) and local groundwater sources. The City operates five groundwater wells located in the 373-square-mile Tracy Subbasin (DWR 5-22.15), part of the larger San Joaquin Valley Groundwater Basin. The Tracy Subbasin is not adjudicated and has not been designated by DWR as being

## Introduction

### 2020 Urban Water Management Plan

#### City of Lathrop



in a condition of critical overdraft. However, as a medium priority basin, it is subject to the requirements of the Sustainable Groundwater Management Act (SGMA). Lathrop is one of the six GSAs that are cooperatively developing the Tracy Subbasin Groundwater Sustainability Plan (GSP), which must be completed by January 2022. The City currently uses recycled water for irrigation of agricultural fields and anticipates beginning to supply recycled water for landscape irrigation before 2025. Available supplies are expected to be sufficient to support the City's projected water demand through buildout in normal years.

Calculation and reporting of water system energy intensity is a new requirement for the 2020 UWMPs. Energy intensity is defined as the net energy used for water treatment, conveyance, and distribution for all water entering the distribution system, less the amount of energy produced within the water system itself. The energy intensity for the City is estimated to be 125.5 kilowatt hours per acre-foot of water (kWh/AF).

#### **Chapter 7 Water Service Reliability and Drought Risk Assessment**

This chapter assesses the reliability of the City's water supplies, with a specific focus on potential constraints such as groundwater supply availability, water quality, and climate change. The intent of this chapter is to identify any potential constraints that could affect the reliability of the City's supply (such as drought conditions). Water service reliability is assessed during normal, single dry-year, and multiple dry-year hydrologic conditions.

The reliability analysis was performed based on SSJID's water reliability analysis, which assumes that the State Water Resources Control Board's (SWRCB's) released amendments to the Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment) will not be implemented. If the Bay-Delta Plan Amendment is implemented, significant surface water cutbacks would likely be experienced, as presented in Appendix H of the UWMP. The City's recycled water and groundwater supplies are anticipated to be 100% available during all year types.

Based on service reliability analysis, the City is expected to have adequate water supplies during all year type to meet projected demands through 2040. Supply shortfalls are projected during single dry years and multiple dry years at buildout.

A Drought Risk Assessment (DRA) was also conducted during this analysis which evaluates the effects on available water supply sources of an assumed five-year drought commencing the year after the assessment is completed (i.e., from 2021 through 2025). Based on the DRA, the City is expected to have sufficient water supply from 2021 through 2025.

#### **Chapter 8 Water Shortage Contingency Plan**

This chapter describes the Water Shortage Contingency Plan (WSCP) for the City which is included as an Appendix to the 2020 UWMP. The WSCP serves as a standalone document to be engaged in the case of a water shortage event, such as a drought or supply interruption. The WSCP defines specific policies and actions that will be implemented at various shortage level scenarios (e.g., implementing customer water budgets and surcharges, or restricting landscape irrigation to specific days and/or times). Consistent with DWR requirements, the WSCP includes six "stages of action" to address shortage conditions ranging from up to 10% to greater than 50% shortage.

#### **Chapter 9 Demand Management Measures**

This chapter includes descriptions of the City's past and planned conservation program implementation within each demand management measure (DMM) category outlined in the UWMP Act, specifically: (1)



## Introduction

### 2020 Urban Water Management Plan

#### City of Lathrop



water waste prevention ordinances, (2) metering, (3) conservation pricing, (4) public education and outreach, (5) distribution system water loss management, (6) water conservation program coordination and staffing support, and (7) “other” DMMs. The City has developed a suite of conservation programs and policies, which address each DMM category. The City intends to continue implementing these DMMs and will evaluate potential adjustments as needed.

#### **Chapter 10 Plan Adoption and Submittal**

This chapter provides information on a public hearing, the adoption process for the 2020 UWMP, the adopted UWMP submittal process, Plan implementation, and the process for amending the adopted UWMP. In addition, this chapter provides information on the adoption of the included WSCP. Prior to adopting the Plan and WSCP, the City held a formal public hearing to present information on the UWMP on 14 June 2021. This UWMP and WSCP will be submitted to DWR within 30 days of adoption and by the 1 July 2021 deadline.



## 2. PLAN PREPARATION

This chapter discusses the type of Urban Water Management Plan (UWMP or Plan) the City of Lathrop (also referred to herein as the City) has prepared and includes information that will apply throughout the Plan. Coordination and outreach during the development of the Plan is also discussed.

### 2.1 Compliance with the UWMP Act

#### CWC § 10617

*“Urban water supplier” means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.*

#### CWC § 10620

*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.*

#### CWC § 10621 (a)

*Each urban water supplier shall update its plan at least once every five years on or before July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update.*

#### CWC § 10621 (f)(1)

*Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.*

#### CWC § 10644 (a)(2)

*The plan, or amendments to the plan, submitted to the department ... shall include any standardized forms, tables, or displays specified by the department.*

In 1983, the California Legislature enacted the Urban Water Management Planning Act (UWMP Act) (California Water Code [CWC] §10610 - §10657). The UWMP Act states that every urban water supplier that provides water to 3,000 or more connections, or that provides over 3,000 acre-feet of water per year (AFY) should make every effort to ensure the appropriate level of water service reliability to meet the needs of its customers during normal, dry, and multiple dry years.

As shown in **Table 2-1**, the City served 7,934 connections and supplied 5,485 AFY in 2020 and is therefore subject to the requirements of the UWMP Act based both on the number of connections and volume of water served.



**Table 2-1 Public Water Systems (DWR Table 2-1)**

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 (a)
CA3910015	City of Lathrop	7,934	5,485
<b>TOTAL</b>		<b>7,934</b>	<b>5,485</b>
NOTES: a) Units are in acre-foot per year.			

As indicated in **Table 2-2**, the City’s 2020 UWMP has been prepared individually for the City in general accordance with the format suggested in the California Department of Water Resources (DWR) *Urban Water Management Plans Guidebook 2020* (Guidebook), dated March 2021 (DWR, 2021). Text from the UWMP Act has been included in gray boxes at the beginning of relevant sections of this Plan. The information presented in the respective UWMP sections and the associated text, figures, tables, and charts are collectively intended to fulfill the requirements of that sub-section of the UWMP. To the extent practicable, supporting documentation has also been provided in Appendices A through I. Other sources for the information contained herein are provided in the references section at the end of this document.

Per CWC Section 10644(a)(2), selected information for the 2020 UWMP updates must be presented in standardized tables for electronic submittal to DWR. To the extent applicable, text and tables in the main body of the UWMP document have been cross-referenced to the companion DWR tables.

**Table 2-2 Plan Identification Type (DWR Table 2-2)**

Select Only One	Type of Plan	Name of RUWMP or Regional Alliance if applicable
X	Individual UWMP	
	Water Supplier is also a member of a RUWMP	
	Water Supplier is also a member of a Regional Alliance	
	Regional Urban Water Management Plan (RUWMP)	
NOTES:		



**2.2 Coordination and Outreach**

As described below, this UWMP has been prepared in coordination with the City’s wholesale water supplier, water suppliers sharing a common water source, San Joaquin County, relevant water management agencies, the public, and other appropriate entities.

**2.2.1 Wholesale Coordination**

**CWC § 10631 (h)**

*An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier’s plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).*

As shown in **Table 2-3**, the City’s wholesale surface water supplier is the South San Joaquin Irrigation District (SSJID). As described in detail in Section 6.1.1, the City purchases Stanislaus River water from SSJID, as provided by the South County Water Supply Project (SCWSP) in accordance with the August 2020, Water Supply Development and Operating Agreement by and between SSJID and the City and other project participants, including the cities of Manteca, Tracy and Escalon (Appendix B). SSJID, the City and other project participants coordinate deliveries of water on an annual basis in accordance with the terms of this agreement.

As part of the coordination effort for the 2020 UWMP, and in compliance with CWC §10631(j), the City provided SSJID with its water demand projections through buildout, which is anticipated beyond 2045. As described in Chapter 7, the City relied on allocation projections from SSJID’s 2020 UWMP for the purposes of analyzing the reliability of its surface water supplies during normal and dry years through buildout.

**Table 2-3 Water Supplier Information Exchange (DWR Table 2-4)**

The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.
Wholesale Water Supplier Name
South San Joaquin Irrigation District
NOTES:



**2.2.2 Agency Coordination**

**CWC § 10620 (d) (2)**

*Each urban water supplier shall 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.*

The City’s purchased surface water supply source, the Stanislaus River via the SCWSP, is supplied as part of a collaborative effort with SSJID and the cities of Manteca, Escalon, and Tracy. The remainder of the City’s water supply comes from groundwater extracted from the Tracy Subbasin of the San Joaquin Valley Basin (DWR Basin No. 5-22.15).

Among other things, the City coordinates with the entities involved in the SCWSP to schedule water deliveries. In addition, the City also coordinates with the City of Manteca for a portion of its wastewater collection and the Tracy Subbasin Groundwater Sustainability Agencies (GSAs) regarding the development of Tracy Subbasin Groundwater Sustainability Plan (GSP) and its groundwater production. As shown in **Table 2-4**, the City sent out notices and hosted a public hearing to engage the collaborating agencies and the public; the notices are included in Appendix C for reference. The notices referenced preparation of the 2020 UWMP as well as update to the City’s Water Shortage Contingency Plan (Chapter 8 and Appendix H).

**Table 2-4 Notification to Cities and Counties (DWR Table 10-1)**

City Name	60 Day Notice	Notice of Public Hearing
City of Lathrop	x	x
County Name	60 Day Notice	Notice of Public Hearing
San Joaquin County	x	x
Other Agency Name	60 Day Notice	Notice of Public Hearing
City of Escalon	x	x
City of Manteca	x	x
City of Tracy	x	x
South San Joaquin Irrigation District	x	x
NOTES:		



### 2.2.3 Public Participation

#### **CWC § 10642**

*Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of both the plan and the water shortage contingency plan. Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies. Notices by a local public agency pursuant to this section shall be provided pursuant to Chapter 17.5 (commencing with Section 7290) of Division 7 of Title 1 of the Government Code. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing or hearings.*

Water suppliers are required by the UWMP Act to encourage active involvement of the community within the service area prior to and during the preparation of its UWMP. The UWMP Act also requires water suppliers to make a draft of the UWMP available for public review and to hold a public hearing regarding the findings of the UWMP prior to its adoption. In addition to sending notices to the various agencies listed in **Table 2-4**, the City also included a public notice in the local newspaper notifying the public of the City's intent to adopt its UWMP. The notice asked for public input during the preparation of the UWMP. Public participation in the development of the City's 2020 UWMP is summarized in Appendix D.

The Public Review Draft 2020 UWMP was made available for public review on the City's website (<https://www.ci.lathrop.ca.us/publicworks/page/urban-water-management-plan>).

### 2.3 **UWMP Structure, Standard Units, and Basis for Reporting**

Per CWC Section 10644(a)(2), selected information for the 2020 UWMP updates must be presented in standardized tables for electronic submittal to DWR. As such, tables in this Plan follow the DWR-required format and have been cross-referenced to the DWR table numbers.

Per the Guidebook, the UWMP preparer is requested to complete a checklist of specific UWMP requirements to assist DWR's review of the submitted UWMP. The completed checklist is included in Appendix A.

Per the information required in **Table 2-5**, the City is a retail water supplier, the information presented in this UWMP is reported on a calendar year basis, and the unit of measure for reporting water volumes is acre-foot (AF) or AFY and is maintained consistently throughout the UWMP, unless otherwise noted.

Further, consistent with the Guidebook, the terms "water use", "water consumption", and "water demand" are used interchangeably in this UWMP.



**Table 2-5 Supplier Identification (DWR Table 2-3)**

Type of Supplier	
	Supplier is a wholesaler
X	Supplier is a retailer
Fiscal or Calendar Year	
X	UWMP Tables are in calendar years
	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of measure used in UWMP	
Unit	AF
NOTES:	



### 3. SERVICE AREA AND SYSTEM DESCRIPTION

**CWC § 10631 (a)** *A plan shall be adopted in accordance with this chapter that shall do all of the following:*

*Describe the service area of the supplier, including current and projected population, climate, and other social, economic, and demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available. The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.*

The City of Lathrop (also referred to herein as the City) is located in San Joaquin County, approximately 10 miles south of the City of Stockton and directly west of the City of Manteca. The City lies east of the Coastal Range that separates California's Central Valley from the San Francisco Bay Area. Interstate 5 (I-5), a major north-south interstate corridor, bisects the City. The City is also connected by Highway 120 which runs east-west through the southeastern-most part of the City, and by Interstate 205, which connects Interstate 580 to I-5. The City is served by the Altamont Commuter Express (ACE) train, which travels along the southern and eastern border of the City. Initially, the community is developed primarily east of I-5. However, beginning in 2003, major new developments have been constructed west of I-5 and others are currently planned or under construction in this area.

This section provides an overview of the City's service area, including discussions of the City's service area boundaries, planned developments, population, climate, and the City's water system infrastructure.

#### 3.1 City Limits, Sphere of Influence, and Service Boundaries

The City currently encompasses an area of approximately 13,400 acres, or about 20.9 square miles. The City's Sphere of Influence (SOI) is slightly larger with an area of about 13,600 acres, or 21.2 square miles. The City's SOI includes two unincorporated areas:

1. Approximately 134 acres northeast of the City boundary and along Roth Road that is designated Freeway Commercial and Light Industrial, and
2. Approximately 62 acres southeast of the City boundary that is pre-zoned for industrial uses and part of the Lathrop Gateway Business Park Specific Plan area.

The City reduced their SOI in 2016 to exclude an additional unincorporated area (approximately 2,100 acres) located north of the Central Lathrop Specific Plan (CLSP) area and west of I-5. Most of this area does not have a General Plan land use designation. The City has designated this area as an Area of Interest (AOI) (Lathrop, 2016). **Figure 3-1** shows the City limits, SOI, and AOI.

As shown in **Figure 3-1**, the City's water service area is generally contiguous with the City limits and includes the railroad cargo container commercial enterprise that is located outside of the City limits.



## Service Area and System Description

### 2020 Urban Water Management Plan

#### City of Lathrop

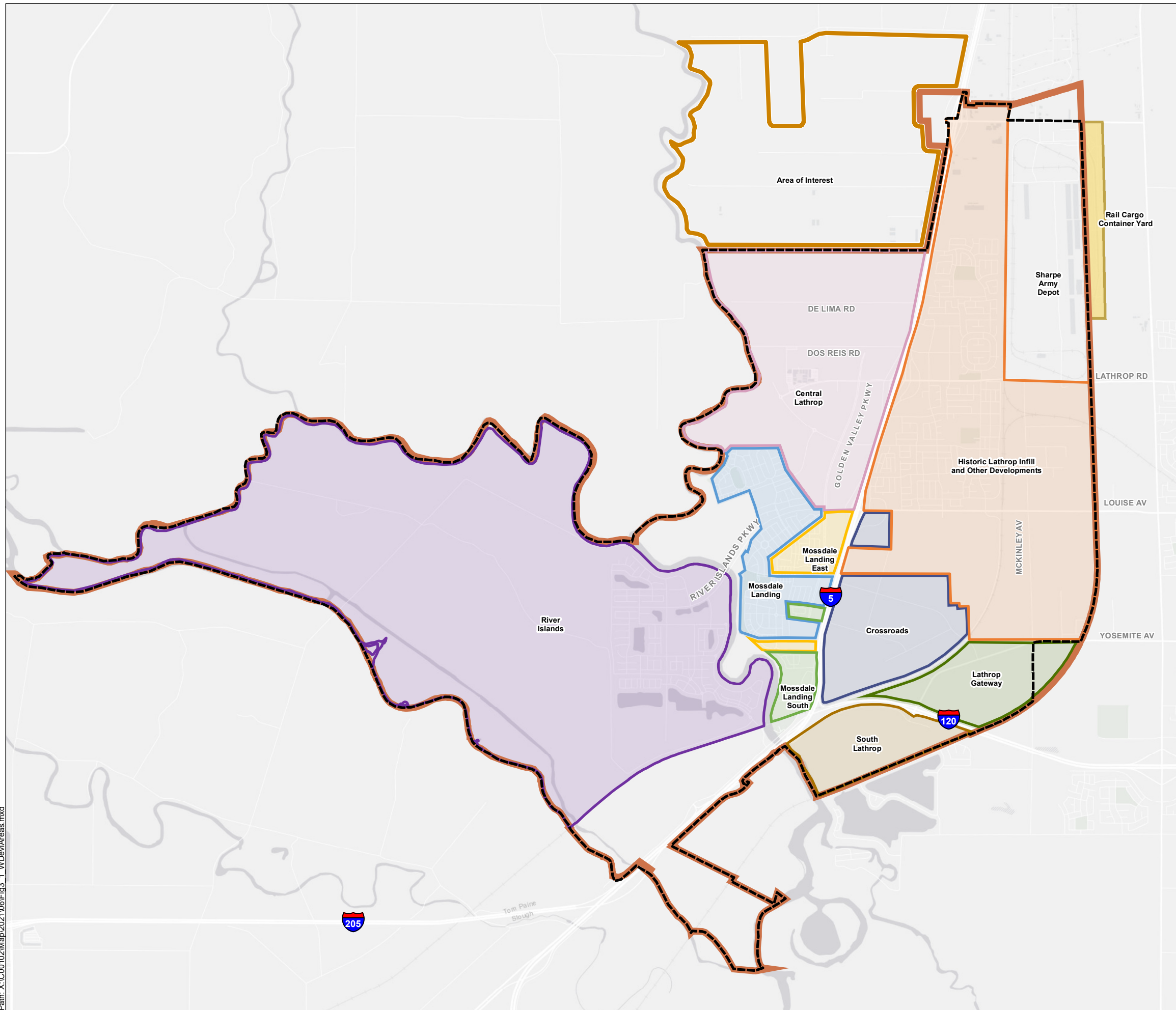


The City currently provides water service to approximately 7,934 residential, commercial, industrial institutional/governmental, irrigation, agricultural, and other/construction service connections, of which approximately 196 services are dedicated for irrigation uses. The City also provides service to an agriculture customer in the Lathrop Gateway area who will be replaced by development at Lathrop Gateway. All of the City's water services are metered.

The City anticipates providing water to the 724-acre Sharpe Army Depot located in the northeast part of the City by 2022. Water and wastewater services in the Sharpe Army Depot is currently provided by the U.S. Army. The Army & Air Force Exchange Services (AAFES) portion of the property and future properties within the Sharpe Army Depot are anticipated to be served by the City.

Additionally, J.R. Simplot Company (fertilizer manufacturing) located on South Howland Road south of Louise Avenue is only served water for domestic purposes by the City and use their own private wells for process water supply.

Path: X:\C00102\Map2021\06\Fig3\_1\_WDevlAreas.mxd



**Legend**

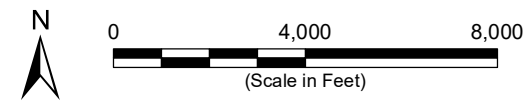
- City Limit
- Sphere of Influence
- Area of Interest
- Rail Cargo Container Yard

**Development Areas**

- Central Lathrop
- Crossroads
- Historic Lathrop Infill and Other Developments
- Lathrop Gateway
- Mossdale Landing
- Mossdale Landing East
- Mossdale Landing South
- River Islands
- Sharpe Army Depot
- South Lathrop

**Notes**  
1. All locations are approximate.

**Sources**  
1. Aerial photograph provided by ESRI's ArcGIS Online, 9 June 2021.



**Lathrop Water Service Area**

Urban Water Management Plan  
City of Lathrop  
Lathrop, CA  
June 2021  
C00102.00



**Figure 3-1**



### 3.2 Population Trends Within the Service Area

Values for the historical and current population within the City’s water service area were obtained from data reported by the California Department of Finance (DOF) within the City Limits. Although Lathrop’s water service area includes a railroad cargo container commercial enterprise that is outside the City limits, the service area population is estimated to be equivalent to the City population. The historical and current population data within the City’s water service area are presented in **Table 3-1**. As of 2020, the population estimate for Lathrop was 26,833 (California DOF, 2020).

Population in the City has grown by approximately 295% over the 30-year period between 1990 through 2020, from approximately 6,800 to 26,833 (California DOF, 2007, 2012, and 2020). Between 2010 and 2020, population increased by 49%, from approximately 18,023 to 26,833.

The City anticipates that population will continue to grow in the future given the existing entitlements for several large residential developments detailed in Section 3.4.1. The population projections for 2020 through 2045, summarized in **Table 3-1** and its associated chart, are estimated using the existing population (as determined by California DOF) and adding the amount of new housing anticipated to be permitted in each five-year increment based on Table 1a in Appendix E. The population added each year is projected by multiplying the number of new housing units by the person per dwelling unit values reported by DOF based on the 2010 census data (3.77 persons per dwelling unit<sup>5</sup>). The projected population in 2040 is estimated to be 76,058, or an 183% increase over the 2020 population.

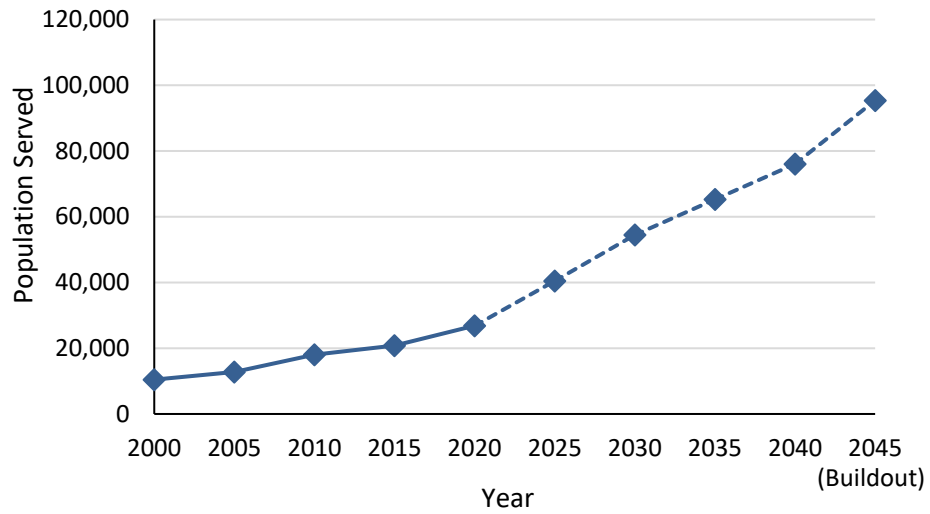
**Table 3-1 Population - Current and Projected (DWR Table 3-1)**

Population Served	2020 (a)	2025	2030	2035	2040	2045 (Buildout)
	26,833	40,466	54,473	65,267	76,058	95,391
NOTES: (a) Current population is based on population estimates by the California DOF for the City of Lathrop (DOF, 2020). (b) Data present herein for 2045 reflects conditions at buildout for planning purposes. However, the City does not anticipate all buildout development to occur before 2045.						

<sup>5</sup> Since River Islands contains a much higher percentage of multifamily and high-density dwellings than the balance of the City, a factor of 3.0 persons per dwelling unit is used instead for future River Islands development.



Chart 3-1 Current and Projected Population





### 3.3 Other Social, Economic, and Demographic Factors

Demographics for the City are summarized in **Table 3-2**, which were obtained from the U.S. Census Bureau QuickFacts website (U.S. Census, 2021). The same data are also provided for the State of California as a whole. Relative to the whole State, the City’s population is slightly younger and more racially diverse. Attainment of higher education in the City is lower than the rest of California. Median household income is higher than for the State.

**Table 3-2 Demographic and Housing Characteristics**

Demographics (a)	City of Lathrop	California
<b>Age and Sex</b>		
Persons under 5 years	7.9%	6.0%
Persons under 18 years	27.7%	22.5%
Persons 65 years and older	8.1%	14.8%
Female persons	49.7%	50.3%
<b>Race and Hispanic Origin</b>		
White alone	44.0%	71.9%
Black or African American alone	6.3%	6.5%
American Indian and Alaska Native alone	1.1%	1.6%
Asian alone	26.4%	15.5%
Native Hawaiian and Other Pacific Islander alone	0.6%	0.5%
Two or More Races	9.7%	4.0%
Hispanic or Latino	43.0%	39.4%
White alone, not Hispanic or Latino	20.4%	36.5%
<b>Families &amp; Living Arrangements</b>		
Living in same house 1 year ago, percent of persons age 1 year+	85.7%	87.1%
Language other than English spoken at home, age 5 years+	51.4%	44.2%
<b>Education</b>		
High school graduate or higher, persons age 25 years+	80.7%	83.3%
Bachelor’s degree or higher, persons age 25 years+	18.4%	33.9%
<b>Income &amp; Poverty</b>		
Median Household Income (2019 dollars)	\$85,805	\$75,235
Per capita income in past 12 months (2019 dollars)	\$25,337	\$36,955
Persons in poverty	10.8%	11.8%
NOTES:		
(a) Demographic data per the U.S. Census Bureau QuickFacts website (U.S. Census, 2021).		



### 3.4 Land Uses within Service Area

Planned land uses within the City include low, medium, and high density residential, office, retail, industrial, and conservation land and open space which are included within one of the specific planning areas identified by the City's Land Use Map (**Figure 3-2**). Existing land uses within the City include 7,473 residential units and approximately 21 million square-feet of non-residential uses (Lathrop, 2019). The City is undergoing a General Plan update that is expected to be complete in 2022.

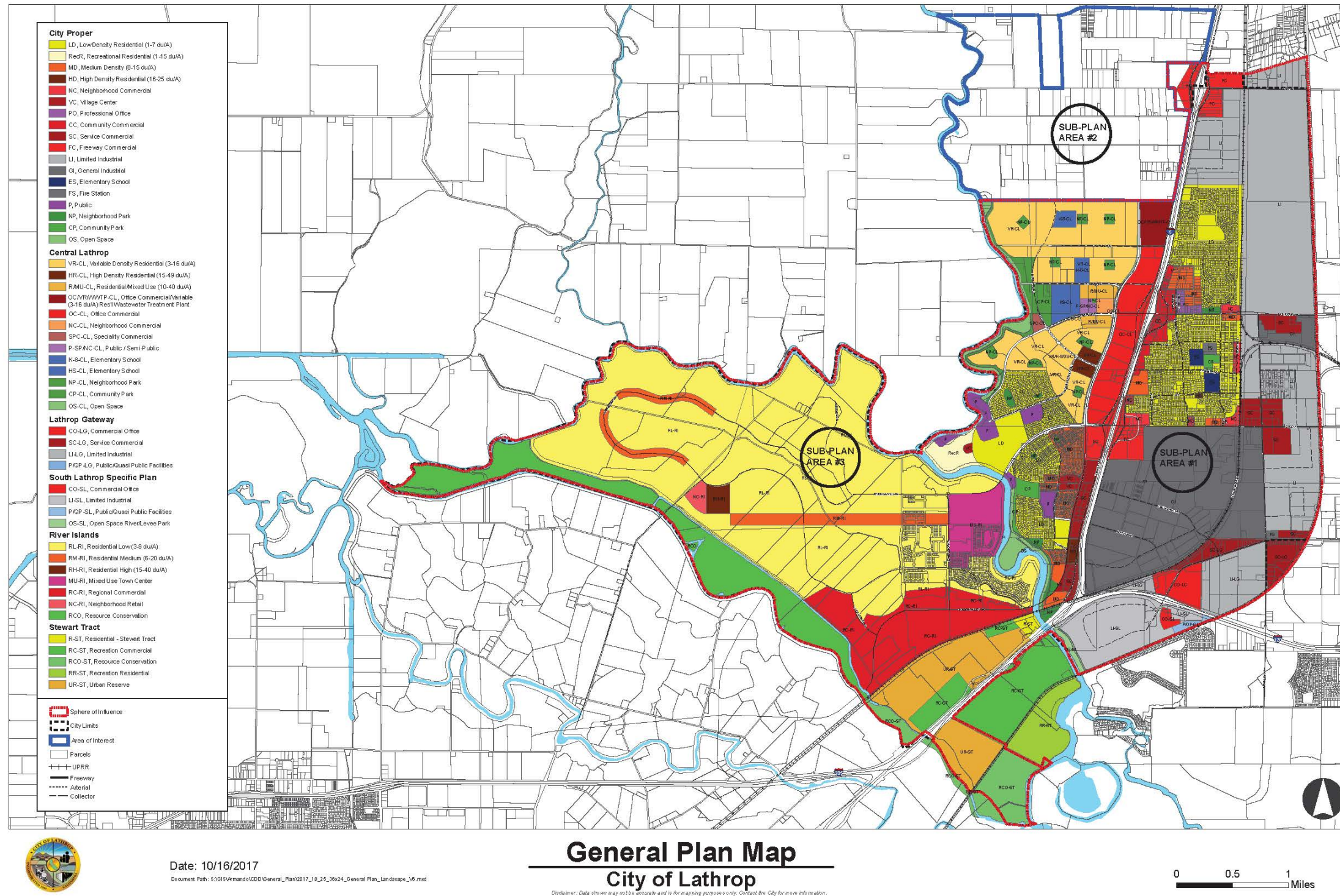


Figure 3-2 City Land Use (Adopted from the City's General Plan Map (Lathrop, 2017))



### 3.4.1 Specific Plans and Large Planned Unit Development

The City has experience significant growth and is anticipating growth to continue, particularly in several approved or pending large development projects within the City. These projects are described below and shown on **Figure 3-1** and Table 1a of Appendix E, based on City and developer projections. Specifically, Table 1a of Appendix E lists the number of new residential dwelling units and commercial, industrial, and institutional (CII) acreage that is anticipated to be developed in five-year increments between 2025 and 2045, and at buildout.

- River Islands. The 4,995-acre River Islands development is located west of the San Joaquin River and east of Paradise Cut on land known as the Stewart Tract. The development proposes a mixture of low, medium and high density residential units. In total, River Islands will consist of 11,000 homes, a 260-acre employment center, a 47-acre town center, 265 acres of parks and nine schools. Construction has begun in the River Islands project with the completion of an elementary school for the Banta Elementary School District (Next Generation STEAM Academy) as well as the construction of a Charter School. About 2,800 low density residential units were constructed and occupied by mid-2021. The estimated project completion date is 2040 (Woodard & Curran, 2020a). River Islands is currently processing an amendment to their Specific Plan that would add approximately 4,000 additional housing unit to their plan.
- Mossdale Landing. Mossdale Landing is a mixed-use master planned community that is anticipated to be completed by 2030. Construction at Mossdale Landing began in 2003 and approximately 1,570 residential units have been constructed thus far. An additional 66 low density and 62 high density units are anticipated by project completion. In addition, the development is allocating approximately 35 acres of land for two schools, 40 acres for parks, and 25 acres for commercial development.
- Mossdale Landing East. Mossdale Landing East (formerly referred to as Lathrop Station) is anticipated to be completed by 2030. Approximately 151 low density and 293 medium density residential units have been constructed so far. An additional 38 low density and 144 high density units are anticipated by project completion. The development plan also includes 6.5 acres of village commercial, 13.2 acres of service commercial, and 27.5 acres of highway commercial land uses.
- Mossdale Landing South. Mossdale Landing South is a proposed 104-acre development that is anticipated to be completed by 2030. The development will consist of about 280 medium density and 150 high density residential units, of which 140 medium density units have been constructed so far. In addition, the project includes 28 acres of commercial, 25 acres of open space, and 9.5 acres of parks.
- Mossdale Landing – Other. The City has identified additional areas for development within Mossdale Landing including the Silveira property, on which the City anticipates 658 low density dwelling units will be built by City buildout.
- Historic Lathrop Infill and Other Developments East of I-5. The portion of the City east of I-5 is anticipated to expand and add density in the future. Currently, this area consists of approximately 3,076 low density and 78 medium density units, commercial and industrial areas, and a few public





parks. Future residential growth of this area is expected on undeveloped/underutilized and redeveloped parcels consolidated from large lots where low density residential units would be demolished. New residential projects are estimated to consist of 34 low density, 158 medium density, and 25 high density residential units, increasing the total existing residential unit count by 217 total units.

- Central Lathrop Specific Plan. The Central Lathrop Specific Plan proposes development of 1,520 acres located west of I-5. The Specific Plan proposes approximately 6,790 low, medium and high-density residential units and additional commercial land uses (offices). The project also includes two schools and 161 acres of recreational land use and open space. Phases 1 and 2 of the project are anticipated to be completed by 2040, adding 274 high density units, 2,236 variable density residential units, and 173 acres of commercial land uses.
- Lathrop Gateway Business Park Specific Plan. The Lathrop Gateway Business Park Specific Plan proposes commercial and industrial development of approximately 384 acres to be completed by 2040. The City annexed 213 acres of this area in June 2012 and 99 acres of the remaining 117 acres in May 2016. This would result in approximately 4.7 million square feet of service commercial, limited industrial, distribution, and research and development related uses, and approximately 741,000 square feet of commercial office and retail uses. The first phase of the project includes approximately 167 acres of limited industrial, 83 acres of service commercial, and 57 acres of office and commercial retail uses and is anticipated to be completed by 2030.
- South Lathrop Specific Plan. The South Lathrop Specific Plan was approved by the City Council on 20 July 2015 and includes a 315-acre plan area. The Specific Plan proposes approximately 10 acres of commercial office uses, 246 acres of limited industrial, 31 acres of open space, and 27 acres of roads and public facilities. The City South Lathrop Specific Plan area was annexed into the City in May 2016. The South Lathrop Commerce Center, approximately 272 acres within the South Lathrop Specific Plan, is anticipated to be completed by 2030. The South Lathrop Commerce Center will encompass all of the South Lathrop Specific Plan area with the exception of approximately 24 acres of light industrial, 1.2 acres of office commercial, and 19 acres of open space and public roads. 1,000,000 sf of light industrial space was constructed in 2019. Approximately 2,000,000 sf of additional light industrial are currently under construction.
- Sharpe Army Depot. During World War II, the US Army created the Sharpe Army Depot (Depot) in the rural Lathrop Community to allow shipment of major army supplies to the western United States. The Depot is comprised of a 724-acre facility south of Roth Road and has served both the Army and Airforce with a variety of supplies depending on the demand of goods and supplies created by war time efforts. The Depot is occupied by the AAFES West Coast Distribution Center that employs 348 workers. Prior to 30 September 2014 the Defense Logistics Agency was also housed at the Depot; its workforce of 700 workers has since been transferred to the larger Tracy Army Depot. Sharpe Army Depot was included in the City limits as part of the 1989 incorporation and is entirely self-contained: meaning all public services normally necessary to serve urban development such as water, sewer, storm drainage, police and fire services are provided by the US Army.

The City has agreed to provide water and sewer services to the AAFES property, including the West Coast Distribution Center and Building 240, and these connections are currently under construction. The City has also agreed to provide water and sewer service to the California



National Guard. These connections should be operational by 2022 and are evaluated as part of the IWRMP.

### 3.5 Climate

The Lathrop area's climate is considered semi-arid. Spring, summer, and fall are generally warm, with temperatures often reaching over 100 degrees Fahrenheit (°F) on summer days. Lathrop's winters are usually mild, although the dense "Tule fog" can occur. As shown in **Table 3-3** and its associated chart, rainfall in the area averages 12.2 inches per year and is generally confined to the wet season from late October to early May. The average reference evapotranspiration (ET<sub>o</sub>) for the region is 52.5 inches per year.

Since the average annual ET<sub>o</sub> is approximately 40.3 inches more than the average annual precipitation, and because more than 88% of the annual precipitation occurs between the months of November and April, growing turf or other plantings in this region requires a significant amount of irrigation during the dry season. This irrigation demand contributes to the overall and observed seasonal variation in water demand throughout the City's service area.

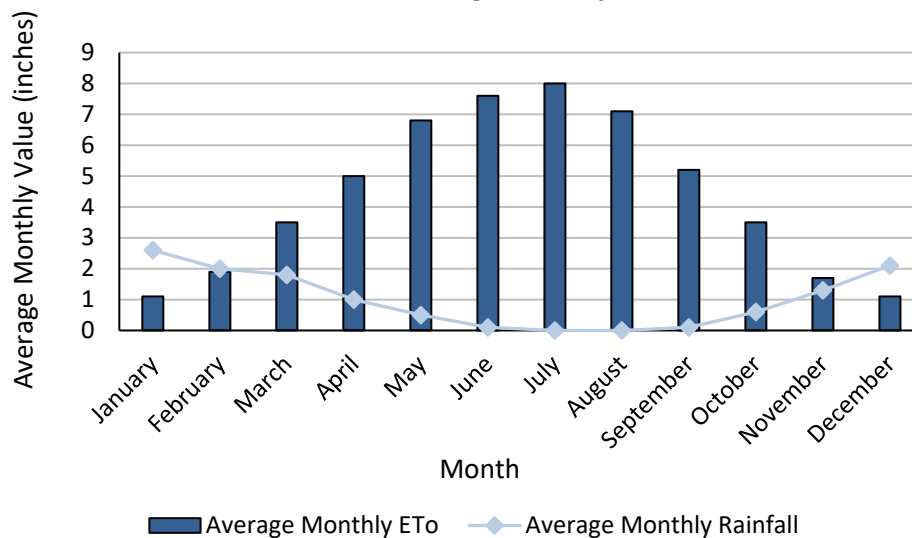


**Table 3-3 Climate Characteristics**

Month	Average Temperature (a)		Standard Average ETo (a) (inches)	Average Rainfall (a) (inches)
	Min (°F)	Max (°F)		
January	38.0	59.2	1.1	2.6
February	39.6	62.7	1.9	2.0
March	42.4	68.2	3.5	1.8
April	45.6	72.9	5.0	1.0
May	50.1	79.5	6.8	0.5
June	54.8	85.8	7.6	0.1
July	57.3	91.2	8.0	0.0
August	56.6	89.8	7.1	0.0
September	53.5	88.4	5.2	0.1
October	47.3	82.5	3.5	0.6
November	40.5	70.7	1.7	1.3
December	37.3	60.7	1.1	2.1
<b>Annual</b>	<b>46.9</b>	<b>76.0</b>	<b>52.5</b>	<b>12.2</b>

NOTES:  
 (a) Climate data from CIMIS Manteca Station (70) for the period 12 November 1987 through 30 October 2020.

**Chart 3-3 Average Monthly Climatic Conditions**





### 3.5.1 Climate Change Considerations

**CWC § 10630**

*It is the intention of the Legislature, in enacting this part, to permit levels of water management planning... while accounting for impacts of climate change.*

Projections of climate change in California indicate a further intensification of wet and dry extremes and shifting temperature.

Climate change effects in the City of Lathrop is obtained from Cal-Adapt.org. The City is anticipated to have hotter and drier climates under the Extended Drought Scenarios.<sup>6</sup> Under the Extended Drought Scenarios, maximum and minimum temperatures will be higher than those during the historical period of 1961 to 1990; precipitation is estimated to be 10.4 inches, which is about 2 inches less than the historical average. This finding is also supported by the *Local Hazard Mitigation Plan* (LHMP) (San Joaquin County [SJC], 2017)<sup>7</sup>. The climate change model in the County LHMP indicates potential increase in the frequency, intensity, and duration of extreme heat events and heat waves. The County LHMP also assesses the City's vulnerabilities to various hazards and presents mitigation strategies that are planned over the next five years.

Changing climate can affect both water uses and supplies. For example, extreme and higher temperatures can lead to increases in water use; declining snowpack and earlier runoff patterns could result in changes in stream flows and reservoir operations; projection of frequent, severe, prolonged droughts could lead to not only less surface water available, but also exacerbate ongoing stressors in groundwater basins. Some of these pressures are already apparent in California as of 2021.

Several sections in the California Water Code (CWC) relevant to UWMPs refer to climate change. Pursuant to CWC requirements and the UWMP Guidebook, this Plan incorporates climate change considerations into following relevant chapters:

- Chapter 3 – Service Area and System Description,
- Chapter 4 – Water Use Characterization,
- Chapter 6 – Water System Supplies, and
- Chapter 7 – Water Service Reliability and Drought Risk Assessment.

### 3.6 **Water Distribution System**

The City's existing system includes six groundwater wells (Wells 6, 7, 8, 9, 10, and 21), five of which are active. Well 9 is currently active but has been offline since August 2018 due to water quality issues (see Section 7.1.1). Until water quality issues are addressed to meet drinking water standards, the City would

---

<sup>6</sup> The Early Century Drought period, which is the early part of 21st century (2023–2042), is used to represent the climate change effects in the next twenty years planning horizon (2025-2045).

<sup>7</sup> The SJC LHMP could be found in the County's website: <https://www.sjgov.org/uploadedfiles/sjc/departments/oes/content/docs/plans/lhmp.pdf>.

## Service Area and System Description

### 2020 Urban Water Management Plan

#### City of Lathrop



only use Well 9 in the future as an emergency well. Well 21 is also currently inactive, and the City does not currently plan to bring it back online due to water quality concerns.

The City's system also includes the Louise Avenue Water Treatment Facility (LAWTF) for treatment of groundwater from Wells 6 through 10, the Water Treatment Facility (WTF) for treatment of groundwater from Well 21 (currently inactive), one permanent and one interim surface water turnout for delivery of South County Water Supply Program (SCWSP) from South San Joaquin Irrigation District (SSJID), four storage tanks and booster pump stations, and distribution pipelines. The City's distribution system operates as a single pressure zone.

In addition to the potable water system facilities mentioned above, the City also operates a recycled water system. The City's Consolidated Treatment Facility produces disinfected tertiary recycled water suitable for irrigation at parks, landscape strips, median islands, pond berms, and agricultural fields. Currently, the treated effluent is only used for agricultural irrigation. Further details regarding the City's recycled water system and facilities are discussed in Section 6.5.



#### 4. WATER USE CHARACTERIZATION

**CWC § 10631 (d) (1)** *A plan shall be adopted in accordance with this chapter that shall do all of the following:*

*For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following:*

*(A) Single-family residential.*

*(B) Multifamily.*

*(C) Commercial.*

*(D) Industrial.*

*(E) Institutional and governmental.*

*(F) Landscape.*

*(G) Sales to other agencies.*

*(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.*

*(I) Agricultural.*

*(J) Distribution system water loss.*

**(2)** *The water use projections shall be in the same five-year increments described in subdivision (a).*

The following sections describe historical and projected water demands within the City of Lathrop (City). The sections discuss and quantify water use for residential, commercial, industrial, institutional, landscape irrigation, and agricultural purposes within the City (Water use sectors A through F and I, as defined in California Water Code [CWC] §10631(d)(1)). Water use sector J (i.e., distribution system water loss) is discussed in Section 4.1.3. As described in Section 4.3, water use sectors G and H are currently not applicable or present within the City's service area.

#### 4.1 Current and Historic Total Water Demand

Among other factors, water demand is dependent on climate, population, industry, and the types of development present in a community. The following sections of the Urban Water Management Plan (UWMP) presents the City's historical and current water demands, including potable and recycled water demand in the past five years.

##### 4.1.1 Current and Historical Potable Water Demand

This section provides historical context by summarizing the City's potable water demand, service area population, and per capita potable water use for the years 2010 through 2020. Historical potable water demand is calculated based on the sum of annual South County Water Supply Project (SCWSP) water purchases and the City's groundwater production.



The City's total potable water demand and per capita demand showed a general decreasing trend between 2010 and 2019 in **Table 4-1** and the associated charts. The City water demand increased from 2010 to 2013 as economic conditions improved, before decreasing dramatically in 2014 and 2015 due to the voluntary and mandatory water conservation efforts that were implemented by the City's water customers during the extended drought. Water production has begun to rebound in recent years (2016-2020) as water use restrictions were lifted and new development projects were constructed. The City's total potable water demand as well as its per capita water demand increased significantly from 2019 to 2020, at increases of 23% and 17%, respectively. The sudden increase in demand may be due to (1) new development and population increases within the City, (2) residents that would normally commute to other regions for work staying at home due to COVID-19, (3) irrigation water demand was suppressed in 2019 due to insufficient water main pressure when the Louise Avenue Water Treatment Facility (LAWTF) was offline, and (4) metering errors that underestimated water demands between 2017 and 2019.

The City's potable water demands were further quantified for each of the following water use sectors over the period of 2016 through 2020. These water use sectors were established based upon the categories assigned to each account in the City's water billing system: Single Family Residential (SFR), Multi-Family Residential (MFR), Commercial, Industrial, Institutional/Governmental (CII), irrigation, agricultural, and Other/Construction. In addition to the metered water consumption described above, the City's potable water demand also includes non-revenue water, including water used for fire hydrant flushing and testing and for water main flushing, as well as distribution system water losses. The volume of non-revenue water is estimated herein by comparing metered water demand (i.e., consumption) against total water purchases and groundwater production.

Current and historical potable water demands for the customer sectors discussed above are provided in **Table 4-2** and its associated charts. Over the period of 2016 through 2020, SFR water use comprised approximately half of all water use in the City (48%), while MFR water use only comprised a small portion (2%). Industrial and irrigation sectors comprised 22% and 16% of the City's water demands, respectively. Water use in the commercial (4%) and institutional/governmental (2%), agricultural (3%), and other/construction (3%) sectors was relatively minor compared to total water use. The relative percentages of the total potable water demand represented by the residential, commercial, institutional/governmental, and irrigational sectors remained relatively constant over the period 2016 through 2020. The relative percentage of the industrial sector increased from 19% in 2016 to 26% in 2019 then decreased to 21% in 2020. The relative percentage of the other/construction sector increased from 1% in 2016 to 3% in 2018 and then was stable since then. The average non-revenue water over this period was approximately 4.5%<sup>8</sup>.

---

<sup>8</sup> The negative non-revenue water values in 2018 and 2019, which were likely due to metering errors, were not used to compute the average.

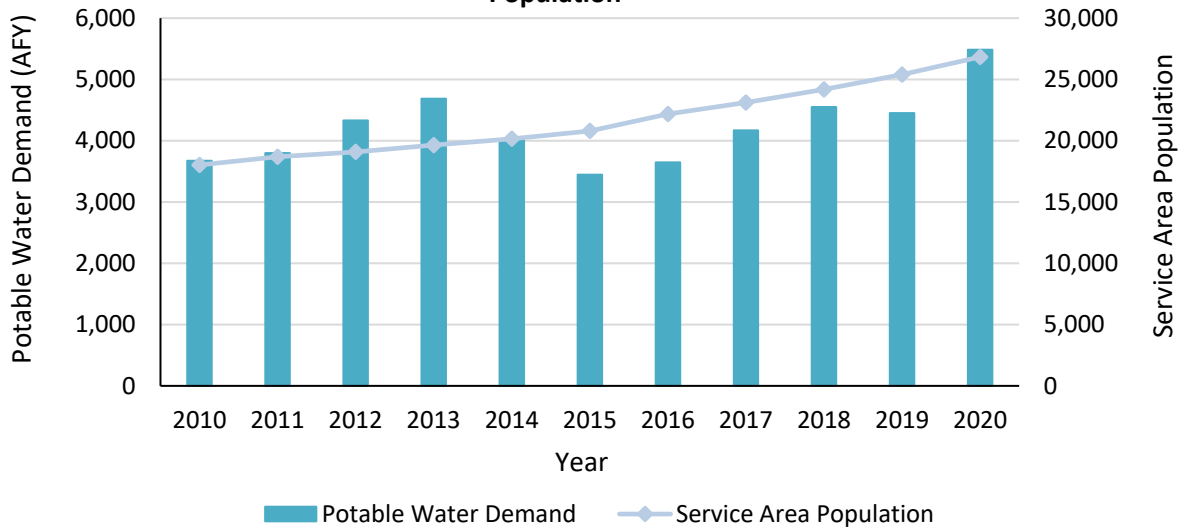


**Table 4-1 Current and Historical Potable Water Demand and Population (Draft DWR Table 4-6)**

Year	Potable Water Demand	Service Area Population	Per Capita Potable Water Use (GPCD)
2010	3,672	18,023	182
2011	3,798	18,688	181
2012	4,332	19,090	203
2013	4,686	19,642	213
2014	4,008	20,158	177
2015	3,445	20,796	148
2016	3,646	22,174	147
2017	4,168	23,117	161
2018	4,551	24,185	168
2019	4,452	25,401	156
2020	5,485	26,833	182

NOTES:  
 (a) Pre 2017 population is obtained from the 2015 UWMP; population from 2017 to 2020 is obtained from California Department of Finance, Table E-4 (DOF, 2020).  
 (b) Unless otherwise noted, volumes are in units of AF.

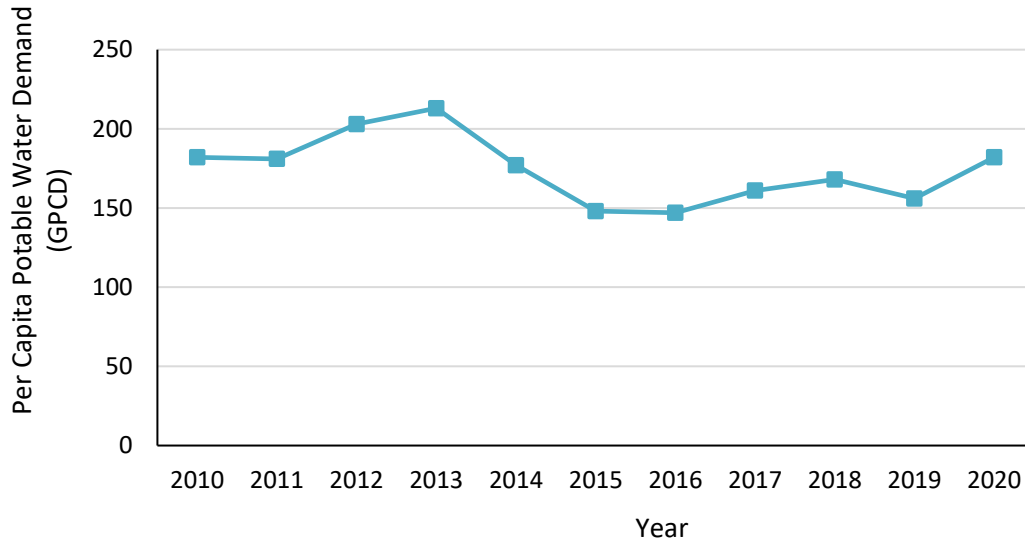
**Chart 4-1A Historical and Current Potable Water Demand and Population**







**Chart 4-1B Historical and Current Per Capita Potable Water Use**



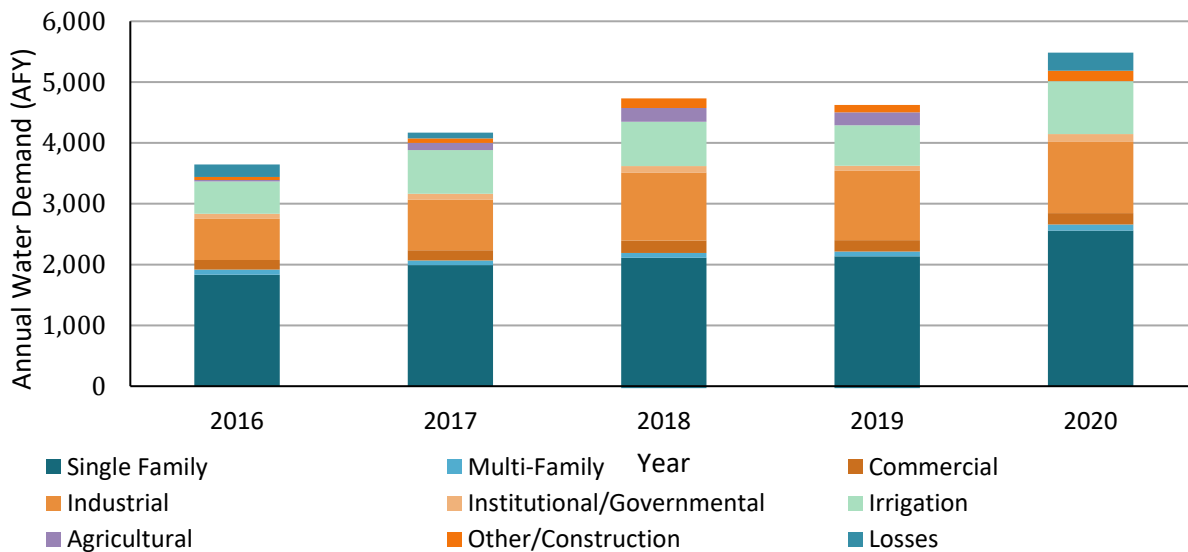


**Table 4-2 Demands for Potable and Non-Potable Water - Actual (DWR Table 4-1)**

Use Type	Additional Description (as needed)	Level of Treatment When Delivered	Volume				
			2016	2017	2018	2019	2020
Single Family		Drinking Water	1,834	1,991	2,112	2,136	2,559
Multi-Family		Drinking Water	84	76	80	79	99
Commercial		Drinking Water	157	169	206	185	189
Industrial		Drinking Water	676	833	1,117	1,139	1,171
Institutional/ Governmental		Drinking Water	83	94	104	86	128
Irrigation		Drinking Water	533	719	730	665	870
Agricultural		Drinking Water	23	119	226	212	1
Other/Construction		Drinking Water	50	75	157	122	171
Losses (a)(b)	Non-revenue Water	Drinking Water	206	93	-180	-173	297
<b>TOTAL</b>			<b>3,646</b>	<b>4,168</b>	<b>4,551</b>	<b>4,452</b>	<b>5,485</b>

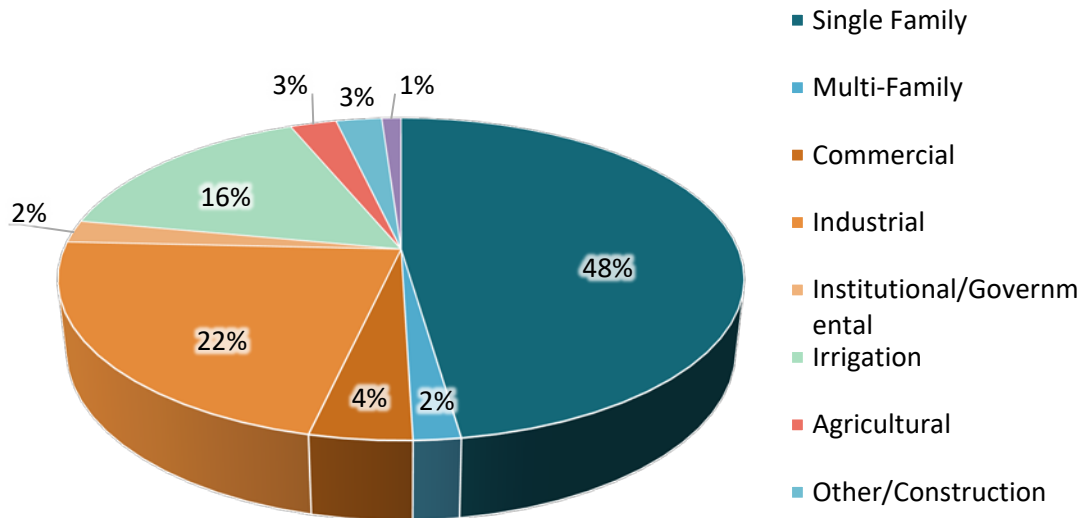
NOTES:  
 (a) Losses represent all non-revenue water, which includes apparent loss, real loss, and unbilled authorized consumption.  
 (b) Negative non-revenue water values during 2018 and 2019 are likely due to metering errors.  
 (c) Volumes are in units of AF.

**Chart 4-2A Annual Water Demand by Sector: 2016-2020**





**Chart 4-2B Percentage of Total Water Demand by Sector: 2016-2020**



**4.1.2 Current and Historical Recycled Water Demand**

The City currently applies tertiary effluent to 276 acres of agricultural land application areas. In 2020, the City applied 527 AFY of recycled water for agricultural irrigation (see Section 6.3)

**4.1.3 Distribution System Water Loss**

**CWC § 10631 (3)**

(A) The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section 10608.34.

(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.

(C) In the plan due July 1, 2021, and in each update thereafter, data shall be included to show whether the urban retail water supplier met the distribution loss standards enacted by the board pursuant to Section 10608.34.

Distribution system water losses for the previous five calendar years are summarized in **Table 4-3**. Water loss is the sum of apparent and real losses. Apparent loss is associated with metering inaccuracies, billing and administrative errors, authorized unmetered uses (e.g., system flushing and firefighting), and unauthorized uses. Real loss is associated with physical water lost through line breaks, leaks and seeps, and overflows of storage tanks. Since 2016, urban retail water suppliers have been required under CWC §10608.34 and California Code of Regulations (CCR) § 638.1 et seq to quantify distribution system water losses using the American Water Works Association (AWWA) Free Water Audit Software (referred to as



the “AWWA Water Loss Worksheet”). This analysis separates water loss into “apparent” and “real” losses. Apparent losses include metering inaccuracies, systematic data handling errors, and unauthorized consumption. Real losses represent water loss attributable to the distribution system and include physical water losses from the pressurized system and storage tanks up to the point of customer consumption.

Total water losses for 2015 through 2019 as calculated in AWWA Water Loss Worksheets are provided in **Table 4-3**; and are available through California Department of Water Resources’ (DWR’s) Water Use Efficiency Data Portal.<sup>9</sup> The “losses” are a portion of the total differential between water supply and metered water use; the remaining portion is unbilled consumption such as system flushing, leak repair flushing, hydrant leaks, and street sweeping.

For example, of the 4,915 AF of total potable water demand in Fiscal Year 2019-2020, 4,813 AF was attributed to metered consumption, 61 AF was estimated from unmetered water use, and 40 AF was estimated to be from distribution system water loss. The average water losses between 2015 and 2019 was approximately 153 AFY, or about 4% of the average annual demand.

**Table 4-3 12 Month Water Loss Audit Reporting (DWR Table 4-4)**

Reporting Period	Volume of Water Loss
Calendar Year 2015	109
Fiscal Year 2016-17	143
Fiscal Year 2017-18	130
Fiscal Year 2018-19	227
Fiscal Year 2019-20	40
<p>NOTES:</p> <p>(a) Water loss is the “water losses” value calculated in the City’s AWWA Water Loss Worksheets.</p> <p>(b) The water loss in 2015 was estimated to be 90% of the non-revenue water, where the 90% was obtained from the average water loss proportion from fiscal years 2017 to 2019. It is noted that the water loss in fiscal year 2020 was noticeably smaller than other years, which could be due to metered billing or consumption data errors.</p> <p>(c) Volumes are in units of AF.</p>	

## 4.2 Projected Total Water Demand

The City’s water demand projections were prepared similarly to the methodology described in the City’s 2019 Water System Master Plan (WSMP) (EKI, 2019a). These demand projections updated those presented in the City’s 2019 WSMP and reflects (1) updated development projections, as documented in Appendix E, (2) the City’s water use patterns coming out of the recent historic drought, as well as (3)

<sup>9</sup> DWR’s Water Use Efficiency Data Portal: [https://wuedata.water.ca.gov/awwa\\_plans](https://wuedata.water.ca.gov/awwa_plans).



implementation of the City's River Discharge Permit before 2025. Projected water demands, including potable and recycled water demands, are discussed in detail in the following subsections.

#### **4.2.1 Projected Potable Water Demand**

Potable water demand projections were calculated as the sum of two major components of future water demands: (1) the volume of potable water demand that best represents existing or "baseline" water demands within the City, and (2) the anticipated potable water demands associated with the future development projects and planning areas. Components of potable water demand projections are described in the sections below. Detailed calculations are included in Appendix E.

##### **4.2.1.1 Baseline Potable Water Demand**

The City's 2017-2019 water use was considered a representative "baseline" as it reflects post drought rebound conditions. The estimate of baseline potable water demands was calculated from the sum of (1) each individual account's average 2017-2019 water use, and (2) estimated water use using the updated demand factors for existing development built during 2019, as this development was accounted for in the average 2017-2019 water use. The baseline water demands also include non-revenue water, estimated to be 5% of demands based on the average percentage of non-revenue water observed between 2016 and 2020<sup>10</sup> (see Section 4.1.1). Based on application of the above methodology, the "baseline" potable water demand is estimated to be 4,858 AFY (Table 2 in Appendix E).

##### **4.2.1.2 Demand Associated with Planned Development**

Additional water will be required to serve the planned residential and CII developments. To estimate these demands, water use factors shown in **Table 4-4** below were applied to the anticipated acreages and number of dwelling units associated with each proposed development listed in Table 1a in Appendix E. These unit water use factors were developed using a similar method as the unit water use factors presented in the 2019 WSMP but were updated based on the City's water use in 2017 through 2019 for each land use category. The factors assign a unit volume of potable water demand to each acre of CII development (gpd/acre) or an individual dwelling unit (gpd/du).

The resulting calculation is shown in Table 3a in Appendix E. Potable water demand associated with planned development also includes 5% non-revenue water, the average percentage of non-revenue water observed between 2016 and 2020.

---

<sup>10</sup> Negative non-revenue water values during 2018 and 2019, which are likely due meter errors, were not included in the average estimated herein. The non-revenue water percentage is different than the water loss percentage presented in Section 4.1.3 because the non-revenue water includes water losses and unbilled unauthorized consumptions.



**Table 4-4 Potable Water Demand Factors**

Land Use	Water Demand Factor	
	City-Wide	River Islands
Low Density Residential	330 gpd/du	315 gpd/du
Medium Density Residential	250 gpd/du	235 gpd/du
High Density Residential	135 gpd/du	
Commercial	860 gpd/ac	
Industrial	1,200 gpd/ac	
Parks	2,450 gpd/ac	
Schools / Institutional	1,500 gpd/ac	

4.2.1.3 Total Projected Potable Water Demand

**Table 4-5** and its associated charts summarize the City’s projected potable water demand and by sector in five-year increments between 2025 and buildout. The City anticipates that total potable water demand will be 11,716 AFY by 2040 and 14,074 at buildout.

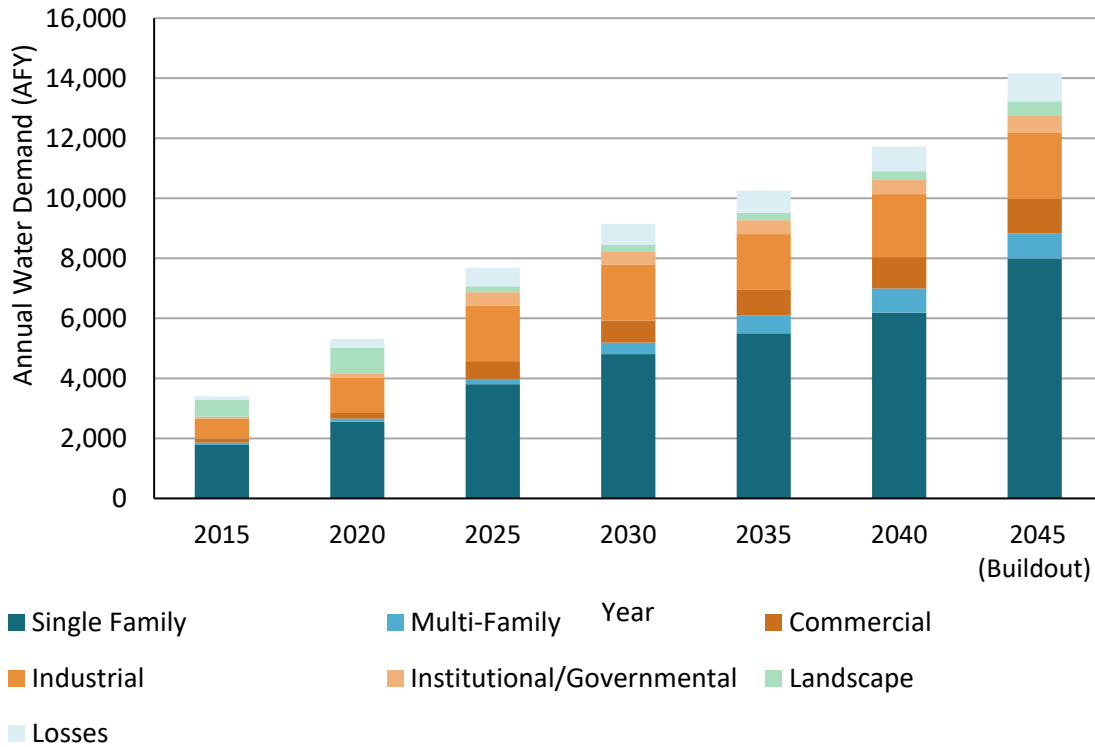
**Table 4-5 Use for Potable and Non-Potable - Projected (DWR Table 4-2)**

Use Type	Additional Description (as needed)	Projected Water Use				
		2025	2030	2035	2040	2045 (Buildout)
Single Family		3,807	4,810	5,498	6,186	7,987
Multi-Family		172	383	594	805	839
Commercial		593	734	859	1,048	1,152
Industrial		1,854	1,854	1,854	2,101	2,197
Institutional/ Governmental		445	454	463	471	563
Landscape	Irrigation	196	224	242	288	401
Losses	(a)	615	688	743	817	934
<b>TOTAL</b>		<b>7,682</b>	<b>9,148</b>	<b>10,253</b>	<b>11,716</b>	<b>14,074</b>

NOTES:  
 (a) Losses represent all non-revenue water, which includes apparent loss, real loss, and unbilled authorized consumption.  
 (b) Lathrop's single agricultural customer will be replaced by development at Lathrop Gateway and thus the City will not have any agricultural customer.  
 (c) Data present herein for 2045 reflects conditions at buildout for planning purposes. However, the City does not anticipate all buildout development to occur before 2045.  
 (d) Volumes are in units of AF.



**Chart 4-5A Current and Projected Water Demand by Sector**



**Table 4-6 Inclusion in Water Use Projections (DWR Table 4-5)**

Are Future Water Savings Included in Projections?	No
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found.	-
Are Lower Income Residential Demands Included In Projections?	Yes
NOTES:	

**4.2.2 Projected Recycled Water Demand**

As further discussed in Section 6.3, the City is planning to provide recycled water to offset potable water demands for future developments before 2025. By 2025, the City will transition its recycled water use from agricultural land application to urban landscape irrigation within the Central Lathrop, Mossdale, and River Islands development areas. To estimate future recycled water demands, a recycled water use factor



of 3,817 gpd/ac (51.3 in/ac) was applied to the anticipated landscape acreages to be served by recycled water within each proposed development listed in Table 1b in Appendix E. The resultant calculation is shown in Table 3b in Appendix E.

**4.2.3 Water Use for Lower Income Households**

**CWC § 10631.1**

(a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

(b) It is the intent of the Legislature that the identification of projected water use for single-family and multifamily residential housing for lower income households will assist a supplier in complying with the requirements under Section 65589.7 of the Government Code to grant a priority for the provision of service to housing units affordable to lower income households.

The water demands presented in Section 4.2.1 include projected future water use by lower income households. Per Health and Safety Code 50079.5, a lower income household is defined as a household with lower than 80% of the City’s median income.

The water demand for lower income households was based on the estimated number of housing units for the ‘extremely low income’, ‘very low income’, and ‘low income’ categories from the 2015-2023 Housing Element (De Novo Planning Group, 2019). In 2015, 31.4% of the City’s housing units served households from the lower income household categories. Thus, as shown in **Table 4-7**, the projected water demands for lower income households are estimated to be 31.4% of the total single-family and multi-family residential projected water uses included in **Table 4-2**. The resulting estimated water use for lower income households is expected to grow from 1,249 AF in 2025 to 2,771 AF at buildout.

**Table 4-7 Projected Potable Water Demand for Lower-Income Households**

Lower-Income Water Demand Sector	Projected Water Use				
	2025	2030	2035	2040	2045 (Buildout)
Projected Potable Water Demand					
Single Family	1,195	1,510	1,726	1,942	2,508
Multi-Family	54	120	186	253	263
<b>TOTAL</b>	<b>1,249</b>	<b>1,631</b>	<b>1,913</b>	<b>2,195</b>	<b>2,771</b>
NOTES: (a) Per the City's 2019 Housing Element, in 2015, 31.4% of housing units served lower income households. It is assumed that approximately 31.4% of the future residential water demand will be associated with lower income households. (b) Volumes are in units of AF.					





**4.2.4 Characteristic Five-Year Water Use**

As a first step to the Drought Risk Assessment, water suppliers are advised to estimate unconstrained water demand for the next five years (2021-2025). Unconstrained water demand is the expected water use in the absence of water use restrictions. The forecast of unconstrained demand for the next five years is shown in Table 4-8 below.

**Table 4-8 Characteristic Five-Year Water Use**

	2021	2022	2023	2024	2025
Estimated Unconstrained Water Demand	6,545	7,078	7,612	8,145	8,679
NOTES: (a) Volumes are in units of AF.					

**4.2.5 Water Savings from Codes, Standards, Ordinances, or Transportation and Land Use Plans**

**CWC § 10631 (d) (4)**

*(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.*

*(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following:*

*(i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.*

*(ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.*

“Passive conservation” refers to water savings resulting from actions and activities that do not depend on direct financial assistance or educational programs from the City. These savings result primarily from (1) the natural replacement of existing plumbing fixtures with water-efficient models required under current plumbing code standards, and (2) the installation of water-efficient fixtures and equipment in new buildings and retrofits as required under California Green Building Code Standards (CALGreen). The projected water savings associated with passive savings, as summarized in **Table 4-9**, were estimated using county specific multiplier from DWR 2016 Projected Statewide and County-Level Effects of Plumbing



Codes and Appliance Standards on Indoor gallon per capita per day (GPCD) (M.Cubed, 2016).<sup>11</sup> The projected water savings due to passive conservation are expected to be associated with existing development only, as the projected water demands associated with new development areas have already incorporated future water savings. The population that occupies existing land uses is assumed to remain constant, which was 26,833 in 2020. The potential passive water savings are estimated to be 174 AFY by 2040 or 191 AFY by buildout, as shown **Table 4-9**. These passive savings are not incorporated in the projected potable water demand presented above to provide a conservative projection. The water savings estimates incorporate the effects of the following codes and regulations:

- Assembly Bill (AB) 715, enacted in 2007, requires that any toilet or urinal sold or installed in California on or after January 1, 2014 cannot have a flush rating exceeding 1.28 and 0.5 gallons per flush, respectively. AB 715 superseded the state’s previous standards for toilet and urinal water use set in 1991 of 1.6 and 1.0 gallons per flush, respectively. On April 8, 2015, in response to the Governor’s Emergency Drought Response Executive Order (EO B-29-15), the California Energy Commission approved new standards for urinals requiring that they not consume more than 0.125 gallons per flush, 75% less than the standard set by AB 715.
- Water use standards for residential and commercial clothes washers and dishwashers are established by the U.S. Department of Energy through its authority under the federal Energy Policy and Conservation Act. Water use efficiency is summarized by the water factor for the appliance which measures the gallons of water used per cycle per cubic foot of capacity. A typical top-loading residential clothes washer manufactured in the 1990s had a water factor of around 12. In 2015, the allowable water factor for top- and front-loading residential clothes was reduced to 8.4 and 4.7, respectively. In 2018, the water factor standard for top-loading residential clothes washers was reduced to 6.5. In 2010, the allowable water factor for top- and front-loading commercial clothes washers were reduced to 8.5 and 5.5, respectively. The maximum water factors for Energy Star compliant top- and front-loading washers are 3.7 and 4.3, respectively. The U.S. Environmental Protection Agency estimates that Energy Star washers comprised at least 60% of the residential market and 30% of the commercial market in 2011. An Energy Star compliant washer uses about two-thirds less water per cycle than a washer manufactured in the 1990s. Federal dishwasher water use efficiency standards were last updated in 2013. The maximum water uses for standard and compact sized dishwashers are 5.0 and 3.5 gallons per cycle, respectively.
- New construction and renovations in California are now subject to CalGreen Code requirements. CalGreen includes prescriptive indoor provisions for maximum water consumption of plumbing fixtures and fittings in new and renovated properties. CalGreen also allows for an optional performance path to compliance, which requires an overall aggregate 20% reduction in indoor water use from a calculated baseline using a set of worksheets provided with the CalGreen guidelines.
- Senate Bill (SB) 407, enacted in 2009, mandates that all buildings in California come up to current State plumbing fixture standards within this decade. This law establishes requirements that

---

<sup>11</sup> GPCD reduction factor is obtained from the “Total Effects, including Common Area and Coin-Op Clothes Washers and Non-Residential Toilets and Urinals” table from Attachment 3, which estimated passive savings associated with indoor fixtures from all sectors. The reduction factor is adjusted to reflect reduction relative to 2020.



residential and commercial property built and available for use on or before January 1, 1994 replace plumbing fixtures that are not water conserving, defined as “noncompliant plumbing fixtures.” This law also requires that effective January 1, 2017, a seller or transferor of single-family residential property must disclose to the purchaser or transferee, in writing, the specified requirements for replacing plumbing fixtures and whether the real property includes noncompliant plumbing. Similar disclosure requirements went into effect for multi-family and commercial transactions on January 1, 2019. SB 837, passed in 2011, reinforces the disclosure requirement by amending the statutorily-required transfer disclosure statement to include a disclosure on whether the property is in compliance with SB 407 requirements.

**Table 4-9 Projected Potable Water Demand and Projected Passive and Active Water Conservation**

Water Conservation Type	Projected Potable Water Demand				
	2025	2030	2035	2040	2045 (Buildout)
Projected Passive Conservation	72	120	153	174	191
NOTES: (a) Passive savings were estimated using county specific multiplier from DWR 2016 Projected Statewide and County-Level Effects of Plumbing Codes and Appliance Standards on Indoor gallon per capita per day. (b) Volumes are in units of AF.					

**4.2.6 Projected Total Water Demand**

The estimated projected total water demand, which includes potable, raw, and recycled water, are summarized in **Table 4-10**.



**Table 4-10 Gross Water Use (DWR Table 4-3)**

	2020	2025	2030	2035	2040	2045 (Buildout)
Potable Water, Raw, Other Non-potable <i>From DWR Tables 4-1 and 4-2</i>	5,485	7,682	9,148	10,253	11,716	14,074
Recycled Water Demand <i>From DWR Table 6-4</i>	527	997	1,543	2,010	2,472	2,610
Optional Deduction of Recycled Water Put Into Long-Term Storage	-	-	-	-	-	-
<b>TOTAL WATER USE</b>	<b>6,012</b>	<b>8,679</b>	<b>10,691</b>	<b>12,263</b>	<b>14,188</b>	<b>16,684</b>
NOTES: (a) Data present herein for 2045 reflects conditions at buildout for planning purposes. However, the City does not anticipate all buildout development to occur before 2045. (b) Volumes are in units of AF.						

#### 4.3 Water Use Sectors Not Included in the Demand Projections

This section addresses historical and projected water demands for the water demand sectors described in CWC §10631(d)(1) (G) and (H) and listed below:

- *Sales to other agencies.* The City does not sell potable or recycled water to other agencies.
- *Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.* The City does not use potable or recycled water for saline barriers. The City operates a percolation basin that recharges groundwater with recycled water.

#### 4.4 Climate Change Impacts to Demand

**CWC § 10635(b)**

*(4) 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.*

The methodology used to develop demand projections herein considers the impacts of climate change on projected demands. California experienced a historic drought between 2011 and 2017. In 2011-2013, the City experienced increasing water demand due to hotter and dryer weather and economic recovery. In 2014, Governor Brown issued Executive Order B-26-14 declaring a Drought State of Emergency and requested all Californians to voluntarily reduce water use by 20%. In 2015, the State Water Resources Control Board implemented emergency conservation regulations that, among other things, required water agencies to reduce their water use and prohibited certain types of water uses. As a result, the City experienced an overall decrease in demands during the historic drought, most significantly during 2015, follow by a rebound period in 2017-2019. As discussed in Section 4.2, the demand projections are based on a baseline water demand established in 2017 to 2019. Thus, the periods used to develop the demand



projections reflect conditions representative of the hotter, drier weather expected as a result of climate change.

#### 4.5 Coordinating Water Use Projections

**CWC § 10631 (h)**

*An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available.*

The City coordinates with the South San Joaquin Irrigation District (SSJID) each year to establish a water supply delivery schedule in accordance with the procedures established in the SSJID Water Supply Development and Operating Agreement (Appendix B). As part of the coordination effort for the 2020 UWMP, and in compliance with CWC §10631(j), the City supplied SSJID with its water demand projections through buildout.

#### 4.6 Urban Water Use Objectives (Future Requirements)

**CWC § 10609.20**

*(a) Each urban retail water supplier shall calculate its urban water use objective no later than January 1, 2024, and by January 1 every year thereafter.*

*(b) The calculation shall be based on the urban retail water supplier's water use conditions for the previous calendar or fiscal year....*

**CWC § 10609.22**

*(a) An urban retail water supplier shall calculate its actual urban water use no later than January 1, 2024, and by January 1 every year thereafter.*

*(b) The calculation shall be based on the urban retail water supplier's water use for the previous calendar or fiscal year....*

**CWC § 10609.24**

*(a) An urban retail water supplier shall submit a report to the department no later than January 1, 2024, and by January 1 every year thereafter. The report shall include all of the following:*

- (1) The urban water use objective calculated pursuant to Section 10609.20 along with relevant supporting data.*
- (2) The actual urban water use calculated pursuant to Section 10609.22 along with relevant supporting data.*
- (3) Documentation of the implementation of the performance measures for CII water use.*
- (4) A description of the progress made towards meeting the urban water use objective.*
- (5) The validated water loss audit report conducted pursuant to Section 10608.34.*

*(b) The department shall post the reports and information on its internet website.*

*(c) The board may issue an information order or conservation order to, or impose civil liability on, an entity or individual for failure to submit a report required by this section.*



Beginning in 2023, urban water retailers will be required to report on “annual water use objectives” by January of each year and to achieve these objectives by 1 January 2027 (per CWC § 10609). The annual water use objectives will be calculated based on standards for indoor residential water use, outdoor residential water use, and distribution system water loss. Additionally, it is anticipated that performance-based standards for the commercial, industrial, and institutional sectors, separate from the annual water use objectives, will also be developed by DWR and implemented in the future. However, the specific standards that will be used to determine a retailer’s annual urban water use objectives are currently under development by DWR, and thus, the annual urban water use objectives for the City cannot be calculated or estimated. Once the urban water use objectives are released, the City will evaluate its historical and current water use compared to the new objectives, and will evaluate the need to adjust its conservation and water loss management measures to meet the new objectives.

One of the components for calculating the future water use objectives is provided for in CWC §10609.4.(a), which states “(1) Until January 1, 2025, the standard for indoor residential water use shall be 55 gallons per capita daily. (2) Beginning January 1, 2025, and until January 1, 2030, the standard for indoor residential water use shall be the greater of 52.5 gallons per capita daily or a standard recommended pursuant to subdivision (b). (3) Beginning January 1, 2030, the standard for indoor residential water use shall be the greater of 50 gallons per capita daily or a standard recommended pursuant to subdivision (b).” **Table 4-11** shows an estimate of future per capita residential water use, broken out by estimated indoor and outdoor water use. Based on these estimates, per capita indoor residential potable water use is expected to be slightly higher than the indoor use standards presented in the legislation. Although indoor residential water use is expected to be higher than the indoor residential water use standard, it should be noted that because standards have not yet been developed for the outdoor water use or water loss components of the future water use objectives, it cannot be known whether projected demands for the City will be in compliance with the pending requirements.

In the past decade, the City has made significant strides in reducing its per capita water demand to meet the targets delineated by the Water Conservation Act (see Chapter 5). The City plans to continue to implement conservation efforts to meet new legislative requirements. Potable water demand reductions will be achieved through the recycled water projects and implementation of DMMs as discussed in Chapters 6 and 9, respectively. The City will continue to monitor per capita water demand to ensure that its compliance targets are being met.



**Table 4-11 Current and Projected Residential Per Capita Water Use**

Year	Residential Potable Water Demand	Service Area Population	Per Capita Residential Potable Water Use (GPCD)	Approximate Per Capita Indoor Residential Potable Water Use (GPCD)	Approximate Per Capita Outdoor Residential Potable Water Use (GPCD)
2020	2,658	26,833	88	54	35
2025	3,979	40,466	88	53	34
2030	5,193	54,473	85	52	33
2035	6,092	65,267	83	51	33
2040	6,990	76,058	82	50	32
2045 (Buildout)	8,826	95,391	83	50	32

**NOTES:**

(a) Indoor water use was estimated to be the lowest monthly water use for the residential sector in 2020, accounting for the number of days in each month. Outdoor water use for each sector was estimated to be the difference between the total water use and the estimated indoor water use. The residential indoor water use was estimated to be 61% of the total residential water use. Totals may not sum due to rounding.

(b) Unless otherwise noted, volumes are in units of AF.

(c) Data present herein for 2045 reflects conditions at buildout for planning purposes. However, the City does not anticipate all buildout development to occur before 2045.



## 5. BASELINE WATER USE AND WATER CONSERVATION TARGETS

### **CWC § 10608.24 (b)**

*Each urban retail water supplier shall meet its urban water use target by December 31, 2020.*

### **CWC § 10608.28**

*(a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement, by any of the following:*

*(1) Through an urban wholesale water supplier.*

*(2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 commencing with Section 81300)).*

*(3) Through a regional water management group as defined in Section 10537.*

*(4) By an integrated regional water management funding area.*

*(5) By hydrologic region.*

*(6) Through other appropriate geographic scales for which computation methods have been developed by the department.*

*(b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.*

With the adoption of the Water Conservation Act of 2009, also known as SB x7-7, the state is required to reduce urban water use by 20% by the year 2020. Each urban retail water supplier was required to develop a baseline daily per capita water use (“baseline water use”) in their 2010 Urban Water Management Plan (UWMP) and establish per capita water use targets for 2015 and 2020 to help the state achieve the 20% reduction.

In support of implementing the requirements of SB x7-7, California Department of Water Resources (DWR) produced a set of methodologies for developing baseline and compliance water use and targets, which are included in *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water* (Methodologies; DWR, 2016). The City of Lathrop (City) has not made any changes to the information in its 2015 UWMP pertaining to the baseline population, water use, or 2020 water use target calculation.

In this chapter, the City demonstrates compliance with its 2020 per capita water use target. As part of the compliance reporting for SB x7-7, water suppliers are required to complete and submit a set of standardized verification tables in their 2020 UWMPs. The information in these tables is discussed and summarized in the following subsections, and the complete set of SB x7-7 standardized tables, for both individual and regional reporting, is included in Appendix F.





## 5.1 Service Area Population

**CWC § 10608.20 (e)**

*An urban retail water supplier shall include in its urban water management plan due in 2010 pursuant to Part 2.6 (commencing with Section 10610) the 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.*

**CWC § 10608.20 (g)**

*An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).*

**Methodology 2 Service Area Population.**

*DWR will examine discrepancy between the actual population estimate and DOF's projections for 2010; if significant discrepancies are discovered, DWR may require some or all suppliers to update their baseline population estimates. (DWR, 2016b)*

In its 2015 UWMP, the City reported its service area population for baseline periods spanning from 2000 through 2007, based upon data from the California Department of Finance (DOF). DOF data incorporates 2010 Census data and therefore satisfied DWR's requirement of using 2010 Census data for baseline population calculations. Based on recently published DOF data (DOF, 2021), the population in 2020 for the City was estimated to be 26,833. Service area population estimates for the baseline periods and the 2020 compliance year are included in Appendix F.

## 5.2 Baseline Water Use

Baseline water use is the water supplier's average gross daily water use per capita measured in gallons. This baseline includes all water entering the delivery system, including water losses. A water supplier may deduct from its gross water use water conveyed to other urban water suppliers, water placed into long-term storage, recycled water delivered within the supplier's service area, water delivered for agricultural use, water conveyed to other urban water suppliers, and water used for industrial processes.

Water suppliers were required to define a 10- or 15-year base (or baseline) period for water use that was then used to develop their future target per capita water use. Water suppliers were also required to calculate water use over a 5-year baseline period and use that value to determine a minimum required reduction in water use by 2020. Utilizing a 15-year baseline period was only allowed for water suppliers that meet at least 10% of their 2008 measured retail water demand through recycled water; the City did not meet this criterion and thus selected a 10-year baseline.

The 10-year baseline water use was calculated as 230 gallons per capita per day (GPCD) using gross per capita water usage data (calculated as total water entering the City's water distribution system divided by total population) for the 10-year period between 1 January 2000 and 31 December 2009. The 5-year baseline water use was calculated as 236 GPCD using per capita water usage data for the 5-year period

## Baseline Water Use and Water Conservation Targets

### 2020 Urban Water Management Plan

#### City of Lathrop



between 1 January 2003 and 31 December 2007. The 5- and 10-year baseline water uses are shown in **Table 5-1**<sup>12</sup>.

**Table 5-1 Baselines and Targets Summary (DWR Table 5-1)**

Baseline Period	Start Year	End Year	Average Baseline GPCD	Confirmed 2020 Target GPCD
10-15 year	2000	2009	230	188
5 Year	2003	2007	236	
NOTES:				

---

<sup>12</sup> The detail calculations of the baseline water use could be found in SB x7-7 Tables 1, 5, 7-F, and 8 (Appendix F).



### 5.3 Water Use Targets

**CWC § 10608.20 (b)**

*An urban retail water supplier shall adopt one of the following methods for determining its urban water use target pursuant to subdivision (a):*

*(1) Eighty percent of the urban retail water supplier's baseline per capita daily water use.*

*(2) The per capita daily water use that is estimated using the sum of the following performance standards:*

*(A) For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department's 2017 report to the Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute.*

*(B) For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape's installation or 1992. An urban retail water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.*

*(C) For commercial, industrial, and institutional uses, a 10-percent reduction in water use from the baseline commercial, industrial, and institutional water use by 2020.*

*(3) Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's draft 20x2020 Water Conservation Plan (dated April 30, 2009). If the service area of an urban water supplier includes more than one hydrologic region, the supplier shall apportion its service area to each region based on population or area.*

*(4) A method that shall be identified and developed by the department, through a public process, and reported to the Legislature no later than December 31, 2010. The method developed by the department shall identify per capita targets that cumulatively result in a statewide 20-percent reduction in urban daily per capita water use by December 31, 2020. In developing urban daily per capita water use targets, the department shall do all of the following:*

*(A) Consider climatic differences within the state.*

*(B) Consider population density differences within the state.*

*(C) Provide flexibility to communities and regions in meeting the targets.*

*(D) Consider different levels of per capita water use according to plant water needs in different regions.*

*(E) Consider different levels of commercial, industrial, and institutional water use in different regions of the state.*

*(F) Avoid placing an undue hardship on communities that have implemented conservation measures or taken actions to keep per capita water use low.*

**CWC § 10608.22**

*Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph (3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.*



Water suppliers were required to calculate their 2020 water use targets (2020 Targets) using one of the following four methods:

- Method 1: 80% of the water supplier's baseline per capita water use;
- Method 2: Per capita daily water use estimated using the sum of performance standards applied to indoor residential use, landscaped area water use, and commercial, industrial, and institutional uses;
- Method 3: 95% of the applicable state hydrologic region target as stated in the State's 20x2020 Water Conservation Plan, dated February 2010; or
- Method 4: Total savings subtracted from baseline water use. Savings include metering savings, residential savings, commercial, industrial, and institutional savings, and landscape and water loss savings.

The City's 2020 Target is presented in **Table 5-1** as reported in its 2015 UWMP. The City's 2020 Target of 188 GPCD was calculated using Method 4. Under CWC §10608.22, water suppliers must confirm that the 2020 Target will reduce 2020 water use by a minimum of 5% from the 5-year base daily per capita water use. As discussed in Section 5.2, the City's 5-year baseline water use is 236 GPCD. The 2020 Target (188 GPCD) is less than 95% of the 5-year baseline water use, so the selected 2020 Target is in compliance with the UWMP Act. Complete target calculations are included in Appendix F.

#### 5.4 2020 Target Compliance

##### **CWC § 10608.24 (b)**

*Each urban retail water supplier shall meet its urban water use target by December 31, 2020.*

##### **CWC § 10608.24 (d)**

*(1) When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:*

*(A) Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.*

*(B) Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.*

*(C) Substantial changes to institutional water use resulting from fire suppression services or other extraordinary events, or from new or expanded operations, that have occurred during the reporting period.*

*(2) If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.*

##### **CWC § 10608.40**

*Urban water retail suppliers shall report to the department on their progress in meeting their urban water use targets as part of their urban water management plans submitted pursuant to Section 10631. The data shall be reported using a standardized form developed pursuant to Section 10608.52.*

Baseline Water Use and Water Conservation Targets

2020 Urban Water Management Plan

City of Lathrop



As summarized in **Table 3-1** and **Table 4-2**, the City’s 2020 population was 26,833 and its 2020 water use was 5,485 acre-feet, which results in a daily gross per capita water use estimate of 182 GPCD. The City’s 2020 actual GPCD is less than the target of 188 GPCD and the City is therefore in compliance with SB x7-7 requirements. Per the Methodologies (DWR, 2016b), there are several allowable adjustments that can be made to a supplier’s 2020 per capita water use calculations as part of evaluating target compliance. However, no adjustments were made to the City’s 2020 per capita water use calculations. **Table 5-2** demonstrates the City’s compliance with its 2020 GPCD target.

**Table 5-2      2020 Compliance (DWR Table 5-2)**

2020 GPCD			2020 Confirmed Target GPCD	Did Supplier Achieve Targeted Reduction for 2020?
Actual 2020 GPCD	2020 TOTAL Adjustments	Adjusted 2020 GPCD <i>(Adjusted if applicable)</i>		
182	0	182	188	Yes
NOTES:				



## 6. WATER SYSTEM SUPPLIES

**CWC § 10631 (b)** A plan shall be adopted in accordance with this chapter that shall do all of the following:

*Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).*

The City of Lathrop (City) obtains water from both imported surface water and local groundwater sources. The City receives **Water System Supplies** Stanislaus River water through the South County Water Supply Project (SCWSP) that is operated by the South San Joaquin Irrigation District (SSJID) and discussed in Section 6.1. The City also owns and operates five active groundwater production wells, discussed in Section 6.2. The City's surface water and groundwater production over the period 2016 through 2020 is summarized in Section 6.2. Due to the relatively high cost of SCWSP water, the City has historically relied upon its groundwater wells as the primary source of supply.

Over the period 2016 through 2020, the City's annual potable water production ranged from 3,646 acre-feet (AF) in 2016 to 5,485 AF in 2020. Surface water production (i.e., SCWSP purchases) has steadily increased from 300 AF in 2016 to 3,429 AF in 2020. Groundwater production has varied from as low as 1,560 AF in 2019 to as high as 3,346 AF in 2016. During this period, the City temporarily reduced its groundwater production as a percentage of total supplies from 92% in 2016 to 37% in 2020 due to groundwater quality concerns. The City has resumed most of its historic groundwater production in 2021. The City's current and potential future water supplies are further described in the following sections.

### 6.1 Purchased or Imported Water

**CWC § 10631 (h)** A plan shall be adopted in accordance with this chapter and shall do all of the following:

*An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).*

The City purchases imported surface water from SSJID through the SCWSP, which supplies Stanislaus River water. Information related to the contractual entitlements and treatment processes for the surface water source is provided below. The reliability of this water supply is discussed in Section 7.1.



### **6.1.1 South San Joaquin Irrigation District Water Supply**

The SCWSP is a partnership between the City, SSJID, and the cities of Manteca, Tracy, and Escalon.<sup>13</sup> The SCWSP water supply is based on SSJID's senior, pre-1914 appropriative water rights to the Stanislaus River, a tributary of the San Joaquin River, coupled with a 1988 agreement with the United States Bureau of Reclamation (USBR) to store water in the New Melones Reservoir.<sup>14</sup>

The SCWSP was planned to be implemented in two phases. Phase 1 was completed in 2005 and consists of an intake facility at Woodward Reservoir, the Nick C. DeGroot Water Treatment Plant (DGWTP), and about 35 miles of pipe ending in the City of Tracy. The DGWTP is located near Woodward Reservoir in San Joaquin County, and the treatment process at the facility includes pre-chlorination, coagulation, dissolved air flotation pretreatment for removal of solids and dissolved material, chemical stabilization to minimize internal pipe corrosion, membrane filtration, and chlorination for disinfection. Phase II will increase the treatment capacity of the DGWTP. For purposes of this UWMP, implementation of Phase II is anticipated before 2040 consistent with information provided by SSJID (Section 7.1.1.1 ). The total Phase I capacity of the SCWSP is approximately 31,500 acre-feet per year (AFY). Phase II is anticipated to increase the treatment capacity of the DGWTP to approximately 43,090 AFY.

Each of the four participating cities has an agreement with SSJID to receive treated water through December 2049. If SSJID and the cities do not agree to extend the contract past 2049, then the District agrees to transfer the project to a Joint Powers Authority composed of the four cities, which would then be responsible for operation and maintenance of the SCWSP.

### **6.1.2 South San Joaquin Irrigation District Water Right**

The *1995 Water Supply Development Agreement* between the City and SSJID provided the City with a Phase I allocation of 8,007 AFY and a total allocation of 11,791 AFY after completion of Phase II. In August 2013, the City sold 1,120 AFY of SCWSP water to the City of Tracy.<sup>15</sup> Therefore, the City's remaining SSJID allocation is 6,887 AFY for Phase I and a total of 10,671 AFY after completion of Phase II.

---

<sup>13</sup> The City of Escalon is under contract to purchase water from the SCWSP but has not yet constructed a pipeline to convey the water to its facilities.

<sup>14</sup> This agreement recognized and protected SSJID's senior water rights on the Stanislaus River, because those rights could potentially be affected by the USBR's operation of the New Melones Reservoir as part of the Central Valley Project. The agreement entitles the senior water rights holders, SSJID and Oakdale Irrigation District, to access up to 600,000 AFY of water from New Melones Reservoir in years in which inflow to the reservoir exceeds 600,000 AF. SSJID's share of this allotment is 300,000 AF. In years in which inflow does not meet this threshold, the entitlement is reduced based on a pre-determined formula.

<sup>15</sup> "Lathrop-Tracy Purchase, Sale and Amendment Agreement," dated 6 August 2013.



## 6.2 Groundwater

### CWC § 10631

*(b) (4) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information:*

*(A) The current version of any groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720), any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management for basins underlying the urban water supplier's service area.*

*(B) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For a basin that has not been adjudicated, information as to whether the department has identified the basin as a high- or medium-priority basin in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to coordinate with groundwater sustainability agencies or groundwater management agencies listed in subdivision (c) of Section 10723 to maintain or achieve sustainable groundwater conditions in accordance with a groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720).*

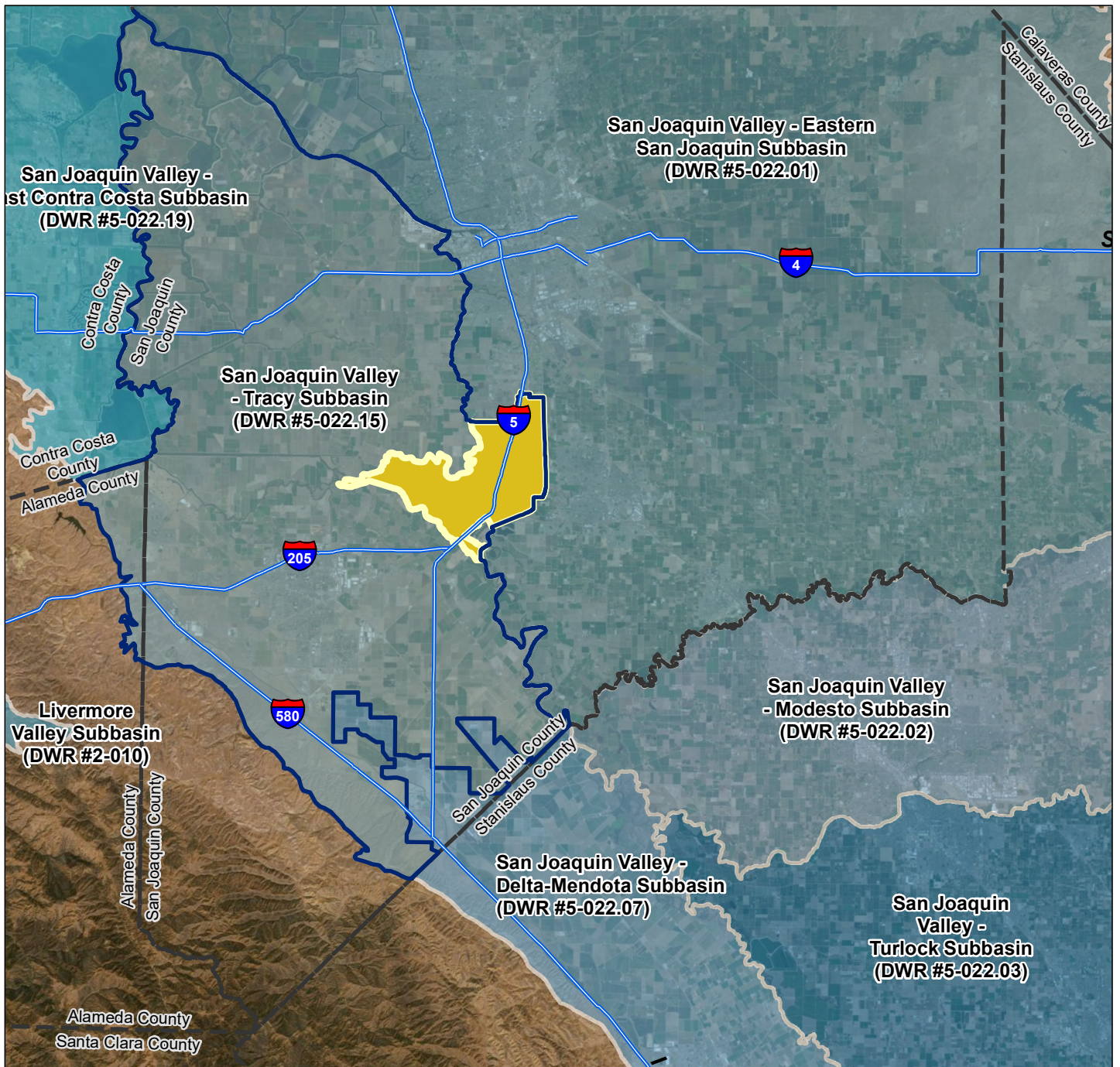
*(C) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.*

The City's purchase of SSJID water is supplemented by local groundwater supply wells. As discussed earlier, the City has temporarily reduced its groundwater production in recent years due to groundwater quality concerns. Approximately 37% of the City's water supply is from local groundwater supply wells in 2020. This section includes information regarding the basin description, groundwater management, and the City's role as one of the six Groundwater Sustainability Agencies (GSAs) in the Groundwater Sustainability Plan (GSP) development process, followed by a discussion of groundwater production.

### 6.2.1 Basin Description

The City overlies the Tracy Subbasin (Department of Water Resources [DWR] 5-22.15) of the San Joaquin Valley Groundwater Basin (DWR 5-22). The Tracy Subbasin is not adjudicated, and it is not in a condition of critical overdraft. **Figure 6-1** shows the groundwater basin and subbasin areas.





**Legend**

- City Limit
- County Boundary
- Highways
- San Joaquin Valley - East Contra Costa
- San Joaquin Valley - Eastern San Joaquin
- San Joaquin Valley - Modesto
- San Joaquin Valley - Tracy
- Livermore Valley
- San Joaquin Valley - Turlock
- San Joaquin Valley - Delta-Mendota

**Abbreviations**

DWR = California Department of Water Resources

**Notes**

1. All locations are approximate.

**Sources**

1. Basemap is ESRI's ArcGIS Online world aerial map, obtained 9 June 2021.
2. DWR groundwater basins are based on the boundaries defined in California's Groundwater, Bulletin 118-2016 Update.



**Groundwater Basin and Subbasin Map**

Urban Water Management Plan  
 City of Lathrop  
 Lathrop, CA  
 June 2021  
 C00102.00



**Figure 6-1**

Path: X:\C00102\Map\202106\Fig-1\_GWBasinLocation.mxd



The Tracy Subbasin is designated as a medium priority basin under DWR’s 2019 Phase 2 Basin Prioritization (DWR, 2019a). Under this prioritization process, basins are ranked on eight components, and if a basin is assigned between 15 and 21 total points, it is defined as “medium priority.” The main factors driving the Tracy Subbasin’s designation include population growth (5 out of 5 possible points), irrigated acres (5 out of 5 possible points), number of public supply wells (3 out of 5 possible points), number of total wells (3 out of 5 possible points), and documented impacts including water quality (3 out of 5 possible points).<sup>16</sup>

As a DWR-designated medium priority basin, the Tracy Groundwater Subbasin is subject to the requirements of the Sustainable Groundwater Management Act (SGMA), including the requirement to be covered by one or more GSAs and to prepare and submit to DWR one or more GSPs by 31 January 2022.

The Tracy Subbasin covers an area of approximately 373 square miles (DWR, 2019b). As shown on **Figure 6-1**. It is bounded on the northwest by the Old River south to the tri-county confluence point and on the south by the Clifton Forebay where it then follows the Contra Costa-Alameda County line to the foothills of the Coastal Range mountains. The northeast boundary follows the San Joaquin River south to the San Joaquin County Line with a slight jog to include the City of Lathrop on the west side of the river. The southern border of the Subbasin generally follows the San Joaquin-Stanislaus County line, with some irregular areas belonging to the Delta-Mendota Subbasin to the south. The western border follows the Coastal Range foothills from the San Joaquin-Stanislaus County line; north to the Contra Costa-Alameda County line. The Subbasin is a mix of Delta island (mostly agriculture) and waterways along with urban and agricultural communities on the southern edge (GEI, 2020).

Further description of the subbasin is included in the draft Basin Setting chapter of the GSP for the subbasin, including the hydrogeologic conceptual model, and current and historical groundwater conditions. Draft GSP chapters are available on the Tracy GSP website: <https://tracysubbasin.org/gsp-chapters/>. Once the GSP has been submitted to DWR, the GSP is expected to be available on the DWR SGMA portal website: <https://sgma.water.ca.gov/portal/gsp/all>.

### 6.2.2 Groundwater Management

The City used to straddle two groundwater basins – the western portion of the City overlaid the Tracy Subbasin (DWR 5-22.15) and the eastern portion of the City overlaid the Eastern San Joaquin (ESJ) Subbasin (DWR 5-22.01), which is a high priority, critically-overdrafted basin. Both basins are subbasins of the San Joaquin Valley Groundwater Basin (DWR 5-22) and the San Joaquin River used to form the boundary between the basins. The City submitted a Basin Boundary Modification Request (BBMR) in June 2018 to modify the boundaries of the ESJ Subbasin and the Tracy Subbasin to align with the City’s City Limit and include the entire City within the Tracy Subbasin.

During development of the BBMR, the City consulted with Sharpe Army Depot and J.R. Simplot Company (Simplot), the affected public water systems of this request<sup>17</sup>, and received their support. Additionally,

---

<sup>16</sup> DWR’s 2019 Phase 2 Basin Prioritization used the basin’s total possible ranking points assigned to each of the eight components to determine the priority. A basin is defined as Medium Priority if it has 15 to 21 total ranking points.

<sup>17</sup> Per California Code of Regulations (CCR) Title 23 Section 341 (c) and (d), a local agency requesting a basin boundary modification should identify and consult with affected agencies or public water systems. Those agencies and systems are identified as “whose jurisdictional area would, as a result of a boundary modification, include more, fewer, or different basins or subbasins than without the modification”.



the City notified all GSAs within both basins of the request and met individually with interested parties to discuss the BBMR.

This BBMR was approved on 11 February 2019 in the Final 2018 Basin Boundary Modifications, and therefore the City only overlies the Tracy Subbasin. More information about the 2018 Basin Boundary Modifications can be found in the DWR website: <https://water.ca.gov/Programs/Groundwater-Management/Basin-Boundary-Modifications>.

#### 6.2.2.1 *SGMA Groundwater Management in the Tracy Subbasin*

As discussed in 6.2.1, the Tracy Subbasin is designated by DWR as a medium priority basin (DWR, 2019a). As such, the Tracy Subbasin is subject to the requirements of SGMA, which include the formation of a one or more GSAs and the development and implementation of one or more GSPs.

Banta-Carbona Irrigation District, Byron-Bethany Irrigation District<sup>18</sup>, City of Lathrop, City of Tracy, San Joaquin County and Stewart Tract are the six GSAs formed in the Tracy Subbasin and are working cooperatively to develop a single GSP. The Tracy Subbasin GSAs were awarded a DWR Grant to develop the GSP. Pursuant to the Grant Agreement<sup>19</sup>, each GSA designated an appointee to form the GSP Coordination Committee, and the San Joaquin County was appointed as the Grant Administrator. The Grant Administrator or any two appointees may call meetings of the GSP Coordination Committee as needed to in the GSP development process.

The GSP for the Tracy Subbasin is currently under preparation and is anticipated to be complete and submitted to DWR by the statutory deadline of 31 January 2022. As of June 2021, initial drafts of sections describing the plan area, hydrogeologic conceptual model, groundwater conditions, management areas, monitoring networks, and sustainable management criteria have been prepared and are available for public review on the Tracy Subbasin website: <https://tracysubbasin.org/gsp-chapters/>.

#### 6.2.2.2 *Coordination with Groundwater Sustainability Agencies*

As discussed in Section 6.2.2.1, the City is one of the six GSAs that are managing the Tracy Subbasin. The City has been actively involved in GSP development activities and will continue to be involved throughout SGMA implementation. The City has one appointee on the Tracy Subbasin GSP Coordination and Technical Committees. The Coordination Committee meets quarterly from 1:00 p.m. to 3:00 p.m. on the third Thursday of the month. The Technical Committee was formed to coordinate and advise the Coordination Committee on technical matters related to preparation of the Groundwater Sustainability Plan. The Technical Committee meets from 1:00 p.m. to 3:00 p.m. on the third Thursday of every month, with the exception of the months when the Coordination Committee meets.

#### 6.2.2.3 *Pre-SGMA Management and Coordination in the Tracy Subbasin*

Prior to the passage of SGMA, Byron-Bethany Irrigation District, Banta-Carbona Irrigation District, the City of Tracy, and San Joaquin County formed a Groundwater Advisory Committee to facilitate the

---

<sup>18</sup> West Side Irrigation District has officially merged with Byron-Bethany Irrigation District in September 2020, which was later than the release of the draft GSP chapters.

<sup>19</sup> The Grant Agreement could be found in the Tracy Subbasin website: <https://tracysubbasin.org/resources/>.



development of a regional groundwater management plan for the Tracy Subbasin. The City of Tracy received a grant from DWR to develop the plan, and in 2007 the entities adopted the Tracy Groundwater Management Plan (GWMP). The planning area of the Tracy GWMP encompasses the portion of the Tracy Subbasin underlying San Joaquin County, including the western portion of the City.

The key results of the Tracy GWMP include the following:

- Developing a general consensus among stakeholders regarding the characterization of the area's water problems, current and future demands, and groundwater conditions;
- Documenting the region's groundwater management goals and establishing Basin Management Objectives (BMOs) to help measure progress in attaining the goals;
- Developing specific solutions and common programs for the basin; and
- Providing an implementation plan to direct future groundwater management activities.

The Tracy GWMP concluded that the Tracy Subbasin is full, but experiences groundwater quality issues in portions of the basin associated with nitrate, boron, sulfate, chloride, and total dissolved solids (TDS). As such, many of the groundwater management options that were recommended focused on creating available storage and managing pumping in order to increase water quality water within the basin.

San Joaquin County is the designated Monitoring Entity under the California Statewide Groundwater Elevation Monitoring (CASGEM) Program for the portion of the Tracy Subbasin underlying the county, which includes the City.

#### 6.2.2.4 Pre-2019 Request Management and Coordination in the Eastern San Joaquin Subbasin

Prior to the approval of the BBMR, the City was actively involved in groundwater management in the ESJ Subbasin. The City formed a GSA for its jurisdiction within the ESJ Subbasin and coordinated with other GSAs in the ESJ Subbasin through the Eastern San Joaquin Groundwater Authority (ESJ GWA), who lead SGMA planning in the ESJ Subbasin. The City attended monthly Board of Directors and Technical Advisory Committee meetings where GSAs and local agencies discuss elements of GSP development. The ESJ GSP was submitted to DWR in January 2020 and can be found in the DWR SGMA Portal website: <https://sgma.water.ca.gov/portal/gsp/preview/47>.

### **6.2.3 Groundwater Production**

This section describes the City's historical and projected uses of groundwater.

#### 6.2.3.1 Groundwater Supply Wells

As discussed in Section 3.6, the City currently operates five municipal groundwater supply wells: Wells 6, 7, 8, 9, and 10. Well 9 is currently offline and may be used in the future as an emergency well. Groundwater from Wells 6, 7, 8, 9 (when operating), and 10 is treated to remove arsenic at the Louise Avenue Water Treatment Facility (LAWTF), which came online in 2012.

The City owns an additional well located on the southeast side of the water system, Well 21, which includes a treatment facility (Well 21 WTF) designed for disinfection and manganese treatment. The City last operated Well 21 between January 2012 and November 2013. Well 21 has remained inactive since



November 2013 due to sanding in the well and elevated levels of arsenic and uranium. The City does not currently plan to bring it back online due to poor water quality.

Information regarding the City’s groundwater production wells are summarized in **Table 6-1**. The combined maximum pumping capacity of the City’s wells, excluding Wells 9 and 21, is 5,850 gpm, which is lower than the treatment capacity of the LAWTF (6,250 gpm). For the purposes of this evaluation, it is assumed that the City’s wells are pumped at 50% of their maximum capacity on an annual basis. Given this supply assumption, the City’s current annual groundwater supply capacity is equivalent to approximately 4,720 AFY.

**Table 6-1 Groundwater Production Well Capacities and Annual Yields**

Groundwater Wells	Existing Maximum Pumping Capacity	
	Measured Flow Rate (gpm)	Estimated Annual Yield (a) (AFY)
Well 6	1,650	1,330
Well 7	1,400	1,130
Well 8	1,100	890
Well 10	1,700	1,370
<b>Subtotal</b>	<b>5,850</b>	<b>4,720</b>
<b>LAWTF Treatment Capacity (b)</b>	<b>6,250</b>	<b>5,040</b>
<b>Well Capacity</b>	<b>5,850</b>	<b>4,720</b>
<p>NOTES:</p> <p>(a) Assumes wells are operated at 50% maximum capacity on an annual basis.</p> <p>(b) Maximum capacity of LAWTF is 6,250 gpm. Estimated annual yield assumes that annual yield of Wells 6, 7, 8, and 10 is not limited by LAWTF capacity on an annual basis.</p>		

6.2.3.2 Historical Groundwater Use

Groundwater production over the period of 2016 through 2020 is presented in Table 6-2. During this period, groundwater production varied from 1,560 AF in 2019 to 3,346 AF in 2016, with an average production of 2,563 AFY. The City temporarily reduced groundwater production between 2018 and 2020 to prevent a contaminant plume originating from the former Occidental Chemical Corporation (OCC) from impacting the City’s groundwater supply (see Section 7.1.1.4 ). The City shut off Wells 9 and 10 in August 2018 and Wells 6, 7, and 8 in January 2019. The City has exclusively served surface water from SSJID for the majority of 2019. Efforts to improve the OCC groundwater extraction and treatment system were completed in March 2020. The City then restarted Wells 6, 7, 8, and 10 and the LAWTF in late April 2020, while Well 9 has remained offline due to water quality issues.



**Table 6-2 Groundwater Volume Pumped (DWR Table 6-1)**

	Supplier does not pump groundwater. The supplier will not complete the table below.					
	All or part of the groundwater described below is desalinated.					
Groundwater Type	Location or Basin Name	2016	2017	2018	2019	2020
Alluvial Basin	Tracy Subbasin of the San Joaquin Valley Groundwater Basin (DWR 5-022.15)	3,346	3,247	2,605	1,560	2,055
<b>TOTAL</b>		<b>3,346</b>	<b>3,247</b>	<b>2,605</b>	<b>1,560</b>	<b>2,055</b>
NOTES: (a) Volumes are in units of AF.						

**6.2.3.3 Projected Future Groundwater Use**

The City plans to utilize its existing groundwater wells to supply water in the future. As discussed in Section 6.2.3.1, the City’s current estimated annual groundwater yield is 4,720 AFY. The City currently has no plans to install additional groundwater wells or expand its groundwater production. However, as discussed in Section 7.1.4, the City is evaluation options to bring Well 9 back online and is considering groundwater-related projects that could provide additional dry year supply reliability such as expansion of groundwater treatment, groundwater-surface water conjunctive use, and/or aquifer storage and recovery (ASR).

The City’s ability to utilize its existing groundwater wells within the Tracy Subbasin is not likely be affected by SGMA<sup>20</sup> (see Section 6.2.2.1 ). It is anticipated that the future GSP will not require the City to limit groundwater production to maintain a sustainable groundwater budget. Based on the available information, it is anticipated that 100% the City’s current estimated groundwater yield is available for the planning horizon of this Plan.

**6.3 Surface Water**

As described above in Section 6.1, the City purchases surface water from SSJID as its primary water supply. However, Reclamation District (RD) 2062 has constructed an irrigation system which can utilize a combination of non-potable supplies, such as recycled water, stormwater, and San Joaquin river water, to supply non-potable demands in the River Islands area. The system currently serves San Joaquin river water to public irrigation areas and will be able to convey the City’s recycled water when it becomes available.

<sup>20</sup> The draft Tracy Subbasin GSP anticipated an increasing groundwater production from 7,020 AFY in 2020 to 8,483 in buildout, or beyond 2040. (GEI, 2020).



## 6.4 Stormwater

There are no plans to divert stormwater for beneficial uses in the City.

## 6.5 Wastewater and Recycled Water

### **CWC § 10633**

*The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.*

Water recycling can offset the use of potable supplies and reduce the quantity of discharged wastewater. Recycling water involves treating wastewater to an acceptable level such that it can be reused for irrigation, cooling, and other non-potable applications.

The regulatory requirements for recycled water are defined in the California Code of Regulations, Title 22, Article 3. The extent of treatment needed varies for different permitted uses as listed in Table 14 of Title 22. Because recycled water is treated wastewater, its availability is closely linked to the treatment capability of the City's wastewater treatment plants.

The following sections describe the City's existing and planned wastewater treatment and water recycling facilities and discusses existing and projected uses of recycled water.

### 6.5.1 Recycled Water Coordination

The City is the sole agency responsible for water, wastewater<sup>21</sup>, groundwater, and planning within the City's service area. However, the City's efforts to increase use of recycled water has required coordination with others.

As discussed below, the City currently uses all tertiary treated effluent from its Consolidated Treatment Facility (CTF) for agricultural irrigation. However, the City anticipates providing recycled water to landscape irrigation areas and other non-potable uses before 2025 (see Section 6.5.2). To promote future recycled water use for landscape irrigation, the City has coordinated with the major developments within the City's service area. These developments include Central Lathrop, Mossdale and River Islands. As shown in Table 3b of the Appendix E, the recycled water consumption for these three development areas is anticipated to initiate before 2025 at a demand of 997 AFY, increasing to 2,610 AFY at buildout.

---

<sup>21</sup> All wastewater generated within its service area is treated at the City-owned Consolidated Treatment Facility or the regional Manteca Wastewater Quality Control Facility.



## 6.5.2 Wastewater Collection, Treatment, and Disposal

### **CWC § 10633 (a)**

*A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.*

### **CWC § 10633 (b)**

*A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.*

Wastewater from the City is treated at two facilities: the regional Manteca Wastewater Quality Control Facility (MWQCF) and the City-owned Lathrop CTF. Tertiary effluent from the Lathrop CTF is currently conveyed through the recycled water system to storage ponds and sprayfields, where the recycled water is used for agricultural irrigation of fodder crops. The City's wastewater and recycled water utilities are discussed in more detail in the sections below.

### 6.5.2.1 Wastewater Collection

Wastewater generated in the areas east of Interstate 5 (I-5) and north of Louise Avenue is conveyed to the MWQCF. Most of the City's wastewater generated east of I-5 in the Historic Lathrop area is conveyed via gravity sewers and lift stations to a regional pump station, the O Street Pump Station. The O Street Pump Station then conveys wastewater via a 12-inch-diameter force main and/or a 16-inch-diameter force main to the MWQCF. This 12-inch-diameter force main also conveys wastewater from the McKinley Avenue Pump Station, the Louise Avenue Water Treatment Facility Pump Station, and other private pump stations that serve the industrial areas east of I-5 to the MWQCF. In 2020, 1,149 AF of wastewater was collected from the City's service area and conveyed to MWQCF (**Table 6-3**).

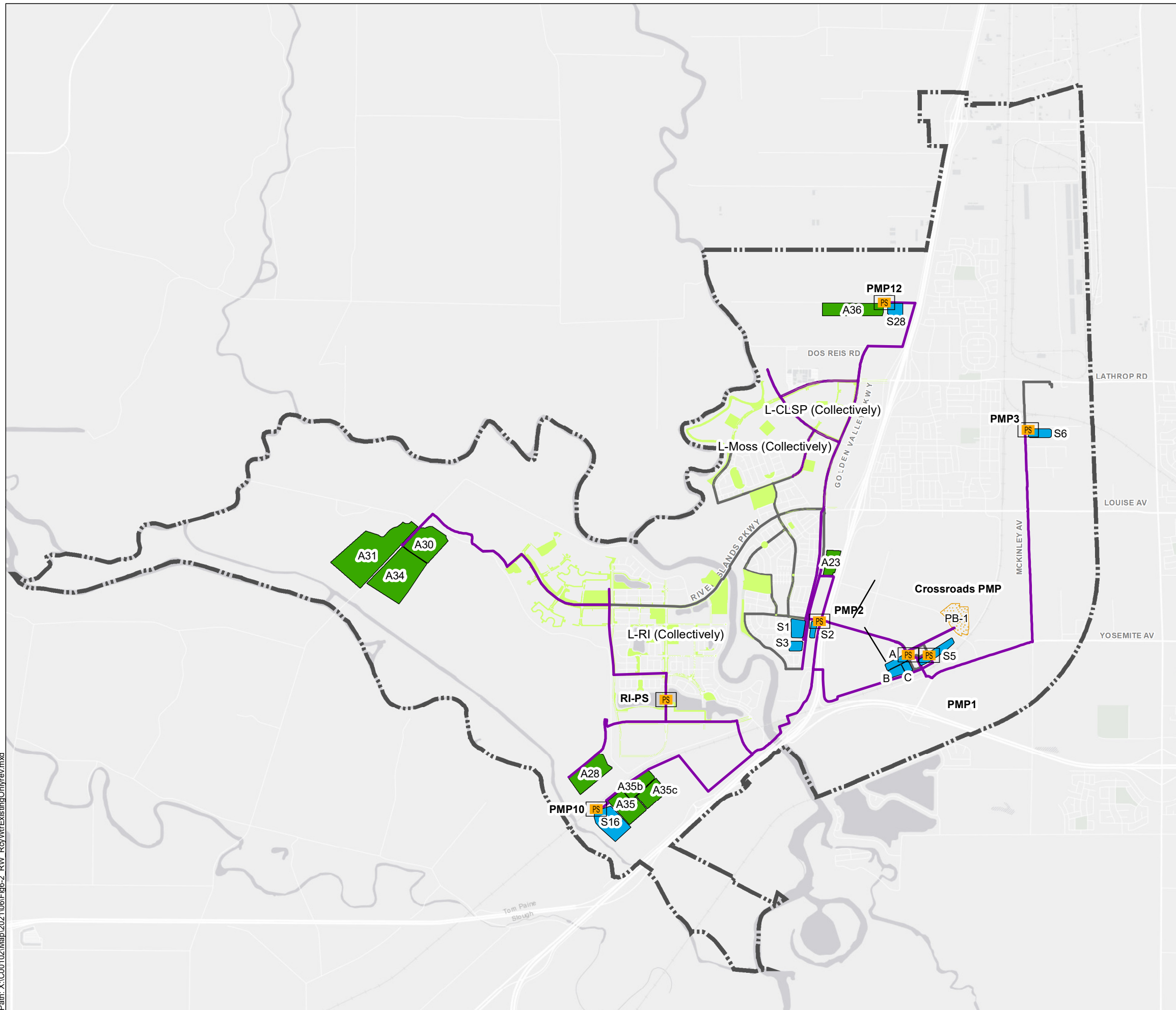
Wastewater generated in the Crossroads industrial area and the areas west of I-5, including the Mossdale, River Island, and Central Lathrop developments, is conveyed to the Lathrop CTF. Currently, wastewater from the Central Lathrop and River Islands development areas is conveyed to the Mossdale Pump Station via the Central Lathrop Low Flow Storm and Sewer Pump Station and the River Islands Interim Pump Station, respectively. The City plans to expand the Central Lathrop pump station and construct a new River Islands Pump Station to convey wastewater from these development areas directly to the Lathrop CTF as development proceeds. In 2020, 934 AF of wastewater was collected from the City's service area and conveyed to Lathrop CTF (**Table 6-3**).

Several large industrial facilities (e.g., Simplot, Sharpe Army Depot, and former Carpenter Company facility) as well as the NextGeneration STEAM Academy in River Islands manage their wastewater onsite. California Natural Products manages the majority of their wastewater and sends the remaining flows to either the J Street Lift Station or the McKinley Avenue Pump Station.








The City's two collection systems are connected by the Mossdale Intertie, which crosses beneath I-5 on River Islands Parkway and Louise Avenue. The intertie is not routinely operated, but could potentially be utilized in the future to reroute Lathrop CTF influent to the MWQCF to improve system efficiency and cost effectiveness.



Path: X:\C00102\Map\202106\Fig-2\_RW\_RcyWtrExistingOnlyrev.mxd



**Legend**

-  Sphere of Influence
- Recycled Water Distribution Infrastructure**
-  Storage Pond
-  Percolation Basin
-  Land Application Area
-  Landscape Irrigation Area
-  Recycled Water Main
-  Pump Station

**Abbreviations**

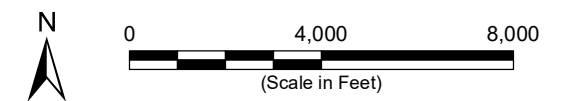
- PMP = Pump
- RI-PS = River Islands Pump Station
- SOI = Sphere of Influence
- RW = Recycled Water
- PB = Percolation Basin
- S# = Storage Pond
- A# = Agricultural Irrigation Use Area

**Notes**

1. All locations are approximate.
2. The River Islands Pump Station (RI-PS) pumps to the independent River Islands non-potable water system (not shown).

**Sources**

1. Aerial photograph provided by ESRI's ArcGIS Online, 9 June 2021.



**Existing City Owned  
Recycled Water System  
Infrastructure**

City of Lathrop  
Lathrop, CA  
June 2021  
C00102.00



**Figure 6-2**



**Table 6-3 Wastewater Collected Within Area in 2020 (DWR Table 6-2)**

There is no wastewater collection system. The supplier will not complete the table below.						
100%	Percentage of 2020 service area covered by wastewater collection system <i>(optional)</i>					
100%	Percentage of 2020 service area population covered by wastewater collection system <i>(optional)</i>					
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected from UWMP Service Area 2020	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?	Is WWTP Operation Contracted to a Third Party? <i>(optional)</i>
City of Lathrop	Metered	934	City of Lathrop	Lathrop Consolidated Treatment Facility	Yes	Yes
City of Lathrop	Metered	1,149	City of Manteca	Manteca Wastewater Quality Control Facility	No	
<b>Total Wastewater Collected from Service Area in 2020:</b>		2,083				
NOTES: (a) Volumes are in units of AF.						



6.5.2.2 Wastewater Treatment Facilities

**Manteca Water Quality Control Facility (MWQCF)**

The City owns 14.7% of the MWQCF capacity by contract with the City of Manteca. However, the City does not participate in the operation of the plant, nor does it receive recycled water from the MWQCF. As listed in **Table 6-4**, the current MWQCF design capacity is 9.87 million gallons per day (MGD) and the City’s allocated capacity is approximately 1.45 MGD (Lathrop, 2016). The MWQCF is permitted for future expansions of up to 26.97 MGD, of which the City would be allocated up to 3.97 MGD, should the City elect to maintain its proportional allotment. **Table 6-5** shows the volume of wastewater that is treated by MWQCF within the City’s service area in 2020.

**Table 6-4 Wastewater Capacity Allocation at MWQCF**

Phase	Allocated Capacity at MWQCF (MGD)		
	City of Manteca	City of Lathrop	Total
Existing	8.42	1.45	<b>9.87</b>
Build-Out (2050)	23.00	3.97	<b>26.97</b>

Treatment at the MWQCF consists of primary sedimentation followed by roughing biotowers, conventional activated sludge, secondary clarification, tertiary filtration, and ultraviolet disinfection. Disinfected tertiary effluent is discharged to the San Joaquin River. A portion of the secondary effluent is not disinfected and is used to irrigate crops on 190 acres of land owned by the City of Manteca (WDR Order No. R5-2015-0026).

**Lathrop Consolidated Treatment Facility**

Daily operation of the Lathrop CTF is contracted to a private contractor, Veolia Water North America. The City has recently completed an expansion of Lathrop CTF in 2019 which increased the plant’s treatment capacity to 2.5 MGD<sup>22</sup>. The City has the ability to further upgrade the Lathrop CTF to increase the treatment capacity up to 9.0 MGD as needed<sup>23</sup>. **Table 6-5** also shows the volume of wastewater that is treated by Lathrop CTF within the City’s service area in 2020.

Wastewater treatment and disposal at the City’s Lathrop CTF is regulated under Waste Discharge Requirements (WDR) Order No. R5-2016-0028-01. Wastewater treatment processes at the Lathrop CTF include secondary treatment, tertiary infiltration, and disinfection prior to storage and disposal. The Lathrop CTF produces disinfected tertiary recycled water suitable for irrigation at parks, landscape strips, median islands, pond berms, and agricultural fields. Currently, the treated effluent is used for agricultural irrigation and percolation at pond PB-1 as shown in **Table 6-5**.

<sup>22</sup> The CTF is currently permitted for 2.13 MGD based on the City’s existing ponds and spray field capacity.

<sup>23</sup> The City had previously completed a project-level Environmental Impact Report (EIR) for treatment capacity up to 6.0 MGD at the CTF. Post combination with Crossroads WWTF, the program-level EIR treatment capacity at the CTF has increased to 9.0 MGD.

#### City of Lathrop



The City has initiated discussions with Central Valley Regional Water Quality Control Board (RWQCB) staff regarding obtaining a National Pollutant Discharge Elimination System (NPDES) permit for a surface water discharge. This permit will allow the City to expand treatment capacity at the CTF without being limited by the capacity of recycled water ponds and sprayfields. It will further allow the City to optimize its recycled water system to support recycled water needs of existing and proposed developments.

Upon obtaining the NPDES permit, the City plans to discharge a portion of the future treated effluent to the river, while using the remaining portion for meeting landscape irrigation demands and other permitted non-potable uses (see Section 6.5.4.2 ). The City recently obtained coverage under General Order WQ-2019-0058-DDW-R5017 (General Order) for recycled water use in a new agricultural use area and new landscape irrigation areas in the River Islands, Mossdale, and Central Lathrop. With the additional Use Areas permitted under the General Order, the City now has a total completed agricultural Use Area acreage of 292 acres and total completed landscape Use Area acreage of 196 acres (Woodard & Curran, 2020b). Upon obtaining the NPDES permit, the City plans to retire its agricultural Use Areas and decommission percolation pond PB-1.



**Table 6-5 Wastewater Treatment and Discharge Within Service Area in 2020 (DWR Table 6-3)**

No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below.											
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number <i>(optional)</i>	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	2020 volumes				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
Lathrop Consolidated Treatment Facility (a)	A01 - A38 and PB-1 (b)	City Agricultural Irrigation Use Areas and Percolation Pond	RWQCB No. R5-2016-0028-01	Land disposal	No	Tertiary	934	336	527	0	0
						<b>Total</b>	934	336	527	0	0

NOTES:  
 (a) A portion of the wastewater was discharged to recycled water storage and percolation ponds, a portion was recycled for agricultural irrigation purpose, and the remaining was loss in evaporation; therefore, the amounts in discharge treated wastewater and recycled within service area did not sum.  
 (b) See RWQCB No. R5-2016-0028-01 for a list of discharge locations within the City.  
 (c) Volumes are in units of AF.



### 6.5.3 Recycled Water System Description

The recycled water distribution system conveys tertiary effluent from a lined storage pond at the Lathrop CTF to lined storage ponds and agricultural land application areas scattered throughout the City (**Figure 6-2**). The system consists of approximately 30.3 miles (EKI, 2019b) of recycled water piping infrastructure and six booster pump stations (EKI, 2020a). The pond parcels have a combined capacity of approximately 289 million gallons (EKI, 2020a). These distributed storage ponds are used to store recycled water during low irrigation demand periods (i.e., winter) for use during high irrigation demand periods (i.e., summer).

The storage ponds and agricultural land application areas are located in East Lathrop, Mossdale Landing, Mossdale Landing East, Central Lathrop, and River Islands areas. The total area of agricultural land currently receiving recycled water from the City is approximately 140 acres. Recycled water is applied to land application areas for irrigation of fodder crops, predominantly alfalfa and rye grass, by drip irrigation, flood irrigation, or sprinklers at agronomic rates for both nitrogen and water application.

### 6.5.4 Potential, Current, and Projected Recycled Water Uses

#### **CWC § 10633 (c-g)**

*(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.*

*(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.*

*(e) 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 pursuant to this subdivision.*

*(f) A description of actions, including financial incentives, 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.*

*(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.*

Recycled water uses in the City are regulated under WDR Order No. R5-2016-0028-01. Permitted uses under the WDR include the following:

- Irrigation of agricultural fields;
- Irrigation of public landscape areas, including roadway medians, parks, pond berms, and open spaces; and
- Percolation into the ground at former land application site LAS-3, which has been converted into a percolation pond PB-1.



The City currently only uses recycled water for agricultural irrigation on selected sprayfields, consistent with the 2019 Recycled Water Master Plan (EKI, 2019b). During 2020, the City recycled 934 AF of tertiary effluent from the Lathrop CTF (**Table 6-3**).

The City plans to begin supply recycled water for landscape irrigation before 2025 upon obtaining an NPDES permit for the City’s CTF, as discussed in Section 6.5.4.2 . To support use of recycled water for landscape irrigation, the City recently obtained coverage under General Order WQ 2019-0058-DDW-R5017 for landscape irrigation areas in the River Islands, Mossdale, and Central Lathrop areas in addition to those permitted under WDR Order No. R5-2016-0028-01. As part of the General Order permitting process, the City submitted *Addendum to City of Lathrop CTF Engineering Report for the Production, Distribution, and Use of Recycled Water* (Title 22 Report Addendum), dated March 2020 (EKI, 2020b).

The original Title 22 report prepared in 2014 (Stantec, 2014) describes the areas of tertiary effluent storage basins and areas used to dispose CTF’s final effluent by landscape and agricultural irrigation. The recently submitted Title 22 Report Addendum further describes proposed irrigation areas not covered in the original report, as well as proposed recycled water uses including a recycled water fill station and several recycled water hydrants. It is anticipated that commercial users will be using the recycled water fill station for non-potable uses including dust control, construction, hardscape cleaning, etc. A series of recycled water hydrants will provide recycled water for construction-related purposes.

6.5.4.1 Comparison of Previously Projected Use and Actual Use

The City’s 2015 UWMP projected recycled water demand and production in 2020 to be 1,159 AF. Actual water consumption by the recycled water system in 2020 was 527 AF, which is 632 AF less than the total demand projected in the 2015 UWMP. **Table 6-6** provides a comparison of the 2015 UWMP projection for 2020 demand to actual 2020 use by the system.

**Table 6-6 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual (DWR Table 6-5)**

	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below.	
Beneficial Use Type	2015 Projection for 2020	2020 Actual Use
Agricultural irrigation	1,159	527
<b>Total</b>	1,159	527
NOTES: (a) Volumes are in units of AF.		

6.5.4.2 Projected Recycled Water Use

As discussed in Section 6.5.3, the City is obtaining a NPDES permit from Central Valley RWQCB, which allows future treated effluent from the Lathrop CTF to be discharged to the San Joaquin River. By 2025, the City plans to provide recycled water to public landscape areas and utilize its NPDES permit to discharge the remaining tertiary effluent to the San Joaquin River.

## Water System Supplies

### 2020 Urban Water Management Plan

#### City of Lathrop



The City plans to decommission all agricultural Land Application Areas (LAAs), where current recycled water is used for agricultural irrigation, and all recycled water ponds except for S5 at the CTF and S16 in River Islands. The City also plans to improve automation of the effluent discharge to the river and recycled water distribution system by incorporating the pond level setpoints in Ponds S5 and S16 and provide continuous monitoring of the effluent for NPDES permit compliance.

**Table 6-7** shows projected recycled water use associated with the City’s planned landscape irrigation areas. A detail breakdown of recycled water use by developments could be found in Appendix E.





**Table 6-7 Current and Projected Recycled Water Direct Beneficial Uses Within Service Area (DWR Table 6-4)**

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 below.										
Name of Supplier Producing (Treating) the Recycled Water:		City of Lathrop								
Name of Supplier Operating the Recycled Water Distribution System:		City of Lathrop								
Supplemental Water Added in 2020 (volume)		-								
Source of 2020 Supplemental Water		-								
Beneficial Use Type	Potential Beneficial Uses of Recycled Water (Describe)	Amount of Potential Uses of Recycled Water (Quantity)	General Description of 2020 Uses	Level of Treatment	2020	2025	2030	2035	2040	2045 (Buildout)
Agricultural irrigation	-	-	Alfalfa Irrigation	Tertiary	527	0	0	0	0	0
Landscape irrigation (excludes golf courses)	Landscape irrigation on commercial, school, parks, and landscape areas	2,610 AF at buildout	-	Tertiary	0	997	1,543	2,010	2,472	2,610
				<b>Total:</b>	527	997	1,543	2,010	2,472	2,610
<b>2020 Internal Reuse</b>					0					
NOTES: (a) Recycled water was applied to agricultural irrigation in 2020. Wastewater that was sent to the recycled water storage ponds in 2020 in <b>Table 6-5</b> was not included herein. Landscape irrigation demand calculations are documented in Appendix E. (b) Volumes are in units of AF.										



**6.5.5 Actions to Encourage and Optimize Future Recycled Water Use**

As discussed above, by 2025, the City plans to meet irrigation demand of the public landscape areas in three major development areas (Mosssdale, River Islands, and Central Lathrop) with recycled water and utilize a future NPDES permit to discharge the remaining tertiary effluent to the San Joaquin River. The recycled water system has been planned and constructed to enable the future use of recycled water for these public landscape areas. As development of River Islands progress, RD 2062 will expand its non-potable irrigation to deliver the City’s recycled water as well as other non-potable supplies throughout the River Islands area.

In the long-term, the City will continue to develop a recycled water implementation plan that will support the increased use of recycled water to irrigate public landscaping. The City’s planned recycled water landscaping areas in these developments total to approximately 578 acres and are summarized in Table 1b of Appendix E. The total projected recycled water demand by 2045 of these planned recycled water landscaping areas are summarized in **Table 6-8**. The City is also considering extending future recycled water use to industrial facilities.

The recycled water implementation plan will determine monitoring and reporting requirements, required staffing resources, the development of a recycled water rate structure, and necessary operational changes and system improvements.

**Table 6-8 Methods to Expand Future Recycled Water Use (DWR Table 6-6)**

Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.			
Provide page location of narrative in UWMP			
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
Recycled Water in New Development	The City will support the use of recycled water to irrigate public landscaping.	By 2025 through buildout	2,610
<b>Total</b>			<b>2,610</b>
NOTES: (a) Volumes are in units of AF.			

**6.6 Desalinated Water Opportunities**

**CWC § 10631 (g)** A plan shall be adopted in accordance with this chapter and shall do all of the following:  
Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

Desalination is not currently a viable water supply opportunity for the City. Significant infrastructure investments would be required for the conveyance of ocean water for desalination, and the cost of



treating brackish water and saline groundwater sources does not make this a feasible option for the City at this time.

## 6.7 Water Exchanges and Transfers

**CWC § 10631 (c)** *A plan shall be adopted in accordance with this chapter and shall do all of the following:*

*Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.*

The City has participated in water transfers in the past, such as the 2013 sale of SSJID Phase 1 water to the City of Tracy, discussed in Section 6.1. Water transfers may be considered on a case-by-case basis in the future, but the City has not included water transfers in its water supply projections.

## 6.8 Future Water Projects

**CWC § 10631** *A plan shall be adopted in accordance with this chapter and shall do all of the following:*

*(b) (3) For any planned sources of water supply, a description of the measures that are being undertaken to acquire and develop those water supplies.*

*(f) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in normal and single-dry water years and for a period of drought lasting five consecutive water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.*

As discussed in Section 6.1, the City's SSJID supply is anticipated to increase from 6,887 AFY to 10,671 AFY with the implementation of Phase II of the SCWSP. For the purposes of this UWMP and consistent with information provided by SSJID, it is assumed that SSJID Phase II water will be available to the City by 2040.

As discussed in Section 6.2, the City's current estimated annual groundwater yield is 4,720 AFY. The City does not have plans to install additional groundwater wells. However, the City has a goal of providing treatment to bring Well 9 back online and is in the early phase of evaluating projects that could provide additional supply reliability and/or groundwater production capacity (see Section 7.1.4).

Future projects that may contribute to the City's water supply are summarized in **Table 6-9**.



**Table 6-9 Expected Future Water Supply Projects or Programs (DWR Table 6-7)**

	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Supplier
	Y/N	If Yes, Supplier Name				
SCWSP Phase II	Yes	SSJID		2040	All Year Types	3,784
NOTES: (a) Volumes are in units of AF.						

## 6.9 Summary of Existing and Planned Sources of Water

- CWC § 10631 (b)** Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).
- CWC § 10631 (b) (4) (D)** A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

The City's current and potential future water supplies are summarized in Sections 6.1 through 6.8. The City's historical, current and projected water supply entitlements are summarized in **Table 6-10** and **Table 6-11**. The values presented in this table reflect the City's contractual allotments from the SCWSP and the City's current and planned future groundwater production. The actual availability of these water supplies depends on several factors and is discussed in detail in Chapter 7.

**Table 6-10** summarizes the actual source and water supply volume from 2016 to 2020.

**Table 6-11** summarizes the projected source and water supply volume in five-year increments over the next 25 years.



**Table 6-10 Water Supplies - Actual (DWR Table 6-8)**

Water Supply	Additional Detail on Water Supply	Actual Volume					Water Quality	Total Right or Safe Yield (optional)
		2016	2017	2018	2019	2020		
Purchased or Imported Water	SSJID SCWSP	300	921	1,946	2,892	3,429	Drinking Water	
Groundwater (not desalinated)	Tracy Subbasin	3,346	3,247	2,605	1,560	2,055	Drinking Water	
Recycled Water		450	534	402	472	527	Recycled Water	
<b>Total</b>		<b>4,096</b>	<b>4,702</b>	<b>4,953</b>	<b>4,924</b>	<b>6,012</b>		
NOTES: (a) Volumes are in units of AF.								



**Table 6-11 Water Supplies - Projected (DWR Table 6-9)**

Water Supply	Additional Detail on Water Supply	Projected Water Supply									
		2025		2030		2035		2040		2045 (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Purchased or Imported Water	SSJID SCWSP Phase I (a)	6,887		6,887		6,887		6,887		6,887	
Purchased or Imported Water	SSJID SCWSP Phase II (a)	0		0		0		3,784		3,784	
Groundwater (not desalinated)	(b)	4,720		4,720		4,720		4,720		4,720	
Recycled Water	(c)	997		1,543		2,010		2,472		2,610	
<b>Total</b>		<b>12,604</b>		<b>13,150</b>		<b>13,617</b>		<b>17,863</b>		<b>18,001</b>	
<p>NOTES:</p> <p>(a) The City's Phase I allotment of SCWSP water is 6,887 AFY. The City's Phase II allotment of SCWSP water is 10,671 AFY, i.e. 3,847 AFY additional to the City's Phase I allotment.</p> <p>(b) The groundwater supply projection is estimated based on the pumping capacity of Wells 6, 7, 8, 10.</p> <p>(c) The recycled water supply projection is assumed to be the same as demand.</p> <p>(d) Volumes are in units of AF.</p>											



## **6.10 Special Conditions**

### **6.10.1 Climate Change Effects**

As discussed in the San Joaquin County's (SJC's) Local Hazard Mitigation Plan (LHMP; SJC, 2017) and information provided in Cal-Adapt.org, drought conditions are likely to become more frequent and persistent over the next century due to climate, and recent drought conditions over the past decade underscore the need to reexamine water supply and distribution management, conservation, and use policy. In the City and the State of California as a whole, groundwater can act as a critical buffer against the impacts of drought and climate change. According to California's Climate Adaptation Strategy, also referred to as "Safeguarding California Plan: 2018 Update", climate change is likely to significantly diminish California's future water supplies. As a result, the state must change its water management, as climate change will create greater competition for limited water supplies. These water management concerns may impact the City's imported surface water supply (i.e., water from the SCWSP).

### **6.10.2 Regulatory Conditions and Project Development**

Emerging regulatory conditions may affect planned future projects and the characterization of future water supply availability and analysis. The City does not have any current plans to develop additional supply sources. If the City does move forward with plans to develop supply projects, emerging regulatory conditions will be considered, and the associated water supply reliability impacts will be assessed in future UWMP updates.

### **6.10.3 Other Locally Applicable Criteria**

Other locally applicable criteria may affect characterization and availability of an identified water supply (e.g., changes in regional water transfer rules may alter the availability of a water supply that had historically been readily available). The City does not have any current plans to develop additional supply sources other than what is shown in **Table 6-9**. If the City does move forward with any plans to develop supply projects, locally applicable criteria will be considered, and the associated water supply reliability impacts will be assessed in future UWMP updates.



## 6.11 Energy Consumption

### **CWC § 10631.2**

*(a) In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:*

*(1) An estimate of the amount of energy used to extract or divert water supplies.*

*(2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.*

*(3) An estimate of the amount of energy used to treat water supplies.*

*(4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.*

*(5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.*

*(6) An estimate of the amount of energy used to place water into or withdraw from storage.*

*(7) Any other energy-related information the urban water supplier deems appropriate.*

*(b) The department shall include in its guidance for the preparation of urban water management plans a methodology for the voluntary calculation or estimation of the energy intensity of urban water systems. The department may consider studies and calculations conducted by the Public Utilities Commission in developing the methodology.*

*(c) The Legislature finds and declares that energy use is only one factor in water supply planning and shall not be considered independently of other factors.*

Within the service area, the City uses energy to distribute water supplies through its distribution systems. The energy used by the distribution systems, which includes several pump stations, pump booster, and wells, is metered and documented in monthly Pacific Gas & Electric (PG&E) bills. In Fiscal Year 2020, the City used 634,388 kWh of energy to operate the water supply system and delivered 5,053 AFY of water to customers in the service area (**Table 6-12**).

As discussed earlier in Chapter 6, the two major sources of water supply are imported water from SSJID and groundwater. SSJID uses energy to treat and distribute water before delivery to the City. However, the energy is used outside of the City's service area, and the energy consumption information is not typically shared with the City.





**Table 6-12 Recommended Energy Intensity - Total Utility Approach (DWR Table O-1B)**

Urban Water Supplier: City of Lathrop

Water Delivery Product

Enter Start Date for Reporting Period	7/1/2019	Urban Water Supplier Operational Control		
End Date	6/30/2020			
Is upstream embedded in the values reported?	No	Sum of All Water Management Processes	Non-Consequential Hydropower	
<i>Water Volume Units Used</i>	AF	Total Utility	Hydropower	Net Utility
<i>Volume of Water Entering Process (volume unit)</i>		5,053	0	5,053
<i>Energy Consumed (kWh)</i>		634,388	0	634,388
<i>Energy Intensity (kWh/volume)</i>		125.5	0	125.5
Quantity of Self-Generated Renewable Energy				
<span style="border: 1px solid black; display: inline-block; width: 280px; height: 20px;"></span> kWh				
Data Quality				
<span style="border: 1px solid black; display: inline-block; width: 280px; height: 20px;"></span>				
Data Quality Narrative:				
<span style="border: 1px solid black; display: inline-block; width: 820px; height: 20px;"></span>				
Narrative:				
<span style="border: 1px solid black; display: inline-block; width: 820px; height: 20px;"></span>				



## 7. WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT

### CWC § 10620 (f)

*An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.*

### CWC § 10630.5

*Each plan shall include a simple lay description of how much water the agency has on a reliable basis, how much it needs for the foreseeable future, what the agency's strategy is for meeting its water needs, the challenges facing the agency, and any other information necessary to provide a general understanding of the agency's plan.*

This section describes the constraints on the City of Lathrop's (City's) water supply sources, as well as the management strategies that the City has employed or will employ to address these constraints. This section also provides an estimate of the supply volumes available to the City and the corresponding supply and demand reliability assessments in normal years, single dry years, and multiple dry year periods.

### 7.1 Water Service Reliability Assessment

#### 7.1.1 Service Reliability - Constraints on Water Sources

### CWC § 10631 (b)(1)

*A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.*

The following sections describe the potential constraints on each of the City's water supplies, including Stanislaus River Water (South County Water Supply Project [SCWSP]) supplies, groundwater, and recycled water.

#### 7.1.1.1 Stanislaus River Water Supply Constraints

The SCWSP supply is based on the South San Joaquin Irrigation District's (SSJID's) senior, pre-1914 appropriative water rights to the Stanislaus River, coupled with an agreement with the United States Bureau of Reclamation (USBR) to store water in the New Melones Reservoir. Due to the seniority of the water rights, the City has historically assigned a high reliability to SCWSP water. However, in December 2018, the State Water Resources Control Board (SWRCB) released amendments to the Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment) which included significant changes and could result in significant surface water cutbacks. For purposes of its Urban Water Management Plan (UWMP), SSJID is presenting its water reliability analysis assuming that the Bay-Delta Plan Amendment will not be implemented. SSJID has provided the following rationale for this approach:



*In December 2018, the State Water Resources Control Board (SWRCB) adopted amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment) which, if and when implemented, may have an impact on the Stanislaus River. The SWRCB is required by law to regularly review this plan. The adopted Bay-Delta Plan Amendment was developed with the stated goal of increasing salmonid populations in three San Joaquin River tributaries (the Stanislaus, Merced, and Tuolumne Rivers) and the Bay-Delta. The Bay-Delta Plan Amendment requires the release of up to 30-50% of the unimpaired flow on the three tributaries from February through June in every year type.*

*If the Bay-Delta Plan Amendment is implemented as adopted, there are significant impacts in some years to the ability of the Bureau of Reclamation to meet its obligations under the 1988 Stipulation and Agreement to provide formula water to both the Oakdale Irrigation District and SSJID in years when inflow into New Melones is below 600,000 AF which typical occur in dry and critically dry years. This could reduce the minimum projected supply amount of 225,000 AF/year as planned for by SSJID in this UWMP. The SWRCB has stated that it intends to implement the Bay-Delta Plan Amendment on the Stanislaus River by the year 2022, assuming all required approvals are obtained by that time; however, implementation of the Bay-Delta Plan Amendment remains uncertain for multiple reasons.*

*Over a dozen lawsuits have been filed in both state and federal courts, including challenges filed by the Oakdale Irrigation District and SSJID, challenging the SWRCB's adoption of the Bay-Delta Plan Amendment are in the early stages and there have been no consequential court rulings as of this date. Secondly, the Bay-Delta Plan Amendment did not include an allocation of responsibility for meeting the flow requirements. Such an allocation of responsibility must consider the senior water rights of both OID and SSJID who have adjudicated pre-1914 rights and other senior appropriative rights. In recognition of the difficult legal process ahead, many stakeholders throughout California including the State and Federal Government have opted to explore the possibility of voluntary agreements to achieve outcomes comparable to those described in the Bay-Delta Amendment balancing the needs of all water users. Both OID and SSJID have participated in voluntary agreement negotiations. Based on these uncertainties, SSJID has opted to make no near-term planning assumptions related to the implementation of the Bay-Delta Plan Amendment for the purposes of this 2020 UWMP. Should conditions change or consequential resolution of the issues aforementioned come to be, SSJID will revise and re-adopt a 2020 UWMP to reflect changes to its impacted water supply.*

As a retail agency, the City relies on SSJID for the reliability projections. Information on supply reliability provided by SSJID is included as Appendix F. Consistent with SSJID's approach, this section of the City's UWMP presents results for the SCWSP water reliability assessment assuming that the Bay-Delta Plan Amendment will not be implemented. However, the City recognizes that it is helpful to understand the possible supply implications in the event that the Bay-Delta Plan Amendment is implemented as adopted. To fully assess the impacts of the Bay-Delta Plan Amendment and better plan for the potential shortfalls, the City conducted a parallel set of reliability analyses assuming that the Bay-Delta Plan Amendment will be implemented, which is presented in Appendix H.

Following provision of supply reliability information on 20 April 2021, SSJID adjusted its reliability projections for Phase II of the SCWSP, indicating in an e-mail dated 30 April 2021 that:



*As in most of California, in the long term, new urban water supplies will be made available through a series of innovations, including additional urban and agricultural conservation measures, further repair and modernization of loss prevention, multi-use water re-cycling, and wet year groundwater storage, among others. The future reliability of water provided by SSJID under Phase II is likely to require a combination of additional conservation measures that reduce the amount of water consumed by SSJID's agricultural customers. The basis for drought reliability planning even in the driest of years is that SSJID's water rights and its 1988 Agreement with the US Bureau of Reclamation entitles the district to take up to 225,000 AF/yr based on "formula water" and conservation account provisions in the 1988 Agreement and Stipulation. It is likely that more water will be available for other local purposes in 2040 (when Phase II production is assumed) based on trends in more efficient water management and urban growth displacing irrigated agriculture. For purposes of the UWMP, SSJID assumes that its agricultural demands during single dry-year and multiple dry-year events will be linearly reduced by 0.25% per year from 2020 levels freeing up an additional 10,050 AF to be delivered under Phase II from the WTP in 2040. Prior to undertaking Phase II, the cities and SSJID will need further investigate how municipal water deliveries are coordinated with agricultural operations in accordance with the Water Supply Development and Operations Agreement.*

The reliability projections in this UWMP reflect the above adjustments. **Table 7-1** summarizes the projected SCWSP supplies available to participating cities in normal years, single dry years, and multiple dry years between 2025 and 2045. SSJID anticipates that 100% of the contract volumes (31,522 acre-feet per year [AFY] during Phase I and 43,090 AFY during Phase II) will be available to SCWSP participants in normal years. In single dry years, SSJID projects that SCWSP participants will receive 79% to 99% of their contract volumes based upon the analog of SSJID's water supplies in 1977. In a five-year, multiple dry year scenario, SSJID projects that SCWSP participants will receive 79% to 99% of their contract volumes during the third and fourth dry years, while 100% of the contract volumes will be available in the remaining years. The multiple dry year supply reliability is based on the analog of SSJID's water supplies over the period of 2012 through 2016.

As discussed in Section 6.1.2, the City has a contract for up to 6,887 AFY of Stanislaus River water provided by the SCWSP. Phase II of the SCWSP is anticipated to increase the City's allocation to 10,671 AFY by 2040. Section 8(a) of the 1995 *Water Supply Development Agreement* stipulates that reductions in SCWSP deliveries shall be distributed pro-rata among the SCWSP participants based upon each participant's allotment. Therefore, it is assumed that the City's supply availability will be proportionate to the SCWSP supply availability presented in **Table 7-1**. The City's projected SSJID supply in normal years, single dry years, and multiple dry years is summarized in **Table 7-2**.



**Table 7-1 Projected SCWSP Supply Availability**

Year Type	Base Year	Volume and Percentage Available				
		2025	2030	2035	2040	2045 (Buildout)
Average Year	2020	31,522	31,522	31,522	43,090	43,090
		100%	100%	100%	100%	100%
Single-Dry Year	1977	26,448	28,962	31,475	33,988	36,501
		84%	92%	99%	79%	85%
Multiple-Dry Years 1st Year	2012	31,522	31,522	31,522	43,090	43,090
		100%	100%	100%	100%	100%
Multiple-Dry Years 2nd Year	2013	31,522	31,522	31,522	43,090	43,090
		100%	100%	100%	100%	100%
Multiple-Dry Years 3rd Year	2014	26,448	28,962	31,475	33,988	36,501
		84%	92%	99%	79%	85%
Multiple-Dry Years 4th Year	2015	26,448	28,962	31,475	33,988	36,501
		84%	92%	99%	79%	85%
Multiple-Dry Years 5th Year	2016	31,522	31,522	31,522	43,090	43,090
		100%	100%	100%	100%	100%

**NOTES:**

(a) Volumes are in units of AF.

(b) Based on information provided by SSJID on 20 April 2021 (Tables 7-1 through 7-3 of Appendix F) and adjustments provided by SSJID on 30 April 2021. Increases in SCWSP reliability during dry years are due to anticipated demand reductions of SSJID’s agricultural customers.

(c) Data present herein for 2045 reflects conditions at buildout for planning purposes. However, the City does not anticipate all buildout development to occur before 2045. Additional water supplies may need to be developed to support buildout development.



**Table 7-2 Projected SCWSP Supply Available to City of Lathrop**

Year Type	Base Year	Volume Available				
		2025	2030	2035	2040	2045 (Buildout)
Average Year	2020	6,887	6,887	6,887	10,671	10,671
Single-Dry Year	1977	5,778	6,328	6,877	8,417	9,039
Multiple-Dry Years 1st Year	2012	6,887	6,887	6,887	10,671	10,671
Multiple-Dry Years 2nd Year	2013	6,887	6,887	6,887	10,671	10,671
Multiple-Dry Years 3rd Year	2014	5,778	6,328	6,877	8,417	9,039
Multiple-Dry Years 4th Year	2015	5,778	6,328	6,877	8,417	9,039
Multiple-Dry Years 5th Year	2016	6,887	6,887	6,887	10,671	10,671

NOTES:  
 (a) Volumes are in units of AF.  
 (b) Data present herein for 2045 reflects conditions at buildout for planning purposes. However, the City does not anticipate all buildout development to occur before 2045. Additional water supplies may need to be developed to support buildout development.

**7.1.1.2 Groundwater Supply Constraints**

The City currently also relies upon groundwater production from its four active wells (Wells 6, 7, 8, and 10) to meet demands. As discussed in Section 6.2.3.3, it is anticipated that the Groundwater Sustainability Plan (GSP) being prepared for the Tracy Subbasin will not require the City to limit groundwater production to achieve sustainability. However, groundwater production has historically been constrained by the City’s well production and treatment capacity, as well as by the groundwater quality. Considering the current water quality constraints discussed below in Section 7.1.1.4, the City is anticipating that Well 9 will remain offline. However, the groundwater supplies from Wells 6, 7, 8, and 10 are expected to be 100% reliable and available during all year types at the volumes shown in Table 6-9.

**7.1.1.3 Recycled Water Supply Constraints**

Recycled water is assumed to be a reliable and stable water supply source and is estimated to be 100% reliable and available during all hydrologic years at a volume that meets the City’s projected recycled water demands.

**7.1.1.4 Water Quality Impacts**

Impaired water quality has the potential to affect water supply reliability. The City has and will continue to meet all state and federal water quality regulations. All drinking water standards are set by the U.S. Environmental Protection Agency (USEPA) under the authorization of the Federal Safe Drinking Water Act of 1974. In California, the State Water Resources Control Board (SWRCB), Division of Drinking Water (DDW) can either adopt the USEPA standards or set more stringent standards, which are then codified in Title 22 of the California Code of Regulations. There are two general types of drinking water standards:



- **Primary Maximum Contaminant Levels (MCLs)** are health protective standards and are established using a very conservative risk-based approach for each constituent that takes into potential health effects, detectability and treatability, and costs of treatment. Public water systems may not serve water that exceeds Primary MCLs for any constituent.
- **Secondary MCLs** are based on the aesthetic qualities of the water such as taste, odor, color, and certain mineral content, and are considered limits for constituents that may affect consumer acceptance of the water.

The City routinely monitors the water that is treated and served to customers to ensure that water delivered to customers meets these drinking water standards. The results of this testing are reported to the SWRCB, DDW following each test and are summarized annually in Water Quality Reports (also known as “Consumer Confidence Reports”), which are provided to customers by mail and made available on the City’s website at <https://www.ci.lathrop.ca.us/publicworks/page/water-quality-reports>.

A summary of groundwater quality in the Tracy Subbasin is included in the draft GSP materials available on the Tracy Subbasin website: <https://tracysubbasin.org/>. It should be noted that water quality conditions in groundwater represent conditions for source water, prior to treatment by the City and service to customers.

The water quality of the City’s SCWSP water and the City’s groundwater, as well as the implications of water quality on the reliability of these supplies, is described in the following sections.

The City’s SCWSP water sourced from the Stanislaus River is considered to be of high quality prior to treatment and excellent quality following treatment at the DeGroot Water Treatment Plant. However, water quality is one of the biggest threats to the City’s ability to use groundwater to meet potable water demands. The primary water quality concerns in the City’s groundwater are arsenic, manganese, uranium, nitrate, total dissolved solids (TDS), groundwater contamination from industrial processes, and per- and polyfluoroalkyl substances (PFAS).

#### ***Arsenic and Uranium***

As discussed in Section 6, Wells 6 through 10 are currently treated for arsenic at Louise Avenue Water Treatment Facility (LAWTF) to reduce concentrations below the MCL of 0.010 milligrams per liter (mg/L). The City’s Well 21 also experienced elevated concentrations of arsenic and uranium and is currently projected to remain inactive.

#### ***Total Dissolved Solids***

The City’s groundwater supply reliability is also impacted by the potential to induce migration of groundwater with TDS concentrations in excess of the secondary MCL of 500 mg/L. For example, Wells 6 through 10 are located immediately east of groundwater with high TDS concentrations, based on water quality data from City wells and sampling and analysis data from both shallow and deep monitoring wells collected by private entities (SGI, 2008). The City has historically investigated the option of drilling a new wellfield near Well 21 and determined that it would not be feasible due to the potential for expanded pumping to induce the migration of high TDS water.



### ***Industrial Contamination***

Groundwater contamination has been identified at several locations in the City due to industrial processes. Contamination plumes are associated with pollution from Sharpe Army Depot and the former Occidental Chemical Corporation (OCC) site.<sup>24</sup>

Contamination of groundwater at the Sharpe Army Depot consists primarily of trichloroethene, tetrachloroethene, and cis-1,2-dichloroethene. The plume is located at depths of approximately 50 to 150 feet below ground surface (ft bgs). Due to concerns of potential contamination from the plume, the City abandoned Well 5 and constructed Well 10 as a replacement well. Three groundwater extraction and treatment systems located at Sharpe Army Depot are used to treat existing groundwater contamination (RBF, 2009).

The OCC plume consists primarily of the pesticides 1,2-dibromo-3-chloropropane (DBCP) and ethylene dibromide (EDB), and the chemical solvent sulfolane. The OCC has been conducting investigation and remediation activities at the site since 1979, and a groundwater remedial system has been in place since 1982. The groundwater remedial system consists of extraction and injection wells as well as granular activated carbon and aeration treatment. Treated water is then re-injected into the confined aquifer beneath the Corcoran Clay layer, which is located between 230 and 300 ft bgs.

To help prevent a sulfolane containment plume originating from the former OCC site from impacting the City's groundwater supply, the City temporarily reduced its groundwater production and significantly limited groundwater production between 2018 and 2020. Efforts to improve the OCC groundwater extraction and treatment system were completed in March 2020. The City restarted Wells 6, 7, 8, and 10 and the LAWTF beginning in April of 2020.

### ***Nitrate***

Nitrate concentration detected at Well 10 has recently shown increasing trends. During April and November 2020, nitrate (as nitrogen) at Well 10 was detected at 8.1 mg/L and 7.5 mg/L, respectively, approaching the MCL of 10 mg/L. The City is closely monitoring for nitrate in Well 10 at least once per quarter and evaluating the possible contaminant source.

### ***Per- and Polyfluoroalkyl Substances***

PFAS is a group of emerging man-made contaminants that were used in firefighting foam, protective coatings, and stain and water-resistant products until the 2000s. The current regulatory setting for PFAS is as follows:

- The USEPA established a lifetime health advisory for the two most common PFAS, Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS), at a combined 70 nanograms per liter (ng/L). USEPA is moving forward with the enforceable MCL process for PFOA and PFOS. In February 2020, USEPA announced it was initiating a two-year period for the agency to formally propose MCLs for PFOA and PFOS. Once MCLs are formally proposed, the agency has another 18 months to finalize its drinking water requirements. The USEPA is also gathering and evaluating information to determine if regulation is appropriate for additional individual PFAS.

---

<sup>24</sup> The OCC site is now owned by J.R. Simplot.





- The SWRCB Division of Drinking Water (DDW) established drinking water Notification Levels (NLs) and Response Levels (RLs) for PFOA and PFAS.<sup>25</sup> Under the authority of Health and Safety Code section 116400, detections above the NL require agencies to notify the governing body for the areas where the water has been served within 30 days of receiving verified test results. If the RL is exceeded in drinking water provided to consumers, DDW recommends that the water agency remove the water source from service or provide treatment.

A series of sampling events in the City's production wells during 2019 and 2020 showed that PFOA and PFOS concentrations in groundwater from Well 9 exceeding both the NLs and RLs. The NLs for PFOS were also exceeded in one or more samples collected from Wells 6, 7, 8, and 10. PFOA concentrations in groundwater from Wells 6, 7, 8, and 10 were below reporting limits. Based on these and historical sampling results, the City took Well 9 offline so that the PFOA concentrations in the blended flow from remaining wells is well below the RLs.

The abovementioned water quality issues impact the reliability of the City's groundwater supply. Expansion of groundwater production in the future is limited by the costs associated with treatment and the availability of adequate supplies to conduct blending. Given the above issues, the City is not currently pursuing development of any additional wells or increased groundwater production.

#### 7.1.1.5 Climate Change Impacts to Supply

**CWC § 10635(b)**

*(4) 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.*

Section 4.4 presents information on how the impacts of climate change are considered in projected demands in the City, and Section 6.10.1 provides a summary of potential climate change impacts on supplies. The Tracy Subbasin GSP water budget development is required to include climate change scenarios and assess estimated climate change impacts for purposes of groundwater sustainability but is not yet available for the Tracy Subbasin.

---

<sup>25</sup> The NLs were 5.1 ng/L for PFOA and 6.5 ng/L for PFOS. The RL was 10 ng/L for PFOA and 40 ng/L for PFOS.



### 7.1.2 Service Reliability - Year Type Characterization

**CWC § 10631 (b)**

*Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a), providing supporting and related information, including all of the following:*

**CWC § 10631 (b)(1)**

*A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.*

**CWC § 10635 (a)**

*Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.*

Per the UWMP Guidebook 2020, the water service reliability assessment includes three unique year types:

- A normal hydrologic year represents the water supplies available under normal conditions, this could be an averaged range of years or a single representative year;
- A single dry year represents the lowest available water supply; and
- A five-consecutive-year drought represents the driest five-year period in the historical record.

A summary of the water supplies by each year type, consistent with the UWMP Guidebook 2020 methodology, is provided in the following sections.

Quantification of the available supplies is not compatible with the standard California Department of Water Resources (DWR) Table 7-1, and therefore the available supplies are summarized in **Table 7-4** through **Table 7-6** in Sections 7.1.2.1 through 7.1.2.3 .



**Table 7-3 Basis of Water Year Data (Reliability Assessment) (DWR Table 7-1)**

Year Type	Base Year	Available Supplies if Year Type Repeats	
		X	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location <u>Table 7-2 through Table 7-6</u>
		—	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	% of Average Supply
Average Year			100%
Single-Dry Year			
Consecutive Dry Years 1st Year			
Consecutive Dry Years 2nd Year			
Consecutive Dry Years 3rd Year			
Consecutive Dry Years 4th Year			
Consecutive Dry Years 5th Year			

7.1.2.1 Normal Years

The City’s projected water supplies in normal years are presented in **Table 7-4**. In normal years, the City expects to receive 100% of its SCWSP supplies (see **Table 7-2**) as well as its groundwater and recycled water supplies.

- The City has a total contractual entitlement of 6,887 AFY of Stanislaus River water and anticipates an increased entitlement of 10,671 AFY provided through Phase II of the SCWSP. Based on information provided by SSJID, the City expects to receive 100% of its SCWSP water supply allocation during a normal water year. As such, the City anticipates being able to receive 6,887 AFY of SCWSP supply through 2035 and 10,671 AFY afterwards, assuming normal year conditions and development of Phase II.
- The City is able to withdraw up to 4,720 AFY of groundwater from the Tracy Subbasin utilizing currently active Wells 6, 7, 8, and 10. This groundwater supply is considered to be 100% reliable.
- The City’s recycled water supplies are expected to be 100% reliable and at a volume that meets the City’s projected recycled water demands.



**Table 7-4 Projected Water Supply in Normal Years (Responds to DWR Table 7-1)**

Water Supply	Allocation / Reliability	Supply Amount				
		2025	2030	2035	2040	2045 (Buildout)
<i>Potable Supplies</i>						
SSJID SCWSP	100% of Contract	6,887	6,887	6,887	10,761	10,761
Groundwater	100% Reliable	4,720	4,720	4,720	4,720	4,720
<b>Total Potable Supply</b>		<b>11,607</b>	<b>11,607</b>	<b>11,607</b>	<b>15,391</b>	<b>15,391</b>
Recycled Water	100% Reliable	997	1,543	2,010	2,472	2,610
<b>Total Non-Potable Supply</b>	--	<b>997</b>	<b>1,543</b>	<b>2,010</b>	<b>2,472</b>	<b>2,610</b>
<b>Total Supply</b>	--	<b>12,604</b>	<b>13,150</b>	<b>13,617</b>	<b>17,863</b>	<b>18,001</b>

NOTES:

- (a) Volumes are in units of AF.
- (b) Information provided by the City and SSJID.
- (c) Data present herein for 2045 reflects conditions at buildout for planning purposes. However, the City does not anticipate all buildout development to occur before 2045. Additional water supplies may need to be developed to support buildout development.

7.1.2.2 Single Dry Year

The City’s projected water supplies in single dry years are outlined below and summarized in **Table 7-5**.

- As discussed above, the City’s SCWSP water supply availability depends on SCWSP supplies available to participating cities with respect to the total SCWSP capacity, assuming SCWSP Phase II will expand the existing SCWSP capacity by 2040. Based on information provided by SSJID, the City’s SCWSP water supply reliability ranges between 79% and 99% during a single dry year (see **Table 7-1** and **Table 7-2**).
- The City anticipates continuing its groundwater production from active Wells 6, 7, 8, and 10 at a rate of 4,720 AFY during dry years. This groundwater supply is considered to be 100% reliable.
- The City’s recycled water supplies are expected to be 100% reliable and at a volume that meets the City’s projected recycled water demands.



**Table 7-5 Projected Water Supply in Single Dry Years (Responds to DWR Table 7-1)**

Water Supply	Allocation / Reliability	Supply Amount				
		2025	2030	2035	2040	2045 (Buildout)
<i>Potable Supplies</i>						
SSJID SCWSP (c)	79%-99% of Contract	5,778	6,328	6,877	8,417	9,039
Groundwater	100% Reliable	4,720	4,720	4,720	4,720	4,720
<b>Total Potable Supply</b>		<b>10,498</b>	<b>11,048</b>	<b>11,597</b>	<b>13,137</b>	<b>13,759</b>
<i>Non-Potable Supplies</i>						
Recycled Water	100% Reliable	997	1,543	2,010	2,472	2,610
<b>Total Non-Potable Supply</b>	--	<b>997</b>	<b>1,543</b>	<b>2,010</b>	<b>2,472</b>	<b>2,610</b>
<b>Total Supply</b>	--	<b>11,495</b>	<b>12,591</b>	<b>13,606</b>	<b>15,609</b>	<b>16,370</b>

**NOTES:**

- (a) Volumes are in units of AF.
- (b) Information provided by the City and SSJID.
- (c) SSJID SCWSP supply volumes obtained from **Table 7-2**.
- (b) Data present herein for 2045 reflects conditions at buildout for planning purposes. However, the City does not anticipate all buildout development to occur before 2045. Additional water supplies may need to be developed to support buildout development.

**7.1.2.3 Multiple Dry Years**

The reliability of the City’s water supplies and their projected availability during a five consecutive year drought is outlined below and summarized in **Table 7-2** for SCWSP supplies and **Table 7-6** for non-SCWSP supplies.

- As discussed above, the City’s SCWSP water supply availability depends on SCWSP supplies available to participating cities with respect to the total SCWSP capacity, assuming SCWSP Phase II will expand the existing SCWSP capacity by 2040. Based on information provided by SSJID, the City’s SCWSP water supply reliability during dry years is expected to be between 79% and 99% during the third and fourth dry years and at 100% during the remaining years (see **Table 7-1** and **Table 7-2**).
- The City anticipates continuing its groundwater production from active Wells 6, 7, 8, and 10 at rate of 4,720 AFY during dry years. This groundwater supply is considered to be 100% reliable.
- The City’s recycled water supplies are expected to be 100% reliable and at a volume that meets the City’s projected recycled water demands.



**Table 7-6 Projected Water Supply in Multiple Dry Years (Responds to DWR Table 7-1)**

Water Supply	Allocation / Reliability	Supply Amount				
		2025	2030	2035	2040	2045 (Buildout)
<i>Potable Supplies</i>						
SSJID SCWSP	(b)	(b)	(b)	(b)	(b)	(b)
Groundwater	100% Reliable	4,720	4,720	4,720	4,720	4,720
<b>Total Potable Supply</b>	--	<b>(b)</b>	<b>(b)</b>	<b>(b)</b>	<b>(b)</b>	<b>(b)</b>
<i>Non-Potable Supplies</i>						
Recycled Water	100% Reliable	997	1,543	2,010	2,472	2,610
<b>Total Non-Potable Supply</b>	--	<b>997</b>	<b>1,543</b>	<b>2,010</b>	<b>2,472</b>	<b>2,610</b>
<b>Total Supply</b>	--	<b>(b)</b>	<b>(b)</b>	<b>(b)</b>	<b>(b)</b>	<b>(b)</b>

**NOTES:**

(a) Volumes are in units of AF.

(b) The City’s SCWSP and thus total multiple dry year supply availability varies by each dry year and over time. The City’s SCWSP supply availability during multiple dry years for each of the five-year increments are provided **Table 7-2**.

(c) Data present herein for 2045 reflects conditions at buildout for planning purposes. However, the City does not anticipate all buildout development to occur before 2045. Additional water supplies may need to be developed to support buildout development.

**7.1.3 Service Reliability - Supply and Demand Assessment**

**CWC § 10635 (a)**

*Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.*

The City’s projected water demands are compared to its water supplies in normal years, single dry years, and multiple dry year periods.

**7.1.3.1 Water Service Reliability - Normal Year**

As shown in **Table 7-7**, the City is projected to have sufficient supplies to meet projected demands in normal years through buildout.



**Table 7-7 Normal Year Supply and Demand Comparison (DWR Table 7-2)**

	2025	2030	2035	2040	2045 (Buildout)
Supply totals <i>From DWR Table 6-9</i>	12,604	13,150	13,617	17,863	18,001
Demand totals <i>From DWR Table 4-3</i>	8,679	10,691	12,263	14,188	16,684
Difference	3,925	2,459	1,354	3,675	1,317
NOTES: (a) Volumes are in units of AF. (b) Data present herein for 2045 reflects conditions at buildout for planning purposes. However, the City does not anticipate all buildout development to occur before 2045. Additional water supplies may need to be developed to support buildout development.					

7.1.3.2 Single Dry Year

As shown in **Table 7-8**, the City is generally projected to have adequate supplies to meet projected demands in single dry years through 2040. The projected single dry year supply shortfall at buildout is 314 AFY or 2%.

**Table 7-8 Single Dry Year Supply and Demand Comparison (DWR Table 7-3)**

	2025	2030	2035	2040	2045 (Buildout)
Supply totals	11,495	12,591	13,606	15,609	16,370
Demand totals	8,679	10,691	12,263	14,188	16,684
Difference	2,816	1,900	1,344	1,421	(314)
NOTES: (a) Volumes are in units of AF. (b) Data present herein for 2045 reflects conditions at buildout for planning purposes. However, the City does not anticipate all buildout development to occur before 2045. Additional water supplies may need to be developed to support buildout development.					

7.1.3.3 Water Service Reliability – Five Consecutive Dry Years

As shown in **Table 7-9**, the City is projected to have adequate supplies to meet projected demands in multiple dry years through 2040. Adequate supplies are anticipated to be available to meet project demands during the first, second and fifth year of drought at buildout. During the third and fourth year at buildout, the City’s total water demand is estimated to exceed total supply by 314 AFY (2%).



**Table 7-9 Multiple Dry Years Supply and Demand Comparison (DWR Table 7-4)**

		2025	2030	2035	2040	2045 (Buildout)
First year	Supply totals	12,604	13,150	13,617	17,863	18,001
	Demand totals	8,679	10,691	12,263	14,188	16,684
	Difference	3,925	2,459	1,354	3,675	1,317
Second year	Supply totals	12,604	13,150	13,617	17,863	18,001
	Demand totals	8,679	10,691	12,263	14,188	16,684
	Difference	3,925	2,459	1,354	3,675	1,317
Third year	Supply totals	11,495	12,591	13,606	15,609	16,370
	Demand totals	8,679	10,691	12,263	14,188	16,684
	Difference	2,816	1,900	1,344	1,421	(314)
Fourth year	Supply totals	11,495	12,591	13,606	15,609	16,370
	Demand totals	8,679	10,691	12,263	14,188	16,684
	Difference	2,816	1,900	1,344	1,421	(314)
Fifth year	Supply totals	12,604	13,150	13,617	17,863	18,001
	Demand totals	8,679	10,691	12,263	14,188	16,684
	Difference	3,925	2,459	1,354	3,675	1,317
NOTES: (a) Volumes are in units of AF. (b) Data present herein for 2045 reflects conditions at buildout for planning purposes. However, the City does not anticipate all buildout development to occur before 2045. Additional water supplies may need to be developed to support buildout development.						

**7.1.4 Description of Water Management Tools and Options**

The supply versus demand assessment presented above has shown that the City is projected to have adequate supplies to meet projected demands in all year types through 2040 and would experience up to a 2% shortfall at buildout.

However, future reliability of SCWSP water is uncertain due to adoption of the Bay-Delta Plan Amendment, which could result in significant surface water cutbacks. The SSJID and others are continuing negotiations with the SWRCB on implementation of the Bay-Delta Plan Amendment for water supply cutbacks, particularly during droughts. This is a dynamic situation and the projected drought cutback allocations may need to be revised before the next (i.e., 2025) UWMP depending on the outcome of ongoing negotiations. A conservative estimate of the potential impacts of the Bay-Delta Plan Amendment on the SCWSP (and therefore the City) is provided in Appendix H.

Given the uncertainties in future supply availability, the City has developed the following strategies and actions to minimize potential for water supply shortfalls.

As discussed in Section 6.5.4, the City is developing a recycled water program that will support the use of recycled water to irrigate public landscaping by 2025, which will offset potable water demand for irrigation purposes within the City. If additional recycled water is made available, the potable water





demands will be less than the current projections and therefore the resultant supply shortage will likely to be smaller.

In addition, the City has been implementing, and plans to continue to implement, the demand management measures described in Chapter 9. Further, in response to the anticipated future shortfalls, the City has developed a robust Water Shortage Contingency Plan (WSCP) that systematically identifies ways in which the City can reduce water demands. The WSCP is included in Chapter 8 and Appendix I.

The City is in the early phase of evaluating water supply options that could potentially booster the City's dry year supply reliability, such as additional groundwater treatment, aquifer storage and recovery, indirect potable reuse, as well as support implementation of SCWSP Phase II or other reliability projects.

- **Additional groundwater treatment processes and/or increase treatment capacity.** As discussed in Section 7.1.1.4 the City's groundwater production is limited by several water quality issues. The City is currently maintaining Well 9 offline, however, Well 9 is one of the City's higher production wells. Further, groundwater modeling results indicate that Well 9 has a low impact on the migration of the sulfolane plume from the OCC site. Additional groundwater treatment processes at the wellhead or at the LAWTF would secure the City's ability to operate all of its existing wells.
- **Conjunctive use.** The City may coordinate use of surface water and groundwater by maximizing surface water supplies during normal and wet years and conserve operation of its groundwater wells for dry years.
- **Aquifer storage and recovery (ASR).** An ASR program further stores surplus surface water in the groundwater basin beneath the City and provide additional groundwater supplies during peak seasons or to supplement surface water sources during dry years.
- **Indirect potable reuse.** An indirect potable reuse program blends advance treated recycled water into the groundwater basin for further treatment and potable use.
- **Implementation of SCWSP Phase II or other reliability projects.** The City relies on implementation of SCWSP to meet demands from 2040 and afterwards.



## 7.2 Drought Risk Assessment

### **CWC § 10635(b)**

*Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following:*

*(1) 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 five consecutive water years, starting from the year following when the assessment is conducted.*

*(2) A determination of the reliability of each source of supply under a variety of water shortage conditions. This may include a determination that a particular source of water supply is fully reliable under most, if not all, conditions.*

*(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.*

*(4) 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.*

### **7.2.1 DRA Data, Methods, and Basis for Water Shortage Conditions**

In addition to the long-term water service reliability assessment presented above, the Drought Risk Assessment (DRA) considers the effects on available water supply sources of an assumed five-year drought commencing the year after the assessment is completed, i.e., from 2021 through 2025. Section 7.1 present an evaluation of the sufficiency of the City's supplies to meet projected water demands in dry year conditions. The DRA presented herein is performed using the same methodology and assumptions as discussed above. The DRA is intended to inform the demand management measures and water supply projects and programs to be included in the UWMP (see Chapters 6 and 9). Suppliers may conduct an interim update or updates to this DRA within the five-year cycle of its UWMP update, i.e., before the 2025 UWMP.

### **7.2.2 DRA Individual Water Source Reliability**

As previously described, the City relies on a variety of water supply sources including imported surface water supply, groundwater production wells, and recycled water. The DRA presented herein is based on the same reliability assumptions of each source of supply as discussed in Section 7.1.2 for five consecutive years of drought. Further, the City anticipates obtaining its National Pollutant Discharge Elimination System (NPDES) permit and providing recycled water to landscape irrigation areas within the next two years (e.g. by 2023). However, this analysis conservatively assumes recycled water will not be available for landscape irrigation uses until 2025.



**7.2.3 DRA Total Water Supply and Use Comparison**

Table 7-10 provides a comparison of the water supply sources available to the City with the total projected water use for an assumed drought period from 2021 through 2025. The City is expected to have sufficient supply from 2021 through 2025.

The City has developed a WSCP (Section 8 and Appendix I) to address water shortage conditions resulting from any cause (e.g., droughts, impacted distribution system infrastructure, regulatory-imposed shortage restrictions, etc.). The WSCP identifies a variety of actions that the City will implement to reduce demands and further ensure supply reliability at various levels of water shortage. Based on the DRA presented in Table 7-10, the City does not anticipate the need to implement its WSCP due to drought in the next five years.



**Table 7-10 Five-Year Drought Risk Assessment Tables to Address Water Code 10635(b) (DWR Table 7-5)**

2021	Total
Total Water Use	6,545
Total Supplies	11,607
Surplus/Shortfall w/o WSCP Action	5,062
<b>Planned WSCP Actions</b> (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	-
WSCP - use reduction savings benefit	-
Revised Surplus/(shortfall)	-
Resulting % Use Reduction from WSCP action	-

2022	Total
Total Water Use	7,078
Total Supplies	11,607
Surplus/Shortfall w/o WSCP Action	4,529
<b>Planned WSCP Actions</b> (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	-
WSCP - use reduction savings benefit	-
Revised Surplus/(shortfall)	-
Resulting % Use Reduction from WSCP action	-

2023	Total
Total Water Use	7,612
Total Supplies	9,949
Surplus/Shortfall w/o WSCP Action	2,338
<b>Planned WSCP Actions</b> (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	-
WSCP - use reduction savings benefit	-
Revised Surplus/(shortfall)	-
Resulting % Use Reduction from WSCP action	-



**Table 7-10 Five-Year Drought Risk Assessment Tables to Address Water Code 10635(b) (DWR Table 7-5)**

2024	Total
Total Water Use	8,145
Total Supplies	9,949
Surplus/Shortfall w/o WSCP Action	1,804
<b>Planned WSCP Actions</b> (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	-
WSCP - use reduction savings benefit	-
Revised Surplus/(shortfall)	-
Resulting % Use Reduction from WSCP action	-

2025	Total
Total Water Use	8,679
Total Supplies	12,604
Surplus/Shortfall w/o WSCP Action	3,925
<b>Planned WSCP Actions</b> (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	-
WSCP - use reduction savings benefit	-
Revised Surplus/(shortfall)	-
Resulting % Use Reduction from WSCP action	-

NOTES:  
 (a) Volumes are in units of AF.



## **8. WATER SHORTAGE CONTINGENCY PLAN**

The City of Lathrop's (City's) Water Shortage Contingency Plan (WSCP) is included as Appendix I. The WSCP serves as a standalone document to be engaged in the case of a water shortage event, such as a drought or supply interruption, and defines specific policies and actions that will be implemented at various shortage level stages. The primary objective of the WSCP is to ensure that the City has in place the necessary resources and management responses needed to protect health and human safety, minimize economic disruption, and preserve environmental and community assets during water supply shortages and interruptions. Consistent with California Water Code (CWC) §10632, the WSCP includes six levels to address shortage conditions ranging from up to 10% to greater than 50% shortage, identifies a suite of demand mitigation measures for the City to implement at each level, and identifies procedures for the City to annually assess whether or not a water shortage is likely to occur in the coming year, among other things.

A summary of the key elements of the WSCP including water shortage levels and demand-reduction actions is shown in Table 8-1, Table 8-2, and Table 8-3. Additional details are provided in Appendix I.



**Table 8-1 Stages of Water Shortage Contingency Plan (DWR Table 8-1)**

Shortage Level	Percent Shortage Range	Shortage Response Actions
1	Up to 10%	<ul style="list-style-type: none"> <li>• Declaration by the City Council upon the determination that one or more of the trigger mechanisms exist per LMC Sections 13.08.140 and 13.08.150 and that the City may reduce water use by up to 10% due to water supply shortages or emergency.</li> <li>• Includes implementation of voluntary restrictions on end uses as well as agency actions (see <b>Table 8-2</b> and <b>Table 8-3</b>).</li> </ul>
2	Up to 20%	<ul style="list-style-type: none"> <li>• Declaration by the City Council upon the determination that one or more of the trigger mechanisms exist per LMC Sections 13.08.140 and 13.08.150 and that the City must reduce water use by greater than 10% up to 20% due to water supply shortages or emergency.</li> <li>• Includes implementation of mandatory restrictions on end uses as well as agency actions (see <b>Table 8-2</b> and <b>Table 8-3</b>).</li> </ul>
3	Up to 30%	<ul style="list-style-type: none"> <li>• Declaration by the City Council upon the determination that one or more of the trigger mechanisms exist per LMC Sections 13.08.140 and 13.08.150 and that the City must reduce water use by greater than 20% up to 30% due to water supply shortages or emergency.</li> <li>• Includes implementation of mandatory restrictions on end uses as well as agency actions (see <b>Table 8-2</b> and <b>Table 8-3</b>).</li> </ul>
4	Up to 40%	<ul style="list-style-type: none"> <li>• Declaration by the City Council upon the determination that one or more of the trigger mechanisms exist per LMC Sections 13.08.140 and 13.08.150 and that the City must reduce water use by greater than 30% up to 40% due to water supply shortages or emergency.</li> <li>• Includes implementation of mandatory restrictions on end uses as well as agency actions (see <b>Table 8-2</b> and <b>Table 8-3</b>).</li> </ul>
5	Up to 50%	<ul style="list-style-type: none"> <li>• Declaration by the City Council upon the determination that one or more of the trigger mechanisms exist per LMC Sections 13.08.140 and 13.08.150 and that the City must reduce water use by greater than 40% up to 50% due to water supply shortages or emergency.</li> <li>• Includes implementation of mandatory restrictions on end uses as well as agency actions (see <b>Table 8-2</b> and <b>Table 8-3</b>).</li> </ul>
6	>50%	<ul style="list-style-type: none"> <li>• Declaration by the City Council upon the determination that one or more of the trigger mechanisms exist per LMC Sections 13.08.140 and 13.08.150 and that the City must reduce water use by greater than 50% due to water supply shortages or emergency.</li> <li>• Includes implementation of mandatory restrictions on end uses as well as agency actions (see <b>Table 8-2</b> and <b>Table 8-3</b>).</li> </ul>



**Table 8-2 Stages of Action and Water Shortage Responses (DWR Table 8-2)**

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? (a)	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
1	Other	10%	<ol style="list-style-type: none"> <li>1. Continue with mandatory requirements in promotion of water conservation as required in LMC 13.08.120.</li> <li>2. Application of potable water directly to driveways and sidewalks is prohibited.</li> <li>3. Irrigating outdoor landscapes or turf is limited to no more than three (3) days per week following schedules established by resolution of city council.</li> <li>4. Watering only after 7 p.m. in the evening and before 10 a.m. in the morning.</li> <li>5. To promote water conservation, operators of hotels and motels are encouraged to provide guests with the option of choosing not to have towels and linens laundered daily.</li> <li>6. Eating or drinking establishments are encouraged to serve drinking water only upon request</li> </ol>	No
2	Other	20%	<ol style="list-style-type: none"> <li>1. Continue with action and measures from Stage I except where superseded by more stringent requirements (b).</li> <li>2. Irrigating outdoor landscapes or turf is limited to no more than two (2) days per week following schedules established by resolution of city council.</li> </ol>	Yes





**Table 8-2 Stages of Action and Water Shortage Responses (DWR Table 8-2)**

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? (a)	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
3	Other	30%	<ol style="list-style-type: none"> <li>1. Continue with action and measures from Stage II except where superseded by more stringent requirements.</li> <li>2. All schools, institutions, and dedicated irrigation customers shall reach a water reduction of sixty percent (60%) from previous use (c).</li> <li>3. Car washing shall be allowed only at facilities using recycled or recirculating water. Automobile and recreational vehicle dealerships shall be allowed to continue washing vehicles with a hose and a hand-held trigger nozzle under the following conditions:                             <ol style="list-style-type: none"> <li>a. Automobiles and recreational vehicles may be washed only on Fridays using the method outlined above.</li> <li>b. An automobile, motorcycle, boat or motor home may be washed the day before or the day of delivery to the purchaser.</li> </ol> </li> </ol>	Yes
4	Other	40%	<ol style="list-style-type: none"> <li>1. Continue with action and measures from Stage III except where superseded by more stringent requirements.</li> <li>2. All schools, institutions, and dedicated irrigation customers shall reach a water reduction of seventy-five percent (75%) from previous use (c).</li> <li>3. Irrigating outdoor landscapes or turf is limited to no more than one (1) day per week following schedules established by resolution of city council.</li> </ol>	Yes



**Table 8-2 Stages of Action and Water Shortage Responses (DWR Table 8-2)**

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? (a)	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
5	Other	50%	<ol style="list-style-type: none"> <li>1. Continue with actions and measures from Stage IV except where superseded by more stringent requirements.</li> <li>2. All residential and CII customers shall reach a water reduction of forty five percent (45%) from previous use (c).</li> <li>3. Excess water use will be subject to payment under the excess use rate schedule. (d)</li> <li>4. Use of potable water for irrigation is prohibited for all customers.</li> </ol>	Yes
6	Other	55%	<ol style="list-style-type: none"> <li>1. Continue with actions and measures from Stage V except where superseded by more stringent requirements.</li> <li>2. All residential and CII customers shall reach a water reduction of fifty five percent (55%) from previous use (c).</li> </ol>	Yes
<p>NOTES:</p> <p>(a) The percentages listed in this table are the cumulative savings for each shortage level with implementation of corresponding supply augmentation and other agency actions in <b>Table 8-3</b>. Detailed saving estimates based on end use, response action, and implementation rates are in Attachment 1 of Appendix I.</p> <p>(b) Action and measures from Stage I, except for numbers 5 and 6, are enforced beginning this stage.</p> <p>(c) Previous use defined as water use during the corresponding month in the latest pre-drought year.</p> <p>(d) See excess use rate schedule in Appendix I.</p>				



**Table 8-3 Supply Augmentation and Other Actions (DWR Table 8-3)**

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	How much is this going to reduce the shortage gap? (a)	Additional Explanation or Reference (optional)
1	Other actions	10%	<ol style="list-style-type: none"> <li>1. Given the experience in the recent (2014- 2016) drought, the City’s reductions were substantially driven by State media campaigns. Therefore, at this stage of the WSCP, the City may rely on statewide media campaigns. If the State does not implement media campaigns, the City may:                             <ol style="list-style-type: none"> <li>a. Publicize the water shortage and conservation measures using a media campaign, newspaper articles, and website.</li> <li>b. Promote water conservation programs.</li> <li>c. Hold water efficiency workshops and public events.</li> <li>d. Distribute water bill inserts with information about water shortage and conservation.</li> </ol> </li> <li>2. The days and times during which residential, commercial and industrial uses of water are restricted shall be established by resolution of city council.</li> <li>3. Provide notice to a customer when there is indication that a leak may exist within the end-user’s exclusive control.</li> </ol>
2	Other actions	20%	<ol style="list-style-type: none"> <li>1. Continue with action and measures from Stage I except where superseded by more stringent requirements.</li> <li>2. Schedule staff for enforcement and customer service to ensure customers comply with the assigned water budget.</li> <li>3. Accelerate leak detection and repair program.</li> <li>4. Conduct surveys targeting high water users with CII, irrigation, and residential accounts.</li> </ol>
3	Other actions	30%	<ol style="list-style-type: none"> <li>1. Continue with action and measures from Stage II except where superseded by more stringent requirements.</li> <li>2. Suspend routine flushing of water mains except when necessary to address immediate health or safety concerns.</li> </ol>
4	Other actions	40%	<ol style="list-style-type: none"> <li>1. Continue with action and measures from Stage III except where superseded by more stringent requirements.</li> <li>2. Increase enforcement and water waste patrols.</li> </ol>



**Table 8-3 Supply Augmentation and Other Actions (DWR Table 8-3)**

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	How much is this going to reduce the shortage gap? (a)	Additional Explanation or Reference (optional)
5	Other actions	50%	<ol style="list-style-type: none"> <li>1. Continue with action and measures from Stage IV except where superseded by more stringent requirements.</li> <li>2. Impose penalties for excess water usage that increase with increments of greater water use. (b)</li> <li>3. Reduce distribution system pressures.</li> </ol>
6	Other actions	55%	<ol style="list-style-type: none"> <li>1. Continue with action and measures from Stage V except where superseded by more stringent requirements.</li> <li>2. Increase staff enforcement to ensure customers complying with the assigned water budget.</li> </ol>
<p>NOTES:                      (a) The percentages listed in this table are the cumulative savings for each shortage level with implementation of corresponding demand reduction actions in <b>Table 8-2</b>. Detailed saving estimates based on end use, response action, and implementation rates are in Attachment 1 of Appendix I.                      (b) See excess use rate schedule in Appendix I.</p>			



## 9. DEMAND MANAGEMENT MEASURES

### CWC § 10631 (e)

*Provide a description of the supplier's water demand management measures. This description shall include all of the following:*

*(1) (A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.*

*(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:*

*(i) Water waste prevention ordinances.*

*(ii) Metering.*

*(iii) Conservation pricing.*

*(iv) Public education and outreach.*

*(v) Programs to assess and manage distribution system real loss.*

*(vi) Water conservation program coordination and staffing support.*

*(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.*

This section provides an overview of the City of Lathrop's (City's) current and planned Demand Management Measures (DMMs), which include specific types and groupings of water conservation measures typically implemented by water suppliers.

### 9.1 Agency Water Conservation

#### CWC § 10631 (e)

*Provide a description of the supplier's water demand management measures. This description shall include all of the following:*

*(1) (A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years.*

The City implements all of the DMMs include in the Urban Water Management Plan (UWMP) Act, as described below and summarized in Table 8-1 and the associated chart.

#### 9.1.1 DMM 1 – Water Waste Prevention Ordinances

The City is updating its prohibition of water waste requirements as part of the Water Shortage Contingency Plan (WSCP) update, which will be adopted by ordinance as part of Lathrop Municipal Code



(LMC) 13.08.030 and 13.08.120. The updated prohibitions are in place at all times, regardless of the water supply conditions or stage of action. The following permanent prohibitions and requirements are listed in LMC 13.08.120:

- A. *Water shall be used for beneficial purposes only; all unnecessary and wasteful uses (as defined in Section 13.08.030.1) of water are prohibited*
- B. *Water shall be confined to the user's property and shall not be allowed to run off to adjoining properties, or to the roadside or to the gutter. Care shall be taken not to water past the point of saturation.*
- C. *Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached on any hose or filling apparatus in use.*
- D. *All leaks (including irrigation systems, pipes, fixtures, pools, ponds, fountains and waterways) shall be repaired within five calendar days or less if warranted by the severity of the problem as determined in the discretion of the city manager, or designee.*
- E. *All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be 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 program requirements, including, but not limited to, the urban stormwater quality management and discharge control ordinance set forth in Chapter 13.28 of Title 13 of the City of Lathrop Municipal Code.*
- F. *Landscaping.*
  - 1. *All landscaping installed in the City of Lathrop shall comply with the current Model Water Efficient Landscape Ordinance established by the State Department of Water Resources and landscape requirements adopted by resolution of the city council.*
  - 2. *Irrigation of new landscaping shall be allowed on any day of the week for a period of 30 days after the new landscaping is planted, unless the city manager, or designee, provides prior written consent to extend this time period based on plant type and the season when the new landscaping is planted. After the 30 days, irrigation days and run times should be decreased to settings appropriate for an established landscape.*
  - 3. *Upon city declaration of a water shortage, the city manager may impose revised and/or additional limitations on the irrigation of new landscaping, as specified in Sections 13.08.120 through 13.08.170, and no person shall use, or cause to be used, city water in violation of such limitations while the water shortage remains in effect. A waiver may be granted to irrigate during an establishment period for actively used turf areas and/or sports fields. Allowance shall also be made for irrigation testing and repairs.*
- G. *All site reviews shall include an evaluation of using recycled water. Recycled water shall be required if economically feasible. The application of potable water to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures is prohibited.*

The following definitions of water waste are listed in LMC 13.08.030.1:



- A. *Causing or permitting water to leak, discharge, flow or run to waste into any gutter, sanitary sewer, watercourse or public or private storm drain, or to any adjacent property, from any tap, hose, faucet, pipe, sprinkler, pond, pool, waterway, fountain or nozzle. In the case of irrigation, “discharge,” “flow” or “run to waste” means that the earth intended to be irrigated has been saturated with water to the point that excess water flows over or through the earth to waste. In the case of washing, “discharge,” “flow” or “run to waste” means that water in excess of that necessary to wash, wet or clean the dirty or dusty object, such as an automobile, sidewalk, or parking area, flows to waste.*
- B. *Allowing water fixtures (including, but not limited to, toilets, faucets, shower heads) or heating or cooling devices to leak or run to waste.*
- C. *Maintaining ponds, waterways, decorative basins or swimming pools without water recirculation devices.*
- D. *Backwashing so as to discharge to waste swimming pools, decorative basins or ponds in excess of the frequency necessary to ensure the healthful condition of the water or in excess of that required by standards for professionally administered maintenance or to address structural considerations, as determined by the city manager, or designee.*
- E. *Operation of an irrigation system that applies water to an impervious surface or that is in disrepair.*
- F. *Use of a water hose not equipped with a control nozzle capable of completely shutting off the flow of water except when positive pressure is applied.*
- G. *Irrigation of landscaping during rainfall or 48 hours after a measurable rain event.*
- H. *Overfilling of any pond, pool or fountain which results in water discharging to waste.*

In subsequent stages of the WSCP, the City is empowered to further reduce or eliminate water waste during periods of water supply shortage or emergency. These measures are described in more detail in Section 8 and Appendix I.

Enforcement of the water waste prohibition is documented in LMC Chapter 13.08.300 and involves a series of warning/notification informing customers of the identified violations and the need for corrective action. Water waste violations are enforced in the same manner as violations of the WSCP (see Section 8 and Appendix I). If the first warning/notification does not induce compliance, the City levies a fine with any necessary second, third, or fourth notifications. If those do not result in compliance, the City installs a flow restrictor that will remain in place for the remainder of the drought or water emergency.

### 9.1.2 DMM 2 – Metering

**CWC § 526 (a)**

*Notwithstanding any other provision of law, an urban water supplier that, on or after January 1, 2004, receives water from the federal Central Valley Project under a water service contract or subcontract ... shall do both of the following:*

*(1) On or before January 1, 2013, install water meters on all service connections to residential and nonagricultural commercial buildings constructed prior to January 1, 1992, located within its service area.*

*(2) On and after March 1, 2013, or according to the terms of the Central Valley Project water contract in operation, charge customers for water based on the actual volume of deliveries, as measured by a water meter.*

**CWC § 527 (a)**

*(a) An urban water supplier that is not subject to Section 526 shall do both of the following:*

*(1) Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2025.*

All water service connections in the City are metered and billed monthly according to the volume of use. The City is installing Advanced Metering Infrastructure (AMI) anticipating full implementation by 2023. The City has installed radio-capable water meters at all of its water service connections. Currently, a portion of these meters can send signals to antennae installed in several neighborhoods, while the remainder require City staff to drive a route around the City to receive signals from each meter. Meter reading begins on the 10th of every month and is complete by the 15th. The ability to perform meter readings remotely via radio enhances data acquisition and can potentially alert customers or the City when there is a leak, potentially reducing wasted water. The City intends to adapt the metering system to deliver signals directly to City Hall in the future to reduce lag time and the number of employee hours necessary to compile meter readings.

Some non-residential and multifamily customers have separate irrigation meters to monitor water use for landscape irrigation separately from indoor uses. The City adopted the California Department of Water Resources (DWR) Model Water Efficient Landscaping Ordinance (MWELO) in LMC Chapter 17.92.060, which requires certain residential and non-residential projects to install separate irrigation meters if landscaped areas meet specific size thresholds.<sup>26</sup>

### 9.1.3 DMM 3 – Conservation Pricing

The City's water rate structure consists of a base service rate and a commodity rate.<sup>27</sup> The City's base service rate is tied to the size of each customer's meter. Current (2020) meter service charges range from

---

<sup>26</sup> Per California Code of Regulation §492.7(a)(1)(A), landscape water meters must be installed for residential irrigated landscapes of 5,000 square feet or greater and for non-residential irrigated landscapes between 1,000 square feet and 5,000 square feet (at which point CWC §535 applies).

<sup>27</sup> The City's current water rate structure is available online at: [https://www.ci.lathrop.ca.us/sites/default/files/fileattachments/finance/page/4031/master\\_fee\\_schedule\\_2020.pdf](https://www.ci.lathrop.ca.us/sites/default/files/fileattachments/finance/page/4031/master_fee_schedule_2020.pdf)



## Demand Management Measures

### 2020 Urban Water Management Plan

#### City of Lathrop



\$16.30 per month for a 5/8-inch diameter meter to \$2,845.00 for a 12-inch meter. The City's current (2020) commodity rate is \$3.99 per 1,000 gallons.

The City Council maintains the authority to adopt conservation pricing and water use surcharges in times of need (see Appendix I).

#### **9.1.4 DMM 4 – Public Education and Outreach**

The City distributes information about water conservation to the public through information in water conservation kits, website updates, annual Consumer Confidence Reports (CCRs), monthly city newsletters, and community events. The City's public information program is managed by the City's Water Conservation Coordinator and includes the following:

- The City maintains an internet website that posts public information to promote water conservation practices.
- Annual consumer confidence reports are distributed to the City's water customers and contain water conservation information.
- The City sets up information booths at the City's annual birthday celebration, Earth Day, Lathrop Recycles Day, and at other City events (see descriptions below).

In addition, the City conducts the following public and school education activities<sup>28</sup>:

- Lathrop Beautification Day: The Solid Waste and Conservation Coordinator provides education to the volunteer groups involved that day (e.g., Lathrop High School, residents, Cub Scouts).
  - Year started: 2003
  - Number of persons reached: Medium scale, 100-150 residents/children
- National Night Out: This event is for all the residents of Lathrop and their families. The Solid Waste and Conservation Coordinator includes indoor/outdoor water conservation kit information and pamphlets on how residents can lower their water bill by conserving.
  - Year started: 2003
  - Number of persons reached: Medium scale, 100-150 residents/children
- Manteca Unified School District (MUSD) Planet Party (Earth Day): This event includes all of MUSD's 6th grade students. The Solid Waste and Conservation Coordinator gives the students a 10-minute presentation on clean air, water, recycling, energy, conservation/agriculture, or green innovations. Water conservation was the main topic presented in April 2010 and included information on the water cycle and water pollution prevention. The presentation also included a pop-quiz that awarded the highest scoring 6th grade class with an end of the school year pizza party.
  - Year started: April 2010
  - Number of persons reached: Large scale, 2,000 6th grade students

---

<sup>28</sup> These activities are currently on hold due to COVID-19 and will resume when safe to do so.



#### **9.1.5 DMM 5 – Programs to Assess and Manage Distribution System Real Loss**

The City currently evaluates monthly consumption reports for extreme variations, and, if a variation is noted, the City checks the meter for leaks. If a leak is detected, the City notifies the customer to repair the leak.

The City completes an AWWA Water Loss Worksheet annually, which could be found in the DWR's Water Use Efficiency Data Portal.<sup>29</sup> Completion of this worksheet allows the City to estimate real water loss, which consists of water loss attributable to the distribution system and includes physical water loss from the pressurized system and storage tanks up to the point of customer consumption. City staff have also attended Water Loss Technical Assistance Program (TAP) workshops and trainings to receive instruction on the proper utilization of this software.

#### **9.1.6 DMM 6 – Water Conservation Program Coordination and Staffing Support**

The City Water Conservation Coordinator is responsible for coordinating the implementation of DMMs and providing water conservation information to residents.

Activities performed by the Water Conservation Coordinator include:

- Interprets and responds to inquiries regarding related City ordinances.
- Educates the public in resource conservation, green waste, recycling, composting, and household waste for cross contamination and distributes a recycling and conservation guide.
- Coordinates solid waste cleanup, resource conservation, and recycling efforts with other City departments, including Lathrop Beautification Day and National Night Out described in Section 9.1.4.
- Responds to public inquiries and provides information regarding the City's resource conservation, solid waste, and recycling services.
- Leads and conducts a variety of activities and programs at recreation facilities, schools, City events, and staff training, including the Manteca Unified School District (MUSD) Planet Party (Earth Day) described in Section 9.1.4.
- Coordinates activities related to programs managed such as marketing and public relations programs, including news releases and publicity; develops flyers, pamphlets, and brochures for public distribution; distributes indoor/outdoor conservation kits.
- Maintains awareness of local and state-wide supply issues; reviews proposed and newly implemented legislative changes; monitors activities of governmental regulatory agencies; and prepares appropriate analysis for the management staff, outside agencies, the City Council, and the public. Prepares Conservation Report for the SWRCB and distributes the CCR.
- Establishes positive working relationships with and provides information to representatives of community organizations, state/local agencies and associations, City management and staff, and the public.

---

<sup>29</sup> DWR's Water Use Efficiency Data Portal: [https://wuedata.water.ca.gov/awwa\\_plans](https://wuedata.water.ca.gov/awwa_plans).



### 9.1.7 DMM 7 – Other DMMs

Other DMMs provided by the City, in addition to those discussed above, include the following:

- **Large Landscape Conservation Programs:** The City has a large landscape conservation program which was started in 2005. As of 2020 the City had 192 landscape accounts. The City currently complies with the State Water Model Ordinance Standards for design of new landscaping. The City has also implemented a program in which evapotranspiration (ET) irrigation controllers are installed for lawns, parks, and other landscaped areas within future developments at the expense of the homebuilders. All of the existing parks and most of the streetscapes are currently controlled by ET irrigation controllers.
- **Water Conservation Kits:** The City offers free water conservation kits free of charge to all residents (as the budget allows for the City’s program). Each kit contains a low flow showerhead, a faucet aerator for the kitchen or bathroom, a water displacement bag for toilet tanks, a fill cycle diverter, toilet leak detection dye tablets, and a shower timer. Also included with the kits is an instructional booklet with installation instructions and other water saving tips<sup>30</sup>. The City gave out 77 water conservation kits between 2016 and 2020.<sup>31</sup>

## 9.2 Implementation Over the Past Five Years

**Table 9-1** summarizes the DMMs implemented by the City and the extent of implementation (e.g., number of surveys, number of rebates) for each of the programs listed under DMM-7 each year between 2016 and 2020. Through implementation of the DMMs, the City has been able to help its customers achieve water and cost savings.

---

<sup>30</sup> The Water Conservation Kit Handbook could be found in the City’s website: [https://www.ci.lathrop.ca.us/sites/default/files/fileattachments/public\\_works/page/1681/water\\_conservation\\_kit\\_-\\_2019\\_handbook\\_draft.pdf](https://www.ci.lathrop.ca.us/sites/default/files/fileattachments/public_works/page/1681/water_conservation_kit_-_2019_handbook_draft.pdf).

<sup>31</sup> The City did not have record of giving out water conservation kits in 2017.



**Table 9-1 Summary of DMMs and Implementation over the Past Five Years (2016-2020)**

DMM Category	Program or Activity	Target Sector	Nature of Implementation	Extent of Implementation
1	Water Waste Prevention Ordinances	SFR, MFR, CII, and IRR	Prohibition of water uses to prevent water waste was included in LMC Chapter 13.08.170. The City is updating its prohibition of water waste requirements, which will be adopted by ordinance as part of LMC 13.08.030 and 13.08.120.	Prohibitions of water uses to prevent water waste were in place during 2016-2020.
2	Metering	SFR, MFR, CII, and IRR	All water service connections are metered. Meters are radio-capable, and City staff drives a route around the City to receive signals from each meter. Meter reading occurs between the 10 <sup>th</sup> and 15 <sup>th</sup> of each month.	All accounts are metered and read on a monthly basis.
3	Conservation Pricing	SFR, MFR, CII, and IRR	The current water rate structure includes only a flat water consumption charge. The WSCP includes penalties and surcharges for excess water usage in higher stages.	The City does not currently implement conservation pricing.
4	Water Conservation Kits and Information Booklets	SFR and MFR	Information booklets on water conservation included with water conservation kits.	77 water conservation kits have been distributed from 2016 to 2020. The City did not have record of giving out water conservation kits in 2017.
4	Public Education Programs	SFR and MFR	The City has booths focused on water conservation at several city-wide or school events, including Lathrop Beautification Day, National Night Out, and the Manteca Unified School District Planet Party – Earth Day.	Lathrop Beautification Day – approximately 100-150 attendees annually. National Night Out – approximately 100-150 attendees annually. Manteca Unified School District Planet Party – Earth Day – approximately 2,000 attendees annually.
4	Website Updates	SFR and MFR	Information about water conservation in the City updated to the City website intermittently. The City website includes a page describing the water conservation ordinances and suggestions for how to save on residential water bills: <a href="https://www.ci.lathrop.ca.us/publicworks/page/water-conservation-0">https://www.ci.lathrop.ca.us/publicworks/page/water-conservation-0</a>	The City maintained water conservation website updates during 2016-2020.



**Table 9-1 Summary of DMMs and Implementation over the Past Five Years (2016-2020)**

DMM Category	Program or Activity	Target Sector	Nature of Implementation	Extent of Implementation
4	Conservation Information on Annual Consumer Confidence Reports	SFR and MFR	Annual Consumer Confidence Report (CCR) includes section on water conservation that described current drought status.	CCR with water conservation information distributed to all SFR and MFR customers during 2016-2020.
5	AWWA Water Loss Worksheet	Non-revenue	The City completes a AWWA Water Loss Worksheet annually, which allows the City to estimate “real water loss.” Real water loss consists of water loss attributable to the distribution system and includes physical water loss from the pressurized system and storage tanks up to the point of customer consumption.	2020 AWWA Validity Score = 68
6	Water Conservation Coordinator	SFR, MFR, CII, and IRR	City employs a Water Conservation Coordinator; the water conservation efforts are additionally supported by several employees in the Public Works and Finance Departments.	City currently assign one staff as a water conservation coordinator.
7	Large Landscape Conservation Programs	IRR and CII	The City’s Design & Construction Standards specify that irrigation system controllers installed should be programmed to match the irrigation rate with the evapotranspiration rate for the irrigated turf or plants.	The City has 192 irrigation service connections in 2020.
7	Water Conservation Kits	SFR, MFR, and CII	Water-saving fixtures and other items are available to all residents, budget permitting. These water conservation kits include a low flow showerhead, a faucet aerator for the kitchen or bathroom, a water displacement bag for toilet tanks, a fill cycle diverter, toilet leak detection dye tablets, and a shower timer.	77 water conservation kits have been distributed from 2016 to 2020. The City did not have record of giving out water conservation kits in 2017.



### 9.3 Planned Implementation to Achieve Water Use Targets

**CWC § 10631 (e)**

*Provide a description of the supplier’s water demand management measures. This description shall include all of the following:*

*(1) (A) ... The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.*

Beginning in 2023, urban water retailers will be required to report on “annual water use objectives” by November 1 of each year and achieve these objectives by 1 January 2027 (per CWC § 10609). The annual water use objectives will be calculated based on standards for indoor residential water use, outdoor residential water use, and distribution system water loss. Additionally, it is anticipated that performance-based standards for the commercial, industrial, and institutional sectors, separate from the annual water use objectives, will also be developed by DWR and implemented in the future. However, the specific standards that will be used to determine a retailer’s annual urban water use objectives are currently under development by DWR, and thus, the annual urban water use objectives for the City cannot be calculated or estimated. Therefore, the City intends to continue implementing DMMs and will evaluate potential adjustments needed to these programs as the annual water use objective standard methodologies are developed in the coming years.



## 10. PLAN ADOPTION AND SUBMITTAL

This chapter provides information on a public hearing, the adoption process for the Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP), the adopted UWMP and WSCP submittal process, plan implementation, and the process for amending the adopted UWMP or WSCP.

### 10.1 Notification of UWMP Preparation

#### **CWC § 10621 (b)**

*Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.*

On 12 December 2020, the City of Lathrop (City) sent a letter to five entities including the County of San Joaquin and other local agencies informing them that the City was in the process of updating its UWMP and WSCP and soliciting their input in the update process. A listing of the entities contacted is provided in **Table 2-4**; the notices are included in Appendix C for reference. The letter was sent more than 60 days before the public hearing as required by code.

### 10.2 Notification of Public Hearing

#### **CWC § 10642**

*Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of both the plan and the water shortage contingency plan. Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies. Notices by a local public agency pursuant to this section shall be provided pursuant to Chapter 17.5 (commencing with Section 7290) of Division 7 of Title 1 of the Government Code. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing or hearings.*

#### 10.2.1 Notice to Cities and Counties

At least two weeks prior to the public hearing, the entities mentioned above in Section 10.1 were noticed that the UWMP and WSCP public hearing would be occurring on 14 June 2021. The letter informed them of the locations the Public Review Draft 2020 UWMP and the updated WSCP would be available for review and welcoming their input and comments on the document. The Public Review Draft 2020 UWMP and the



WSCP was available for public review on the City’s website. **Table 2-4** lists the cities, counties, and other agencies that were notified. Copies of these letters are provided in Appendix C.

### 10.2.2 Notice to the Public

The City issued public notifications soliciting public input during the preparation of 2020 UWMP and the WSCP. On 28 May 2021 and 4 June 2021, the City published a notice in Manteca Bulletin informing the public that the 2020 UWMP and the WSCP would be available for public review on the City’s website, consistent with requirements of California Government Code 6066. The notice also informed the public that the 2020 UWMP and WSCP public hearing would be held at City Hall on 14 June 2021. A copy of this notice is included in Appendix D.

## 10.3 Public Hearing and Adoption

### **CWC § 10608.26**

*(a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:*

*(1) Allow community input regarding the urban retail water supplier’s implementation plan for complying with this part.*

*(2) Consider the economic impacts of the urban retail water supplier’s implementation plan for complying with this part.*

*(3) Adopt a method, pursuant to subdivision (b) of Section 10608.20, for determining its urban water use target.*

Prior to adopting the Plan, the City held a formal public hearing to present information on the 2020 UWMP and WSCP on 14 June 2021 virtually and at the following location:

Lathrop City Hall  
390 Towne Centre Dr  
95330, CA

As part of the public hearing, the City provided the audience with information on compliance with the Senate Bill (SB) x7-7, including its baseline daily per capita water use, water use targets, implementation plan, and 2020 compliance.

This UWMP and the WSCP included as Appendix I was adopted by Resolution No. 21-4909 by the City Council during its 14 June 2021 City Council meeting. A copy of the resolution is included in Appendix J.





## 10.4 Plan Submittal

### CWC § 10621

*(f) (1) Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.*

### CWC § 10635 (c)

*The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.*

### CWC § 10644

*(a) (1) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.*

*(2) The plan, or amendments to the plan, submitted to the department pursuant to paragraph (1) shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.*

*(b) If an urban water supplier revises its water shortage contingency plan, the supplier shall submit to the department a copy of its water shortage contingency plan prepared pursuant to subdivision (a) of Section 10632 no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.*

This UWMP and WSCP were submitted to DWR within 30 days of adoption and by the 1 July 2021 deadline. The submittal was done electronically through Water Use Efficiency Data Portal, an online submittal tool. The adopted Plan was also sent to the California State Library and to the cities and counties listed in **Table 2-4**.

## 10.5 Public Availability

### CWC § 10645

*(a) Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.*

*(b) Not later than 30 days after filing a copy of its water shortage contingency plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.*

On or about 26 May 2021, the draft 2020 UWMP and WSCP were made available for review on the City's website (<https://www.ci.lathrop.ca.us/publicworks/page/urban-water-management-plan>).



## 10.6 Amending an Adopted UWMP or Water Shortage Contingency Plan

**CWC § 10644 (b)**

*If an urban water supplier revises its water shortage contingency plan, the supplier shall submit to the department a copy of its water shortage contingency plan prepared pursuant to subdivision (a) of Section 10632 no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.*

If the Plan is amended, each of the steps for notification, public hearing, adoption, and submittal will also be followed for the amended document.

## References

### 2020 Urban Water Management Plan

#### City of Lathrop



## REFERENCES

California Building Standards Commission. CAL Green Code, effective 2014 with supplements effective 2015: <http://www.bsc.ca.gov/Home/CALGreen.aspx>

De Novo Planning Group (2019) Final Housing Element, prepared for the City of Lathrop, adopted on 9 December 2019.

DWR, 2015. Department of Water Resources Model Water Efficient Landscape Ordinance (California Code of Regulations, Title 23, Division 2, Chapter 2.7), dated July 9, 2015.

DWR, 2020. Guidebook for Urban Water Suppliers, 2020 Urban Water Management Plan, dated March 2021.

DWR, 2016. Methodologies for Calculating Baseline and Compliance Urban Per Capita Water, California Department of Water Resources Division of Statewide Integrated Water Management Water Use and Efficiency Branch, updated March 2016.

DWR, 2019a. Sustainable Groundwater Management Act 2018 Basin Prioritization, State of California, January 2019.

DWR, 2019b. Sustainable Groundwater Management Act 2019 Basin Prioritization – Process and Results, State of California, April 2019. [https://www.emwd.org/sites/default/files/file-attachments/sgma\\_basin\\_prioritization\\_2019\\_results.pdf?1559164669](https://www.emwd.org/sites/default/files/file-attachments/sgma_basin_prioritization_2019_results.pdf?1559164669)

EKI, 2019a. City of Lathrop Water System Master Plan, prepared by EKI Environmental and Water, Inc. dated December 2019.

EKI, 2019b. City of Lathrop Recycled Water System Master Plan, prepared by EKI Environmental and Water, Inc. dated December 2019.

EKI, 2020a. Technical Memorandum - CTF Effluent Discharge and Recycled Water Systems Operations, dated 13 May 2020.

EKI, 2020b. Addendum to City of Lathrop CTF Engineering Report for the Production, Distribution, and Use of Recycled Water, dated March 2020.

GEI, 2020. Draft Tracy Subbasin Groundwater Sustainability Plan, Chapters 1-3, prepared by GEI Consultants, dated on 23 June 2020.

Lathrop, 2017. General Plan Map, dated 16 October 2017, accessed on 26 January 2021. [https://www.ci.lathrop.ca.us/sites/default/files/fileattachments/planning\\_division/page/5251/general\\_plan\\_map\\_oct.2017.pdf](https://www.ci.lathrop.ca.us/sites/default/files/fileattachments/planning_division/page/5251/general_plan_map_oct.2017.pdf)

Lathrop, 2016. Municipal Service Review and Sphere of Influence Plan, 14 April 2016.

Lathrop, 2019. City of Lathrop General Plan Existing Conditions Report, dated in 2019.

Woodard & Curran, 2020a. River Islands Phase 2 Development Water Supply Assessment, dated September 2020.

Woodard & Curran, 2020b. Technical Memorandum - Water Balance Revisions and Permitted Flow Increases, draft dated 22 September 2020.

## References

### 2020 Urban Water Management Plan

#### City of Lathrop



State of California, Department of Finance, E-4 Population Estimates for Cities, Counties, and the State, 2011-2020, with 2010 Census Benchmark. Sacramento, California, May 2020.



## APPENDIX A

### COMPLETED UWMP CHECKLIST



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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 1.6
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	Section 2.1 and Table 2-1
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 1.3 and 2.2.2 and Table 2-4



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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 2.2.3
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	Section 2.2.1 and Table 2-3
	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	N/A
x	x	Section 3.1	10631(a)	Describe the water supplier service area.	System Description	Chapter 3
x	x	Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.5
x	x	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Section 3.2 and Table 3-1
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 and Table 3-2



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	x	Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.2 and 5.1, Table 3-1
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	Chapter 4, Tables 4-2, 4-5, and 4-10
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 4.1.3, Table 4-3
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 4.2.5, Table 4-9
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 4.2
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 4.1.3, Table 4-3
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 4.2.3, Table 4-7
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 4.4





Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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
x		Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Section 5.4, Table 5-2
	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	N/A
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	Section 5.4, Table 5-2
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	Section 5.3



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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 6.10.1, 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
x	x	Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	Sections 6.8
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 6.9 and Table 6-11



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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 6.2
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 6.2.2
x	x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	Section 6.2.1
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 6.2
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 6.2



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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 6.2.3 and Table 6-2
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 6.2.3.3 and Table 6-11
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 6.7
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 6.5.2 and Tables 6-5
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 6.5.4 and Table 6-7
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 6.5.4 and Table 6-7



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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 6.5.4 and Table 6-6 and 6-7
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 6.5.5 and Table 6-8
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 6.5.5 and Table 6-8
x	x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6
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 6.5.2 and Table 6-3 and 6-5
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	Sections 6.8 and Table 6-9



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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 6.11 and Table 6-12
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	Section 7.1.1.4
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	Section 7.1.4
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	Section 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	Section 7.2



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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	Section 7.2.1
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	Section 7.1.2 and Tables 7-4 to 7-6
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	Section 7.1.3 and Tables 7-7 to 7-9
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	Sections 6.10, and 7.1.1
x	x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Chapter 8, Appendix H
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	Appendix I – Chapter 2



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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	Appendix I – Chapters 12 and 13
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	Appendix I – Chapter 4
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	Appendix I – Chapter 4
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	Appendix H– Chapter 5
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	Appendix I – Chapter 5





Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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	Appendix I – Section 6.1
x	x	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	Appendix I – Section 6.2 and Table 6-1
x	x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Appendix I – C Section 6.3 and Table 6-2
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	Appendix I – Section 6.5 and Table 6-1
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	Appendix I – Section 6.6
x	x	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	Appendix I – Chapter 7
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	Appendix I – Chapter 8



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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	Appendix I – Chapter 8
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	Appendix I – Chapter 9
x	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	Appendix I – Chapter 10
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	Appendix I – Chapter 10
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	Appendix I – Chapter 10
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	Appendix I – Chapter 11
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	Appendix I – Chapter 11



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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	Appendix I – Chapter 11
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	Appendix I – Chapter 12
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	Appendix I – Section 6.4
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	Appendix I – Chapter 14
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	Appendix I – Chapter 14



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
	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	N/A
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 10.3
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 2.2.2 and 10.1 and Table 2-4
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 10.4



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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 10.5
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
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	Section 10.3 and Appendix I
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	Section 10.4 and Appendix J
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	Section 10.4 and Appendix J
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 10.4



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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	Section 10.5
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	Section 10.5
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	N/A
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



## APPENDIX B

### WATER SUPPLY DEVELOPMENT AND OPERATING AGREEMENT BETWEEN THE CITY AND SSJID

## **ITEM 4.7**

### **CITY MANAGER'S REPORT AUGUST 10, 2020 CITY COUNCIL REGULAR MEETING**

**ITEM:** **SSJID WATER SUPPLY DEVELOPMENT AND OPERATING AGREEMENT**

**RECOMMENDATION:** **Adopt Resolution Approving a Water Supply Development and Operating Agreement with the South San Joaquin Irrigation District**

---

#### **SUMMARY:**

The City of Lathrop purchases a portion of its potable drinking water from the South San Joaquin Irrigation District (SSJID). In October 1995, the City entered into the initial Water Supply Development Agreement (WSDA) with SSJID. The WSDA defines how much water the City is entitled to, how to obtain the water and terms of payment.

The original WSDA was written 25 years ago, it includes funding options that were not chosen for the original facility, it lacks needed details regarding operation of the facility, and so it is time to replace it with an updated Agreement.

Staff has worked with SSJID, as well as other Cities that purchase treated surface water from SSJID, to develop an updated WSDA. Staff requests Council adopt a resolution approving an updated Water Supply Development and Operating Agreement with SSJID

#### **BACKGROUND:**

In October 1995, the City of Lathrop entered into the initial Water Supply Development Agreement (WSDA) with SSJID to provide treated surface water to the City and other project participants including the cities of Escalon, Manteca and Tracy. The initial WSDA defined and established annual allotments of surface water for each project participant for an initial Phase I and future Phase II allotments to support new development. The South County Water Supply Project (Project) included construction of the DeGroot Water Treatment Plant located at Woodside Reservoir near the City of Escalon, conveyance pipelines, and turnout facilities to deliver the treated water to each of the project participants. Delivery of treated surface water began in 2005.

The initial project participant agreements have been amended several times over the years, which included the sale of a portion of the City of Lathrop's initial Phase I allotment to the City of Tracy in 2013. The original WSDA was written 25 years ago, it includes funding options that were not chosen for the original facility, it lacks needed details regarding operation of the facility, and so it is time to replace it with an updated Agreement.



**CITY MANAGER'S REPORT**  
**AUGUST 10, 2020, CITY COUNCIL REGULAR MEETING**  
**SSJID WATER SUPPLY DEVELOPMENT AND OPERATING AGREEMENT**

**PAGE 2**

The project participants now desire to enter into a Water Supply Development and Operating Agreement to supersede and replace the initial WSDA in its entirety, without disturbing the subsequent side agreements between SSJID and the individual project participants. By entering into this Water Supply Development and Operating Agreement, the City and other project participants intend to preserve their ability to receive treated surface water according to their Phase I allotment into the future through the existing facilities and subsequent construction of the Phase II Project facilities. The Water Supply Development and Operating Agreement also establishes the terms and conditions under which each project participant obtains the right to acquire and obligation to pay for treated water from the Project.

**REASON FOR RECOMMENDATION:**

By entering into this updated Water Supply Development and Operating Agreement, the City and the other project participants intend to preserve their ability to receive treated surface water from SSJID into the future through the existing Phase I facilities and subsequent construction of the Phase II Project facilities and to clarify how the facility is to be operated.

**FISCAL IMPACT:**

No fiscal impacts are associated with this action. The City will continue be invoiced by SSJID for the treated surface water and capital improvements under the updated Water Supply Development and Operating Agreement using similar rates and procedures as per the existing agreement.

**ATTACHMENTS:**

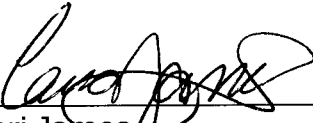
- A. Resolution Approving a Water Supply Development and Operating Agreement with the South San Joaquin Irrigation District
- B. Water Supply Development and Operating Agreement with the South San Joaquin Irrigation District

**CITY MANAGER'S REPORT  
AUGUST 10, 2020, CITY COUNCIL REGULAR MEETING  
SSJID WATER SUPPLY DEVELOPMENT AND OPERATING AGREEMENT**

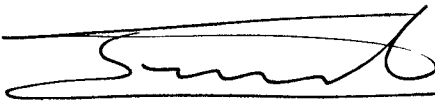
**APPROVALS**

  
\_\_\_\_\_  
Michael King  
Director of Public Works

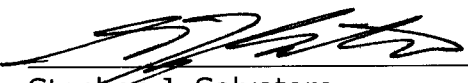
8-4-20  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Cari James  
Finance & Administrative  
Services Director

8/5/2020  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Salvador Navarrete  
City Attorney

8-4-2020  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Stephen J. Salvatore  
City Manager

8-5-2020  
\_\_\_\_\_  
Date

**RESOLUTION NO. 20 -**

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LATHROP APPROVING A WATER SUPPLY DEVELOPMENT AND OPERATING AGREEMENT WITH THE SOUTH SAN JOAQUIN IRRIGATION DISTRICT**

**WHEREAS**, in October 1995, the City of Lathrop entered into the initial Water Supply Development Agreement (WSDA) with SSJID to provide treated surface water to the City and other project participants including the cities of Escalon, Manteca and Tracy; and

**WHEREAS**, the initial WSDA defined and established annual allotments of surface water for each project participant for an initial Phase I and future Phase II allotments to support new development; and

**WHEREAS**, the South County Water Supply Project (Project) included construction of the DeGroot Water Treatment Plant located at Woodside Reservoir near the City of Escalon, conveyance pipelines, and turnout facilities to deliver the treated water to each of the project participants; and

**WHEREAS**, delivery of treated surface water began in 2005, and the initial project participant agreements have been amended several times over the years, which included the sale of a portion of the City of Lathrop's initial Phase I allotment to the City of Tracy in 2013; and

**WHEREAS**, the original WSDA was written 25 years ago, it includes funding options that were not chosen for the original facility, it lacks needed details regarding operation of the facility, and so it is time to replace it with an updated Agreement; and

**WHEREAS**, the project participants now desire to enter into an updated Water Supply Development and Operating Agreement to supersede and replace the initial WSDA in its entirety, without disturbing the subsequent side agreements between SSJID and the individual project participants; and

**WHEREAS**, by entering into this updated Water Supply Development and Operating Agreement, the City and other project participants intend to preserve their ability to receive treated surface water according to their Phase I allotment into the future through the existing facilities and subsequent construction of the Phase II Project facilities, and

**WHEREAS**, the updated Water Supply Development and Operating Agreement establishes the terms and conditions under which each project participant obtains the right to acquire and obligation to pay for treated water from the Project.

**NOW, THEREFORE, BE IT RESOLVED**, the City Council of the City of Lathrop does hereby approve a Water Supply Development and Operating Agreement with the South San Joaquin Irrigation District.

The foregoing resolution was passed and adopted this 10<sup>th</sup> day of August 2020, by the following vote of the City Council, to wit:

AYES:

NOES:

ABSENT:

ABSTAIN:

\_\_\_\_\_  
Sonny Dhaliwal, Mayor

**ATTEST:**

\_\_\_\_\_  
Teresa Vargas, City Clerk

**APPROVED AS TO FORM:**

  
\_\_\_\_\_  
Salvador Navarrete, City Attorney

## **WATER SUPPLY DEVELOPMENT AND OPERATING AGREEMENT**

This Water Supply Development and Operating Agreement (“Water Supply Agreement”), dated as of **August 10<sup>th</sup>, 2020**, by and between the South San Joaquin Irrigation District (the "District"), an irrigation district duly organized and existing pursuant to the Irrigation District Act (the "Irrigation District Act"), commencing with California Water Code, Section 20500 and the City of Lathrop (the "City"), a municipal corporation created pursuant to the constitution and laws of the State of California. The District and City are referred in this Water Supply Agreement collectively as “Parties” and individually as “Party.”

### **RECITALS**

- A. WHEREAS, on or about October 1, 1995, the City entered into the Initial Agreement with the District to provide for the construction, operation, and financing of the Project and to specify the City’s right to acquire by purchase, treated water up to the amount specified as the City’s Project Allotment in the Initial Agreement (capitalized terms used herein have the meanings set forth in Section 2); and
- B. WHEREAS, all Project Participants entered into an Initial Project Participant Agreement with the District, similar to the Initial Agreement, to fund and construct the Project and to specify each Project Participant’s right to acquire treated water; and
- C. WHEREAS, the District after consultation with the Operating Committee, constructed the Project with the Assigned Capacity of the Water Treatment Plant and the capacity of each Reach of the Project to serve the City with the flow rate requested by the City as was agreed to by the City. The cost of the Project was divided among the Project Participants, pro rata using Project Allotments and Assigned Capacities as the allocation factors; and
- D. WHEREAS, the various Initial Project Participant Agreements were amended as follows:
  - 1. On or about July 11, 2000, the District and the City of Manteca and the District and the City of Lathrop, entered into Amendment No. 1 to the Initial Agreement;
  - 2. On or about March 28, 2006, the District and the City of Tracy entered into the “Escalon Amendment to Tracy-SSJID Water Supply Development Agreement” (“Escalon-Tracy Amendment”) and the Cities of Escalon, Manteca, and Lathrop consented to the “Escalon-Tracy Amendment;” and
  - 3. In 2013, the District and the Cities of Tracy and Lathrop entered into the “Lathrop-Tracy Purchase, Sale and Amendment Agreement” which increased the City of Tracy’s Project Allotment by 1,120 acre feet and

reduced the City of Lathrop's Project Allotment by 1,120 acre-feet. Further, the City of Lathrop's share of Assigned Capacity was reduced by 2 million gallons per day and the City of Tracy's share of Assigned Capacity was increased by 2 million gallons per day;

- E. WHEREAS, the Parties desire to enter into this Water Supply Agreement to supersede and replace the Initial Agreement in its entirety, without disturbing those subsequent side agreements between the District and individual Project Participants referenced as various "Amendments" herein, so long as those Amendments are not in conflict with this Water Supply Agreement. This Water Supply Agreement is intended to extend the City's ability to receive treated water from the Project, to acknowledge and maintain the transfer of water in the "Escalon-Tracy Amendment," to acknowledge the "Lathrop-Tracy Purchase, Sale and Amendment Agreement," and to establish the Parties' understanding of the terms and conditions under which the City obtains the right to acquire and obligation to pay for treated water from the Project; and
- F. WHEREAS, by entering into this Water Supply Agreement, the City intends to preserve its ability to receive treated water from the Project in the future through existing facilities and subsequent construction of the Phase II Project facilities, sufficient to serve the City, and for the sale by the District to the City of the annual Project Allotment quantity of water and certain other matters:

## **AGREEMENT**

NOW, THEREFORE, for valuable consideration, the receipt and sufficiency of which is acknowledged, the Parties hereto do agree as follows:

### **Section 1. "Initial Agreement" Superseded.**

This Water Supply Agreement supersedes the Initial Agreement, provided however, that all provisions of the Escalon Amendment to Tracy-SSJID Water Supply Development Agreement and the Lathrop-Tracy Purchase, Sale and Amendment Agreement not in conflict with this Water Supply Agreement remain in full effect.

### **Section 2. Definitions.**

The following terms shall, for all purposes of this Water Supply Agreement have the following meanings:

"Additional Project Participant" means the in-District City of Ripon, which executes a Project Participant Water Supply Agreement in accordance with Section 17.

"Amendments" means the amendments to the Initial Agreement referenced in Recital D.

“Annual Budget” is defined in Section 12.

“Assigned Capacity” is a Project Participant’s share of the design peak flow treatment and delivery capacity used as an allocation factor in dividing the original cost of the Project among the Project Participants, and as shown in Exhibit A. Assigned Capacity is additionally used for determining allocation of shortages in Capacity as set forth in Section 7.

“Capacity” means the expected or actual peak flow rate capacity of the Project or a component of the Project at any given time. The unit of measure for Capacity shall be millions of gallons per day which can be used as a measure of flow rate for a time period of any length.

“Capital Facilities Fund” means the fund described in Section 14(d).

“Capital Improvement & Replacement Costs” means the costs of the Project’s capital assets, other than Capital Investment Costs, according to generally accepted accounting principles and the accounting policies of the District. Capital Improvement & Replacement Costs include capital improvements for the Project that do not create new capacity in the Project. Capital Improvement & Replacement Costs include capital assets which jointly benefit the Project and the District apart from the Project. Capital Improvement & Replacement Costs are included in an annual budget pursuant to Section 12 and allocated among Project Participants.

“Capital Investment Costs” means capital costs incurred by District and the Project Participants related to design, right-of-way, CEQA compliance, construction management and construction of the Project. For the purpose of allocating Capital Investment Costs among the Project Participants pursuant to Section 14, the Capital Investment Costs were first allocated among (i) the raw water pipeline to the Water Treatment Plant, (ii) the Water Treatment Plant, and (iii) to each of the Reaches. Each element of Capital Investment Costs was also identified as being most closely related to Assigned Capacity or to Project Allotment. The allocated cost of the raw water pipeline, the Treatment Plant, and each Reach, was then allocated pro rata among the Project Participants on the basis of each Project Participant’s Assigned Capacity and Project Allotment.

"City" has the meaning set forth in the preamble.

“District” has the meaning set forth in the preamble.

"Fixed O&M Costs" means Project Operation and Maintenance Expenses and a reasonable reserve for contingencies, in each case incurred by the District with respect to the Project, irrespective of the amount of water delivered to the Project Participants and which are not Variable O&M Costs. Fixed O&M Costs are included in the Annual Budget pursuant to Section 12, allocated among Project Participants pursuant to Section 14, and invoiced to Project Participants pursuant to Section 15.

“Initial Agreement” means that certain “Water Supply Development

Agreement” dated as of October 1, 1995, by and between the District and the City.

“Initial Project Participant Agreement” means those certain “Water Supply Development Agreements” dated as of October 1, 1995, by and between the District and each Project Participant, other than the City.

"Operating Committee" means the Operating Committee created in accordance with Section 4 of this Water Supply Agreement.

“Phase II Project” means the planning, design and construction of the facilities necessary to deliver additional treated water to Project Participants for the Phase II Project Allotments as shown on Exhibit A, Table 3. The Phase II Project may be developed and constructed in multiple stages.

“Point of Delivery” means a turnout location along the treated water pipeline.

"Project" means certain facilities necessary to deliver treated water to the Project Participants, including the following; (i) a raw water pipeline to the Water Treatment Plant, (ii) the Water Treatment Plant, and (iii) treated water pipeline, tanks and booster stations to convey treated water from the Water Treatment Plant to the Project Participants.

"Project Allotment" means the quantity of treated water each Project Participant is entitled to purchase from the District each Year. The quantity is set forth as acre-feet of treated water per year and is further identified in Exhibit A, Table 3 as the amount of water for “Phase I.” The Project Allotment set forth in Exhibit A, Table 3 may be amended pursuant to Sections 11 and 22. The Project Allotment may be changed to the amount of water indicated as “Phase II” in Exhibit A, Table 3, in accordance with Sections 18 and 23 of this Water Supply Agreement.

"Project Operation and Maintenance Expenses" means the costs incurred by the District for maintaining and operating the Project, calculated in accordance with generally accepted accounting principles, and including a reasonable allocation of general and administrative costs of the District, but excluding in all cases (i) depreciation, replacement and obsolescence charges or reserves , and (ii) costs which under generally accepted accounting principles and the policies of the District are chargeable to a capital asset account. The method for allocating general and administrative costs of the District is prescribed in Section 14.

"Project Participant" means the City and each City listed in Exhibit A executing a Project Participant Water Supply Agreement with the District in substantial conformity with this Water Supply Agreement.

“Project Participant Water Supply Agreement” means each agreement by and between the District and a Project Participant, which is in substantial conformity with this Water Supply Agreement, as the same may be amended or supplemented from time to time.

“Reach” means a segment of the treated water pipeline which conveys treated



water from the Water Treatment Plant to the Project Participants. Each Reach is an entire segment that serves a unique group of downstream project participants. For example, the segment of the treated water pipeline beginning at the Water Treatment Plant and ending at the first Point of Delivery is one of the Reaches because it is the only pipeline segment that serves a unique group, which in the case of the first reach only, is constituted of all Project Participants.

"Requested Delivery Rate" means a temporary rate of flow for delivery to a Project Participant, determined in accordance with Section 7(c). Among the factors the District will consider when evaluating such a delivery rate request are the effects on other Project Participants. Requested Delivery Rate may be more or less than the Project Participant's Assigned Capacity in accordance with Section 7(c).

"Variable O&M Costs" means Project Operation and Maintenance Expenses incurred by the District in an amount which varies with the amount of water delivered to the Project Participants. Variable O&M Costs also include an amount for raw water provided at the District's then-current established rate. Variable O&M Costs are included in the Annual Budget pursuant to Section 12, allocated among Project Participants pursuant to Section 14, and invoiced to Project Participants pursuant to Section 15.

"Water Supply Agreement" means this Water Supply Agreement by and between the District and the City, as the same may be amended or supplemented from time to time. Each Project Participant shall enter into a separate but identical Water Supply Agreement with the District.

"Water Supply Delivery Schedule" means a written request from the City specifying the portion of the City's Project Allotment which the City requests be delivered by the District to the City in each month of a Year in accordance with Section 6.

"Water Treatment Plant" means water treatment facilities including all associated facilities, rights, properties, electrical facilities and associated improvements.

"Year" means the twelve-month period from January 1 through December 31, both dates inclusive.

### **Section 3. Purpose.**

The purpose of this Water Supply Agreement is for the District to sell and deliver water to the City in accordance with its Project Allotment, and to provide the terms and conditions of such treatment, delivery, and sale. The Parties confirm that this Water Supply Agreement constitutes a contractual right to purchase treated water and that no water right is being transferred by the District to the City or any other Project Participant under this Water Supply Agreement. Each Project Participant acknowledges that the District is entering into Project Participant Agreements with cities located within the District and outside the District and upon execution each Project Participant waives any claim such Project Participant may have to the Project Allotment of other Project Participants.

This Water Supply Agreement is also intended to recognize that certain Project

Participants blend their Project Allotment with groundwater in order to meet certain water quality requirements. The District and the Project Participants endeavor, by entering into this Water Supply Agreement and the other associated Project Participant Agreements, to increase the water delivery reliability of the Project to all Project Participants with the goal of establishing the Project as an uninterrupted potable water supply, should the Project Participants find it desirable, and technically and financially feasible.

**Section 4. Operating Committee.**

(a) General. The District shall form and organize an Operating Committee in accordance with this Section. The Operating Committee for the Project shall consist of the General Manager of the District and the City Manager of each Project Participant unless the District or a Project Participant designates another staff member to serve on the Operating Committee. The Operating Committee shall be chaired by the General Manager of the District or his or her designee. Project Participants and the District shall each have one (1) vote for matters requiring a vote. The Operating Committee shall meet quarterly or at other times when a meeting is called by the chair of the Operating Committee or upon written request by two or more Project Participants. The District shall ensure that the Operating Committee meets to review the proposed Annual Budget pursuant to Section 12, to manage the Capital Facilities Fund pursuant to Section 14(d), to consider the need for beginning Phase II Project pursuant to Section 18, to consider any sale, lease, or other disposition of any portion of the Project pursuant to Section 20(c), to review, evaluate and recommend to the District by majority vote items related to the acquisition, construction, financing, operation and maintenance of the Project and the status of any water rights issues relating to the District's ability to deliver treated water to the City, including but not limited to review of budgets relating to construction, annual operations and maintenance, and other financial and operational matters relating to delivery of treated water to the Project Participants.

(b) Compliance with Agreements. The Operating Committee created by this Section is not authorized to interfere with the District's day-to-day operation of the Project or in any way affect the District's ability to act with respect to any agreement entered into by the District for the maintenance and operation of the Project or any applicable licenses, permits or regulatory provisions. The District shall be responsible for executing contracts relating to maintenance and operation of the Project and fulfilling the obligations of the District.

**Section 5. Determination of Capacities of Water Treatment Plant and Reaches.**

(a) The District shall operate and maintain the Project to provide the City and each Project Participant with its Assigned Capacity as set forth in Exhibit A, and to enable delivery of water to the City and to other Project Participants and at the locations, times, and maximum flow rates agreed to by the District and the City. The

District shall operate the Project in substantial conformance with the Basis of Operation report to be developed and periodically updated.

(b) Capacity Increases Resulting from Technology Advances. The Project was designed using established technology at the time of design. Technology has advanced resulting in increased treatment capacity for the membrane filtration modules. Additional technology changes may occur in the future. Unless otherwise provided in an amendment to this Water Supply Agreement, increases in treatment capacity in unit processes within the Water Treatment Plant shall be allocated to the Project Participants in proportion to their Assigned Capacities in Exhibit A.

**Section 6. Delivery of Water.**

(a) Project Allotment. The District is entitled to appropriate water from the Stanislaus River and the District shall make available to the City its Project Allotment from such appropriated water at the Point(s) of Delivery, subject to the availability of water and compliance with all local, state and federal laws, rules and regulations.

(b) Water Supply Delivery Schedule by City. Pursuant to the terms of this Water Supply Agreement and except as otherwise provided herein, the District shall make available and deliver to the City in each Year the amount of water set forth in the Water Supply Delivery Schedule of the City established pursuant to subsection (d). The District is not obligated to deliver an amount of water in excess of the City's Project Allotment. The District agrees to use its best efforts to deliver water pursuant to this Water Supply Agreement meeting all applicable local, state and federal water quality standards as such standards may be in effect or amended from time to time. The District agrees to operate the Project to provide a correlative priority of use to the City and Project Participants as set forth in this Water Supply Agreement.

(c) Points of Delivery. The District will deliver or cause to be delivered to or for the account of the City the amount of water specified in each Water Supply Delivery Schedule at Delivery Points along the Project to be agreed upon by the District and the City. The District will remain available to make or cause to be made all necessary and possible arrangements for transmission and delivery of such water in accordance with this Water Supply Agreement. New Points of Delivery may be added at the City's expense as may be agreed upon by the City and the District. New Points of Delivery must satisfy the design and operating criteria established by the District. Direct connections of Project Participant transmission facilities to the District transmission main shall be permitted when the District determines they are designed and will be operated to ensure no detrimental effects to water delivery to other Project Participants. Such permit shall not be withheld unreasonably.

(d) Procedure for Determining Water Supply Delivery Schedule. The amounts and times of delivery of water to the City during any Year shall be in accordance with a Water Supply Delivery Schedule for that Year, such schedule to be determined in the following manner:

(1) On or before September 1 of each Year, the City shall submit in writing to the District a preliminary Water Supply Delivery Schedule indicating the amounts of water desired by the City during each month of the succeeding three Years or such lesser or greater period as the District shall determine.

(2) Upon receipt of a preliminary schedule, the District shall review the preliminary schedule and, after consultation with the City, shall make such modifications as are necessary to ensure that the amounts, times, and rates of delivery to the City will be consistent with the District's overall delivery ability, considering the then current delivery schedules of all Project Participants and the District.

(3) A Water Supply Delivery Schedule may be amended by the District upon the City's written request. Proposed amendments shall be submitted by the City within a reasonable time before the desired change is to become effective, and shall be subject to review and modification by the District in like manner as the schedule itself.

(e) Limit on Peak Deliveries of Water from the Water Treatment Plant. The District shall not enter into a contract to deliver treated water from the Water Treatment Plant to any Project Participant at a flow rate greater than the Assigned Capacities set forth in Exhibit A. The District may deliver, and the City may take treated water from the Project at a rate of flow temporarily exceeding the City's Assigned Capacity subject to the provisions of Section 7 for curtailment of delivery, provided the additional flow rate does not harm other Project Participants.

(f) Limit on Rate of Delivery to City. In no event shall the District be obligated to deliver water to the City through any Point of Delivery at an instantaneous rate of flow that would cause harm to other Project Participants. The Project Participants and the District agree to work cooperatively to accommodate water delivery rates best meeting the needs of the Project Participants. The District shall have the final authority in determining the rate of delivery at each Point of Delivery.

(g) Delivery of Water Not Delivered in Accordance with Water Supply Delivery Schedule. If in any Year the District, as a result of causes beyond its control, is unable to deliver any portion of the City's Project Allotment for such Year as provided for in the Water Supply Delivery Schedule established for that Year, the City may elect to receive the amount of water which otherwise would have been delivered to it during such period at other times during the Year, or during the succeeding year, to the extent that such water is then available and such election is consistent with the District's overall delivery ability including Capacity, considering the then current delivery schedules of all Project Participants and the Basis of Operations Report.

(h) Water Quality. The District shall ensure that water treated for delivery to the City meets or is superior to all applicable minimum standards for drinking water quality in effect at the time of delivery, including those established by the State Water

Resources Control Board and any federal agency with jurisdiction over drinking water standards. The District will provide all water quality sampling, reporting, and notification required by State and Federal law. The City and all Project Participants understand and agree that future changes to drinking water quality standards may require implementation of additional processes or technology, and the costs of such implementation shall be the sole responsibility of the Project Participants.

**Section 7. Curtailment of Delivery.**

(a) District May Curtail Deliveries. The District may temporarily discontinue or reduce the delivery of water to the City for the purposes of necessary investigation, inspection, maintenance, repair, or replacement of any of the Project facilities necessary for the delivery of water to the City. The District shall notify the City as far in advance as possible of any such discontinuance or reduction, except in cases of emergency, in which case notice need not be given in advance.

(b) City May Receive Later Delivery of Water Not Delivered. In the event of any discontinuance or reduction of delivery of water pursuant to subsection (a) of this Section, the City may elect to receive the amount of water which otherwise would have been delivered to it in accordance with Section 6(g).

(c) Method of Computation for Curtailed Deliveries. In the event the District, in the judgment of the manager of the Water Treatment Plant, is unable to provide the Requested Delivery Rate to each Project Participant due to total Requested Delivery Rate exceeding Capacity, the District shall curtail deliveries to one or more Project Participants. Assigned Capacities shown in Exhibit A shall be used to determine equitable allocation of available Capacity among the curtailed Project Participants in accordance with the following:

- (1) The curtailment may limit the rate of flow of any or all Project Participants so the combined flow rate to all Project Participants does not exceed the Capacity of the Project at that time, which may be less than the sum of the Assigned Capacities shown in Exhibit A.
- (2) The Assigned Capacities shown in Exhibit A shall be used to determine equitable allocation proportions for available Capacity among the curtailed Project Participants.
- (3) The District shall confirm or ascertain each Project Participant's Requested Delivery Rate during the period of curtailment.
- (4) The District shall identify currently available Capacity and allocate among Project Participants in proportion to their respective shares of their Assigned Capacities.
- (5) The District shall determine how much each Project Participant's Requested Delivery Rate is more or less than the Project Participant's allocation of currently available Capacity.

- (6) If a Project Participant's Requested Delivery Rate is less than the Project Participant's allocation of currently available Capacity, such excess Capacity shall be allocated to the other Project Participants equitably in proportions determined by reference to their Assigned Capacities.
- (7) The Project Participants and the District agree to work cooperatively to accommodate water delivery rates best meeting the needs of the Project Participants. The District shall have the final authority in allocation of Capacity.

**Section 8. Shortage in Water Supply.**

(a) Allocation of Shortages among Project Participants. The District will use all reasonable efforts to ensure against any conditions of shortage in the water supplies available to the Project and to ensure against interruptions in the City's ability to use the Project. In any Year in which there may occur a shortage or interruption due to drought or other cause in the supply of water available for delivery to the Project Participants, including but not limited to shortages or interruptions caused by changes in laws, regulations or rulings relating to or affecting the District's water rights, permits and licenses, and Project impairment, with the result that such supply is less than the total of the annual Project Allotments of all Project Participants for that Year, the District shall reduce the delivery of water to the City pro rata with deliveries to all Project Participants based upon the Project Allotment of the City and each Project Participant without preference or priority among the City and the Project Participants.

(b) Allocation of Shortages between Agricultural Users and the Project. Any shortage or interruption in the supply of water available to the District shall take effect after giving effect to paragraphs (c) and (d) of this section and shall be allocated by the District between agricultural users and the Project Participants, such that any percentage reduction in the delivery of water to the City is approximately equal to the percentage reduction in the delivery of water to the District's in-District agricultural customers who joined the District before October 1, 1995.

(c) Future Annexations of Land to District. The District shall not annex any land to the District unless said annexation shall include an express condition that the lands so annexed shall have an entitlement to receive water from District that is subordinate in priority to the right of City to receive water from District pursuant to this Water Supply Agreement. In any Year in which there may occur a shortage or interruption in the supply of water available to the Project with the result that such supply is less than the total of the annual Project Allotment of all Project Allotments of all Project Participants for the Year, the District shall reduce or suspend the delivery of water by District to lands annexed to District on or after October 1, 1995.

(d) Future Transfers of Water by District. In the event that District enters into any agreement for the sale or transfer of water to any retail or wholesale water provider for consumptive use outside District boundaries, the District shall ensure that such transfer agreement includes an express condition that the transferee shall have

an entitlement to receive water from the District that is subordinate in priority to the right of City. In any Year in which there may occur a shortage or interruption in the supply of water with the result that supply available to the Project Participants is less than the annual Project Allotment of all Project Participants for the year, District will reduce or suspend the delivery of water by the District to such transferee. The District represents and warrants that, as of October 1, 1995, it has not entered into any agreement, other than this Water Supply Agreement, for the sale or transfer of water for use outside the District's boundaries which is not subordinate in priority to the right or the City and the Project Participants.

(e) No Liability for Shortages. Neither the District nor any of its officers, agents, or employees shall be liable for any damage, direct or indirect, arising from the shortages in the amount of water to be made available for delivery to the City under this Water Supply Agreement caused by drought or any other cause beyond its control; provided however that nothing in this clause (e) shall excuse the District from compliance with clauses (a), (b), (c) and (d) of this Section.

#### **Section 9. Measurement of Water Delivered.**

The District shall measure, or cause to be measured, all water delivered to the City and shall keep and maintain accurate and complete records. For this purpose and in accordance with Section 6, the District shall install, operate, and maintain, or cause to be installed, operated and maintained, at all delivery structures for delivery of water to the City such measuring devices and equipment as are satisfactory and acceptable to both Parties. Said devices and equipment shall be examined, tested, and serviced by the District regularly to ensure their accuracy. At any time or times, the City may inspect such measuring devices and equipment, and the measurements and records.

#### **Section 10. Responsibility for Delivery and Distribution of Water.**

(a) Neither the District nor any of its officers, agents, or employees shall be liable for the control, carriage, handling, use, disposal, or distribution of water supplied to the City after such water has passed through a Point of Delivery; nor for claim of damage of any nature whatsoever, including but not limited to property damage, personal injury or death, arising out of or connected with the control, carriage, handling, use, disposal or distribution of such water beyond Point of Delivery and including attorney's fees and other costs of defense in connection therewith; the City shall indemnify and hold harmless the District and its officers, agents, and employees from any such damages or claims of damages.

(b) Neither the City nor any of its officers, agents or employees shall be liable for the control, carriage, handling, use, disposal, or distribution of water to be supplied to the City until such water has reached the Point of Delivery, including but not limited to property damage, personal injury or death, arising out of or connected with the control, carriage, handling, use, disposal or distribution of such water before it has reached said delivery structures and including attorney's fees and other costs

of defense in connection therewith; the District shall indemnify and hold harmless the City and its officers, agents, and employees from any such damages or claims of damages.

**Section 11. Sale or Other Disposition of Project Allotment and Assigned Capacity by City.**

(a) Sale or Other Disposition of Project Allotment Without Approval. The City may sell or otherwise dispose of all or any portion of its Project Allotment to another Project Participant without approval by the District and without written amendment to this Water Supply Agreement, as set forth in Section 22; provided however, that the City provides notice to the District and other Project Participants of such transfer, as provided in Subsection (c).

(b) Transfer of Assigned Capacity. The City may transfer existing Assigned Capacity to or from other Project Participants only with the District's approval. The City may transfer existing Assigned Capacity to or from another Project Participant on a permanent basis, or a temporary basis, on terms agreeable to the subject Project Participants.

(c) Notice of Sale or Other Disposition. The City shall give ninety (90) days' advance written notice to the District and the other Project Participants of any proposed sale, transfer or other disposition pursuant to this Section.

(d) Nothing in this section authorizes the sale or other disposition of the City's Project Allotment to any entity that is not a Project Participant.

**Section 12. Annual Budget.**

The District will prepare an annual budget for each Year for credits, costs and expenses of the Project, including Capital Improvement & Replacement Costs, Fixed O&M Costs, and Variable O&M Costs. The District shall submit a draft of such budget to the Operating Committee on or prior to the November 1 first preceding the budget year for review and comment by the Operating Committee. District staff shall use its best efforts to resolve any questions or concerns raised by a Project Participant during such review. The Board of Directors of the District will adopt a final annual budget for the applicable Year on or before December 31 of each Year and shall allow any Project Participant which may object to any provision of the budget to present such objection to the Board of Directors of the District. The District shall supply a copy of the final annual budget to the City on or before January 15 of each Year. Any amendment to the budget shall be submitted to the Operating Committee for review and comment at least 30 days prior to action thereon by the District Board of Directors. Any such amendment shall be subject to the same requirements applicable to the budget set forth above.

**Section 13. Raw Water Cost**

The cost to the City of raw water is determined using a rate of dollars per acre-foot. The raw water cost shall be lower for Project Participants located within the District and higher for



those Project Participants located outside the District. From time to time, the District may adopt changes in the raw water rates, provided the District first meets and confers with the City and provides the City notice at least twelve (12) months prior to implementation of any such adjustment.

**Section 14. Allocation of Costs and Expenses.**

The City shall pay to the District the City's share of the following costs: (i) Capital Improvement & Replacement Costs, (ii) Fixed O&M Costs, and (iii) Variable O&M Costs. The computation of the City's share of these costs is described in this Section. The District shall not allocate costs and expenses in any way which discriminates among Project Participants which take delivery through the same Reaches, except that the cost of raw water included in Variable O&M Costs may be varied between Project Participants within the boundaries of the District and those outside the boundaries of the District. Project costs shall be allocated in accordance with the following allocation methods:

(a) Method of Allocating Capital Improvement & Replacement Costs. The District shall establish and annually update, as part of the budget process, a capital improvement and replacement program that identifies projects, the timing, and the cost thereof, considering the facilities to be improved or replaced, the years of service remaining in the facilities, and the existing Capital Facilities Fund balance. The program shall use a seven year time horizon and be utilized to assist in determining the target balance for the Capital Facilities Fund. The Operating Committee will be provided opportunity to review and comment on the seven year plan. The District shall charge the City an amount to recover the City's allocable share of Capital Improvement & Replacement Costs. Determination of the City's allocable share of Capital Improvement & Replacement Costs shall employ two steps.

(1) Step 1 is to allocate the cost of Capital Improvement and Replacement Costs which benefit both the Project Participants and the District apart from the Project Participants. The basis of the Step 1 allocation is the pro rata shares of the benefits enjoyed by the Project Participants and by the District apart from the Project Participants. Examples of these benefits include, among others, reduced costs and the volume of water conveyed.

(2) Step 2 is to allocate the total amount of Capital Improvement & Replacement Costs of the Project. The basis of the step 2 allocation is the ratio of the Project Allotment of each Project Participant for which water is treated at the Water Treatment Plant to the total Project Allotment of all Project Participants for which water is treated at the Water Treatment Plant. If a Capital Improvement & Replacement Cost does not benefit all Reaches downstream of the first Reach, and therefore does not benefit all Project Participants, then the cost allocation calculation will involve only those Reaches and Project

Participants that benefit from the Capital Improvement & Replacement Cost.

(b) Method of Allocating Fixed O&M Costs. The District shall charge the City an amount to recover the City's allocable share of Fixed O&M Costs. The total amount of Fixed O&M Costs of the Project shall be allocated among all Project Participants entitled to delivery of treated water from the Water Treatment Plant, based upon the ratio of the Project Allotment of each Project Participant for which water is treated at the Water Treatment Plant to the total Project Allotment of all Project Participants for which water is treated at the Water Treatment Plant. The City and the District acknowledge that if the City has not elected to have all facilities which are a part of the Project constructed with Assigned Capacity to enable the City to take treated water, the City shall not be liable for any Fixed O&M Costs for such unconstructed facilities.

(c) Method of Allocating Variable O&M Costs. The District shall charge the City an amount to recover the City's share of Variable O&M Costs. The charge to the City for raw water is equal to the number of acre-feet of raw water treated for delivery to the City multiplied by the District's then-current established rate per acre-foot for raw water. The City's allocation of total Variable O&M Costs for a month, other than raw water, is a ratio of the amount of water delivered to the City divided by the total water delivered by the Project during the month.

(d) Capital Facilities Fund. The District shall maintain a Capital Facilities Fund with funds collected from Project Participants for future Capital Improvement & Replacement Costs. The Capital Facilities Fund shall be held in a separate investment account. The investment of the Capital Facilities Fund shall be managed in accordance with the District's investment policy. Investment earnings of this fund will be kept in the fund and shall not be used to offset charges to the Project Participants. The respective amounts of the Project Participants' contributions to the Capital Facilities Fund will be in the same proportions as used for allocating Capital Improvement & Replacement Costs as set forth in Section 14(a) of this Water Supply Agreement. The total amount of contributions to this fund shall be established, and may be changed from time to time by the Operating Committee. Withdrawals will be subject to approval in advance by the Operating Committee, except in case of emergency when the District may decide to pay for Capital Improvement & Replacement Costs using a withdrawal from the Capital Facilities Fund with subsequent notification of the Project Participants.

## **Section 15. Time and Method of Payment, and Statement of Charges.**

(a) Invoicing. The District shall invoice the City monthly for the actual amount of Capital Improvement & Replacement Costs not funded from the Capital Facilities Fund, the actual amount of Fixed O&M Costs, and the actual amount of Variable O&M Costs incurred during the previous month or months taking into account applicable credits received by the District.

(b) Payment of Charges. The City shall pay the District all monies due within 30 days of receipt of invoice from the District.

(c) Contest of Accuracy of Charges. If the City questions or disputes the correctness of any invoice of the District, it shall pay the District the amount claimed when due and shall within thirty (30) days of receipt of such invoice request an explanation from the District. If the invoice is determined to be incorrect, the District will adjust the invoice to such City in the next billing statement. If the District and the City fail to agree on the correctness of an invoice within ninety (90) days after the City has requested an explanation, or if the District does not respond to City's request within ninety (90) days after the City has requested an explanation, the City shall make written demand upon the District, and if said failure is not remedied within thirty (30) days from the date of such demand such failure shall constitute a default at the expiration of such period. Errors or disputes in billing and correction of errors shall be made retroactive for a period of up to two years prior to the City notifying the District, or the District notifying the City, of the error or dispute.

**Section 16. Obligation in the Event of Default.**

(a) Written Demand upon Failure to Make Payment. Upon failure of the City to make any payment in full when due under this Water Supply Agreement or to perform any other obligation hereunder, the District shall make written demand upon the City. If said failure is not remedied within thirty (30) days from the date of such demand, or if remedy is not possible within thirty (30) days, then failure to remedy or commence such remedy within thirty (30) days and diligently pursue such remedy thereafter shall constitute a default at the expiration of such period. Notice of such demand shall be provided to each other Project Participant by the District. Upon failure of the District to perform any obligation of the District hereunder, the City shall make written demand upon the District. If said failure is not remedied within thirty (30) days from the date of such demand, or if remedy is not possible within thirty (30) days, then failure to remedy or commence such remedy within thirty (30) days and diligently pursue such remedy thereafter shall constitute a default at the expiration of such period. Notice of such demand shall be provided to each Project Participant by the City making such written demand.

(b) Defaulting City's Account. Upon the failure of the City to make any payment which failure constitutes a default under this Water Supply Agreement, the District may cease water deliveries to the City until payment is made in full, unless the City invokes the dispute resolution procedures set forth in Subsection 16(c) during which time, the District may not cease water deliveries to the City.

(c) Dispute Resolution. The Parties acknowledge that there are a number of informal dispute resolution procedures (such as arbitration, mediation, informal conferences, etc.) which could be used to resolve any controversy or claim arising out of or relating to this Water Supply Agreement. The Parties agree in principle that one or more such mechanisms should be utilized prior to proceeding in a judicial forum. Should any such controversy or claim arise, any Party wishing to utilize an

informal dispute resolution procedure may request in writing that such procedure should be utilized, stating in general terms the nature of the proposed procedure. The other Party shall then have a period of two (2) weeks in which to either accept or reject such request. If such request is denied, or if no answer to such request is given within such period, then the requesting Party shall be free to pursue any legal remedy which may be available to it. If such request is accepted, then the procedures outlined in such request shall first be followed prior to either Party resorting to a judicial procedure. This subsection does not limit remedies available to any Party at law or in equity.

(d) Enforcement of Remedies. In addition to the remedies set forth in this Section, upon the occurrence of an event of default, the District or the City, as the case may be, shall be entitled to proceed to protect and enforce the rights vested in such Party by this Water Supply Agreement by such appropriate judicial proceeding as such Party shall deem most effectual, either by suit in equity or by action at law, whether for the specific performance of any covenant or agreement contained hereon or to enforce any other legal or equitable right vested in such Party by this Water Supply Agreement or by law. The provisions of this Water Supply Agreement and the duties of each Party hereof, their respective boards, officers or employees shall be enforceable by the other Party hereto by mandamus or other appropriate suit, action or proceeding in any court of competent jurisdiction, with the losing Party paying all costs and attorney fees. Without limiting the generality of the foregoing, the District or the City, as the case may be, shall have the right to bring the following actions:

(1) Accounting. By action or suit in equity to require an Accounting for money at issue by the District or the City, as the case may be, including its officers, employees and assigns.

(2) Injunction. By action or suit in equity to enjoin any acts or things which may be unlawful or in violation of the rights of the District or the City, as the case may be.

(3) Mandamus. By mandamus or other suit, action or proceeding at law or in equity to enforce its rights against the other Party hereto (and its board, officers and employees) and to compel the other Party hereto to perform and carry out its duties and obligations under the law and its covenants and agreements as provided herein.

(e) Waiver. The waiver by either Party of any breach by the other Party of any agreement, condition, covenant or term hereof shall not operate as a waiver of any subsequent breach of the same or any other agreement, condition, covenant or term.

**Section 17. Additional Project Participant.**

The City acknowledges that the District may enter into a Project Participant Water Supply Agreement with an Additional Project Participant subsequent to the execution of this Water Supply Agreement. Prior to the execution of a Project Participant Water Supply Agreement with an Additional Project Participant, the District shall promptly provide to the City a proposed revision to Exhibit A to this Water Supply Agreement setting forth the revised list of Project Participants, Project Allotments, Assigned Capacity of the Project Participants. The District agrees that the Project Participant Water Supply Agreement with such Additional Project Participant shall establish a price to be paid by the Additional Project Participant to the City, an amount which reasonably compensates the City for Capital Investment Costs, Capital Improvement and Replacement Costs, previously paid by the City which are fairly allocable to the Additional Project Participant, including but not limited to costs incurred by the City in connection with the Project. The price paid by the Additional Project Participant shall be subject to approval of the Project Participants. The District acknowledges that analysis per the California Environmental Quality Act (CEQA) has not yet been performed for Additional Project Participant, and that any analysis necessary shall be the at the sole cost of the proposed Additional Project Participant

**Section 18. Initiation and Implementation of the Phase II Project.**

(a) Subject to the provisions of Section 23, the Phase II Project shall be considered by the District and the Project Participants when expected future demand indicates the need for additional Project Allotment and/or Assigned Capacity. The Parties understand and agree that any and all costs associated with the initiation and implementation of the Phase II Project will be paid by the Project Participants.

(b) Each Year, until completion of the Phase II Project, the District shall query the Project Participants regarding the quantity and timing of any additional Assigned Capacity expected to be required during the next 6 years. On or before October 1, the City will provide its best estimate of the quantity and timing of any requested additional Assigned Capacity. On or before December 31 of the same Year, the District shall report to the Operating Committee the results of its query of the Project Participants.

(c) At the first Operating Committee meeting of each Year, the Operating Committee shall discuss the results of the District's query regarding additional Assigned Capacity and consider whether to begin implementation of the Phase II Project.

(d) Additionally, when Project Participant water demands cause the Treatment Plant to be operated at 80% of Assigned Capacity during the month of July, or when requested by two or more Project Participants, the District shall commence discussions with Project Participants regarding implementation of the Phase II Project.

(e) Discussions regarding implementation of the Phase II Project shall include evaluation of the potential for one Project Participant to temporarily utilize another Project Participant's underutilized Assigned Capacity.

(f) The following shall be an example of a process for planning, design and construction of the Phase II Project.

(1) After consideration of the existing and projected water demands, and briefing by the District, the Operating Committee shall consider recommending to the District that planning for the Phase II Project commence.

(2) The District, in consultation with the Operating Committee, shall retain the services of a professional engineer to develop and evaluate strategies for implementation of the Phase II Project, and potential for staging of construction implementation.

(3) The District, in consultation with the Operating Committee, shall develop an agreement for each Project Participant for the Phase II Project. The agreement shall reflect the proposed Project Allotment, proposed Assigned Capacity, project funding, CEQA and water rights compliance, project construction, and include off ramps as appropriate.

#### **Section 19. Covenants of the City.**

(a) Insurance. The City shall procure and maintain or cause to be procured and maintained insurance on the City water system with responsible insurers so long as such insurance is available from reputable insurance companies, or, alternatively, shall establish a program of self-insurance, or participate in a joint powers agency providing insurance or other pooled insurance program, in such amounts and against such risks (including accident to or destruction of the City water system) as are usually covered in connection with water systems similar to the City water system.

#### **Section 20. Covenants of the District.**

(a) Insurance. The District shall procure and maintain or cause to be procured and maintained insurance on the Project with responsible insurers so long as such insurance is available from reputable insurance companies, or, alternatively, shall establish a program of self-insurance, or participate in a joint powers agency providing insurance or other pooled insurance program, covering such risks, in such amounts and with such deductibles as shall be determined by the District. The District shall indemnify and hold harmless the City from any liability for personal injury or property damage resulting from any accident or occurrence arising out of or in any way related to the Project.

(b) Compliance with Law. The District shall comply with all local, state and federal laws applicable to the Project.

(c) Against Sale or Other Disposition of Project. The District will not sell, lease or otherwise dispose of the Project or any part thereof unless the Board of Directors of the District determines that such sale, lease or other disposition will not materially adversely affect the District's ability to comply with its obligations under this Water Supply Agreement and such determination is approved by the Operating Committee.

(d) Maintenance and Operation of the Project. Subject to the payment obligations of the Project Participants, the District will maintain and preserve the Project in good repair and working order at all times and will operate the Project in an efficient and economical manner.

**Section 21. Term.**

The term of this Water Supply Agreement shall continue until December 31, 2049. The Parties hereto agree to negotiate in good faith to amend this Water Supply Agreement on or prior to such date to extend the term hereof and to include terms and conditions as are mutually agreeable to the Parties, provided that the price to be paid with respect to the Project Allotment in such amendment shall reflect the payment of capital costs to such date. In the event that the District and all Project Participants cannot agree to amend the Water Supply Agreement(s), the District agrees to cause ownership of the Project to be transferred to a joint powers agency or similar entity created by the Project Participants and to enter into a raw water sale agreement with such entity on terms and conditions consistent with the raw water pricing and delivery policy in effect under this Water Supply Agreement at the time of such transfer. The City agrees to work in good faith with the District to form a joint powers agency or similar entity in the event the Parties cannot agree to amend this Water Supply Agreement.

In the event the ownership of the Project is transferred pursuant to this section, the quantity of raw water that will be made available to the entity created by the Project Participants shall not be reduced from the quantity of raw water being made available by the District to the Project Participants immediately prior to the expiration of the term of this Water Supply Agreement. Should the ownership of the Project be transferred to a new entity, the price paid to the District for raw water shall be on the same terms as prior to the transfer, plus any costs incurred by the District for operation, maintenance or capital improvement reimbursements relating to facilities necessary to deliver raw water to the Project.

**Section 22. Amendments.**

This Water Supply Agreement may only be amended, modified, changed or rescinded in writing signed by each of the Parties; provided, however that: (a) the City may transfer any portion of its Project Allotment to the District or to a Project Participant without amendment, by providing written notice of such transfer; and (b) any transfer of Assigned Capacity in the Project is approved by the District.

**Section 23. Additional Water in Future for Phase II Project.**

The District agrees that to the extent the Board of Directors of the District determines that water surplus to the needs of agricultural water users within the District is available and subject to compliance with federal and state laws, including CEQA, and to the District's water rights, permits and licenses, and to state laws applicable thereto, the District shall commence proceedings to expand the Project to make additional treated water available to the Project Participants, but such expansion shall occur only on terms and conditions reasonably agreeable to the District and the Project Participants. In the event that the District and the Project Participants cannot agree upon terms and conditions for expansion of the Project and delivery of additional treated water, the District shall not be obligated to expand the Project or to make additional treated water available to the Project Participants. Nothing in this Water Supply Agreement shall be construed to require the District to deliver treated water to the City in excess of the City's Project Allotment or to enter into any agreement to deliver treated water to the City in excess of the City's Project Allotment unless the District Board of Directors determines that water surplus to the needs of agricultural water users within the District is available to the District.

**Section 24. Service Area.**

The service area for the City shall be the corresponding municipal service boundary as established by the San Joaquin County Local Agency Formation Commission.

**Section 25. Recycled water and return flow.**

Consistent with Water Code section 1210 et seq., the City is entitled to possess and use recycled water and return flows resulting from the use of Project Allotment delivered to the City.

**Section 26. Miscellaneous.**

(a) Opinions and Determinations. Where this Water Supply Agreement provides for an action to be based on the opinion, determination, approval, or review of either Party, such terms are not intended to be, and will not be construed as permitting, such action to be arbitrary, capricious or unreasonable. Any opinion, determination, approval, or review required of a Party under this Water Supply Agreement must be provided in a reasonable and timely manner.

(b) Reasonable Cooperation. The Parties agree to reasonable cooperate with each other, including the execution of any necessary documents, to carry out the purposes and intent of this Water Supply Agreement. Each Party will reasonably cooperate with the other to provide materials and information requested from time to time to facilitate implementation and review of this Water Supply Agreement, and the Parties' respective rights and duties.

(c) Notices. The Parties shall notify each other within ten (10) days of



becoming aware of: (1) any claims or suits brought against either Party which involve this Water Supply Agreement or water supplied pursuant to this Water Supply Agreement; (2) any force majeure event. To the extent feasible, notice shall be provided by electronic mail transmission to the e-mail addresses listed below. If electronic mail transmission is not feasible, then via U.S. Mail with return receipt or by hand delivery to the following addresses:

**“DISTRICT”**  
**South San Joaquin Irrigation District**

Mail:  
P.O. Box 727  
Ripon, California 95366-0747  
Street Address:  
11011 E. Highway 120  
Manteca, California 95336-9750

Attention: General Manager  
Phone: (209) 249-4645

**“CITY”**  
**City of Lathrop**

Mail:  
390 Towne Centre Drive  
Lathrop, CA 95330  
Street Address:  
390 Towne Centre Drive  
Lathrop, CA 95330

Attention: Public Works Department  
Phone: (209) 941-7430

(d) **Headings.** The headings of the sections hereof are inserted for convenience only and shall not be deemed a part of this Water Supply Agreement.

(e) **Severability.** If any one or more of the covenants or agreements provided in this Water Supply Agreement to be performed should be determined to be invalid or contrary to law, such covenant or agreement shall be deemed and construed to be severable from the remaining covenants and agreements herein contained and shall in no way affect the validity of the remaining provisions of this Water Supply Agreement.

(f) **Counterparts.** This Water Supply Agreement may be executed in several counterparts, all or any of which shall be regarded for all purposes as one original and shall constitute and be but one and the same instrument.

(g) **Governing Law and Venue.** This Water Supply Agreement shall be governed by and construed in accordance with the laws of the State of California. The Parties agree that the venue for any action brought to enforce the terms of this Water Supply Agreement shall be in a court of competent jurisdiction in the County of San Joaquin, California.

(h) **Attorneys’ Fees.** The prevailing Party in any judicial action to enforce this Water Supply Agreement is entitled to reasonable attorneys’ fees.

(i) **Remedies Nonexclusive.** The remedies provided in this Water Supply Agreement are cumulative and not exclusive and are in addition to any other remedies that may be provided by law or equity. The exercise by either Party of any remedy under this Water Supply Agreement will be without prejudice to the enforcement of any

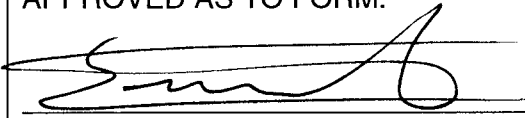
other remedy.

(j) Construction and Interpretation. The Parties acknowledge that this Water Supply Agreement has been arrived at through negotiation, and that each Party has had a full and fair opportunity to review the terms with an attorney and to revise the terms of this Water Supply Agreement. Consequently, ambiguities are not to be resolved against any Party in construing or interpreting this Water Supply Agreement.

(k) Relationship of Parties. Nothing in this Water Supply Agreement will be construed to create an association, joint venture, trust, or partnership, or to impose a trust or partnership covenant, obligation, or liability.

(l) Successors and Assigns. This Water Supply Agreement will bind and be for the benefit of the respective successors and assigns of the Parties, provided however, that no assignment will be effective unless approved in writing by the other Party.

IN WITNESS WHEREOF the City has executed this Water Supply Agreement with the approval of its governing body, and caused its official seal to be affixed and the District has executed this Water Supply Agreement in accordance with the authorization of its Board of Directors, and caused its official seal to be affixed.

<p>“DISTRICT” SOUTH SAN JOAQUIN IRRIGATION DISTRICT</p> <p>By: _____ Date: _____ Dave Kamper, President Board of Directors</p>	<p>“CITY” City of Lathrop</p> <p>By: _____ Date: _____ Stephen Salvatore City Manager</p>
<p>ATTEST:</p> <p>_____ Date: _____ Peter M. Rietkerk, Secretary</p>	<p>ATTEST:</p> <p>_____ Date: _____ Teresa Vargas, City Clerk</p>
<p>APPROVED AS TO FORM:</p> <p>_____ Mia S. Brown, General Counsel</p>	<p>APPROVED AS TO FORM:</p> <p> _____ Salvador Navarrete, City Attorney</p>

**EXHIBIT A**

**Project Allotments and Capacities**

**Schedule of Project Allotments  
(acre-feet per year)**

<b>Table 1: Project Allotments Per Exhibit 1 of Amendment No. 1 to the Initial Agreement (2000)</b>		
<b>City</b>	<b>Phase I</b>	<b>Phase II</b>
Escalon*	2,015	2,799
Manteca	11,500	18,500
Lathrop	8,007	11,791
Tracy*	10,000	10,000
<b>Total</b>	<b>31,522</b>	<b>43,090</b>

<b>Table 2: Project Allotments After Escalon-Tracy Amendment (2006)</b>		
<b>City</b>	<b>Phase I</b>	<b>Phase II</b>
Escalon*	2,015	2,799
Manteca	11,500	18,500
Lathrop	8,007	11,791
Tracy*	10,000	10,000
<b>Total</b>	<b>31,522</b>	<b>43,090</b>

<b>Table 3: Project Allotments After Lathrop-Tracy Purchase, Sale and Amendment Agreement (2013)</b>		
<b>City</b>	<b>Phase I</b>	<b>Phase II</b>
Escalon*	2,015	2,799
Manteca	11,500	18,500
Lathrop	6,887	10,671
Tracy*	11,120	11,120
<b>Total</b>	<b>31,522</b>	<b>43,090</b>

\*In 2006, the City of Escalon, City of Tracy and the District entered into the Escalon-Tracy Amendment for the temporary sale of the City of Escalon's Project Allotment under Phase I to the City of Tracy. The Parties have consented to the Escalon-Tracy Amendment.

**Assigned Capacity  
(million gallons per day)**

<b>City</b>	<b>Phase I</b>	<b>Phase II</b>
Escalon	0.0	2.5
Manteca	12.3	18.2
Lathrop	12.6	19.1
Tracy	17.0	17.0
<b>Total</b>	<b>41.9</b>	<b>56.8</b>

**PAGE LEFT  
INTENTIONALLY  
BLANK**



## APPENDIX C

### UWMP AGENCY NOTIFICATION LETTERS



**Department of Public Works**  
***We are building a City!***

390 Towne Centre Drive, Lathrop, CA 95330  
Phone (209) 941-7430 – fax (209) 941-7449  
[www.ci.lathrop.ca.us](http://www.ci.lathrop.ca.us)

December 17, 2020

Panos Kokkas  
Public Works Director  
City of Manteca  
1001 West Center Street  
Manteca, CA 95337

**Subject: Notice of Preparation of Urban Water Management Plan and Water Shortage Contingency Plan - 2020 Update**

Dear Mr. Kokkas:

The Urban Water Management Planning Act (California Water Code §10608–10656) requires the City of Lathrop (City) to update its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) every five years. The City is currently reviewing its existing UWMP and associated WSCP, which were updated in 2017, and considering revisions to the documents. The updated UWMP and WSCP are due by July 1, 2021. We invite the City of Manteca's participation in this revision process.

A draft of the 2020 UWMP will be made available for public review and a public hearing will be scheduled later in 2021. In the meantime, if you would like more information regarding the City's 2015 UWMP and WSCP and the schedule for updating these documents, or if you would like to participate in the preparation of the 2020 UWMP and WSCP, please contact Greg Gibson at:

City of Lathrop  
Department of Public Works  
390 Towne Centre Drive  
Lathrop, CA 95330  
Phone: (209) 941-7442  
E-Mail: [ggibson@ci.lathrop.ca.us](mailto:ggibson@ci.lathrop.ca.us)

Sincerely,

Michael King  
Director of Public Works



**Department of Public Works**  
***We are building a City!***

390 Towne Centre Drive, Lathrop, CA 95330  
Phone (209) 941-7430 – fax (209) 941-7449  
[www.ci.lathrop.ca.us](http://www.ci.lathrop.ca.us)

December 17, 2020

Don Scholl  
Director of Public Works  
City of Tracy Public Works  
520 Tracy Blvd, Gate #3  
Tracy, CA 95376

**Subject: Notice of Preparation of Urban Water Management Plan and Water Shortage Contingency Plan - 2020 Update**

Dear Mr. Scholl:

The Urban Water Management Planning Act (California Water Code §10608–10656) requires the City of Lathrop (City) to update its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) every five years. The City is currently reviewing its existing UWMP and associated WSCP, which were updated in 2017, and considering revisions to the documents. The updated UWMP and WSCP are due by July 1, 2021. We invite the City of Tracy's participation in this revision process.

A draft of the 2020 UWMP will be made available for public review and a public hearing will be scheduled later in 2021. In the meantime, if you would like more information regarding the City's 2015 UWMP and WSCP and the schedule for updating these documents, or if you would like to participate in the preparation of the 2020 UWMP and WSCP, please contact Greg Gibson at:

City of Lathrop  
Department of Public Works  
390 Towne Centre Drive  
Lathrop, CA 95330  
Phone: (209) 941-7442  
E-Mail: [ggibson@ci.lathrop.ca.us](mailto:ggibson@ci.lathrop.ca.us)

Sincerely,

Michael King  
Director of Public Works





**Department of Public Works**  
***We are building a City!***

390 Towne Centre Drive, Lathrop, CA 95330  
Phone (209) 941-7430 – fax (209) 941-7449  
[www.ci.lathrop.ca.us](http://www.ci.lathrop.ca.us)

December 17, 2020

Brandon Nakagawa  
South San Joaquin Irrigation District  
P.O. Box 747  
Ripon, CA 95366

**Subject: Notice of Preparation of Urban Water Management Plan and Water Shortage Contingency Plan - 2020 Update**

Dear Mr. Nakagawa:

The Urban Water Management Planning Act (California Water Code §10608–10656) requires the City of Lathrop (City) to update its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) every five years. The City is currently reviewing its existing UWMP and associated WSCP, which were updated in 2017, and considering revisions to the documents. The updated UWMP and WSCP are due by July 1, 2021. We invite SSJID's participation in this revision process.

A draft of the 2020 UWMP will be made available for public review and a public hearing will be scheduled later in 2021. In the meantime, if you would like more information regarding the City's 2015 UWMP and WSCP and the schedule for updating these documents, or if you would like to participate in the preparation of the 2020 UWMP and WSCP, please contact Greg Gibson at:

City of Lathrop  
Department of Public Works  
390 Towne Centre Drive  
Lathrop, CA 95330  
Phone: (209) 941-7442  
E-Mail: [ggibson@ci.lathrop.ca.us](mailto:ggibson@ci.lathrop.ca.us)

Sincerely,

Michael King  
Director of Public Works



**Department of Public Works**  
***We are building a City!***

390 Towne Centre Drive, Lathrop, CA 95330  
Phone (209) 941-7430 – fax (209) 941-7449  
[www.ci.lathrop.ca.us](http://www.ci.lathrop.ca.us)

December 17, 2020

Matt Morgan  
Chief Water System Operator  
City of Escalon  
2060 McHenry Ave.  
Escalon, CA 95320

**Subject: Notice of Preparation of Urban Water Management Plan and Water Shortage Contingency Plan - 2020 Update**

Dear Mr. Morgan:

The Urban Water Management Planning Act (California Water Code §10608–10656) requires the City of Lathrop (City) to update its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) every five years. The City is currently reviewing its existing UWMP and associated WSCP, which were updated in 2017, and considering revisions to the documents. The updated UWMP and WSCP are due by July 1, 2021. We invite the City of Escalon's participation in this revision process.

A draft of the 2020 UWMP will be made available for public review and a public hearing will be scheduled later in 2021. In the meantime, if you would like more information regarding the City's 2015 UWMP and WSCP and the schedule for updating these documents, or if you would like to participate in the preparation of the 2020 UWMP and WSCP, please contact Greg Gibson at:

City of Lathrop  
Department of Public Works  
390 Towne Centre Drive  
Lathrop, CA 95330  
Phone: (209) 941-7442  
E-Mail: [ggibson@ci.lathrop.ca.us](mailto:ggibson@ci.lathrop.ca.us)

Sincerely,

Michael King  
Director of Public Works



**Department of Public Works**  
***We are building a City!***

390 Towne Centre Drive, Lathrop, CA 95330  
Phone (209) 941-7430 – fax (209) 941-7449  
[www.ci.lathrop.ca.us](http://www.ci.lathrop.ca.us)

December 17, 2020

Matt Zidar  
San Joaquin County Public Works  
1810 East Hazelton Avenue  
Stockton, CA 95205

**Subject: Notice of Preparation of Urban Water Management Plan and Water Shortage Contingency Plan - 2020 Update**

Dear Mr. Zidar:

The Urban Water Management Planning Act (California Water Code §10608–10656) requires the City of Lathrop (City) to update its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) every five years. The City is currently reviewing its existing UWMP and associated WSCP, which were updated in 2017, and considering revisions to the documents. The updated UWMP and WSCP are due by July 1, 2021. We invite the County's participation in this revision process.

A draft of the 2020 UWMP will be made available for public review and a public hearing will be scheduled later in 2021. In the meantime, if you would like more information regarding the City's 2015 UWMP and WSCP and the schedule for updating these documents, or if you would like to participate in the preparation of the 2020 UWMP and WSCP, please contact Greg Gibson at:

City of Lathrop  
Department of Public Works  
390 Towne Centre Drive  
Lathrop, CA 95330  
Phone: (209) 941-7442  
E-Mail: [ggibson@ci.lathrop.ca.us](mailto:ggibson@ci.lathrop.ca.us)

Sincerely,

Michael King  
Director of Public Works



**Department of Public Works**  
***We are building a City!***

390 Towne Centre Drive, Lathrop, CA 95330  
Phone (209) 941-7430 – fax (209) 941-7449  
[www.ci.lathrop.ca.us](http://www.ci.lathrop.ca.us)

May 25, 2021

Matt Zidar  
San Joaquin County Public Works  
1810 East Hazelton Avenue  
Stockton, CA 95205

Via e-mail: [mzidar@sjgov.org](mailto:mzidar@sjgov.org)

**Subject: Notice of Public Hearing of Urban Water Management Plan and Water Shortage Contingency Plan - 2020 Update**

Dear Mr. Zidar:

The Urban Water Management Planning Act (California Water Code §10608-10656) requires the City of Lathrop (City) to update its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) every 5 years. The City must also make the draft documents available for public review and hold a public hearing before adopting its UWMP and associated WSCP.

This is to notify you that the Lathrop City Council will hold a public hearing on Monday, June 14, 2021, at 7:00 PM in person and by virtual meeting to consider proposed revisions and updates to and adoption of the 2020 UWMP and WSCP. We invite the County's participation in this process.

An electronic copy of the draft 2020 UWMP and WSCP will be made available for public review by May 28, 2021 at the following link: <https://www.ci.lathrop.ca.us/publicworks/page/urban-water-management-plan>. Visit <https://www.ci.lathrop.ca.us/meetings> for the City Council meeting agenda and for links to the virtual public hearing.

Please direct all comments and questions regarding the City's draft 2020 UWMP and WSCP to Greg Gibson, Senior Civil Engineer at (209) 941-7442 or by email at [ggibson@ci.lathrop.ca.us](mailto:ggibson@ci.lathrop.ca.us).

Sincerely,

Michael King  
Director of Public Works



**Department of Public Works**  
***We are building a City!***

390 Towne Centre Drive, Lathrop, CA 95330  
Phone (209) 941-7430 – fax (209) 941-7449  
[www.ci.lathrop.ca.us](http://www.ci.lathrop.ca.us)

May 25, 2021

Peter M. Rietkerk  
General Manager  
South San Joaquin Irrigation District  
P.O. Box 747  
Ripon, CA 95366

Via e-mail: [prietkerk@ssjid.com](mailto:prietkerk@ssjid.com)

**Subject: Notice of Public Hearing of Urban Water Management Plan and Water Shortage Contingency Plan - 2020 Update**

Dear Mr. Reitkerk:

The Urban Water Management Planning Act (California Water Code §10608-10656) requires the City of Lathrop (City) to update its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) every 5 years. The City must also make the draft documents available for public review and hold a public hearing before adopting its UWMP and associated WSCP.

This is to notify you that the Lathrop City Council will hold a public hearing on Monday, June 14, 2021, at 7:00 PM in person and by virtual meeting to consider proposed revisions and updates to and adoption of the 2020 UWMP and WSCP. We invite the South San Joaquin Irrigation District's participation in this process.

An electronic copy of the draft 2020 UWMP and WSCP will be made available for public review by May 28, 2021 at the following link: <https://www.ci.lathrop.ca.us/publicworks/page/urban-water-management-plan>. Visit <https://www.ci.lathrop.ca.us/meetings> for the City Council meeting agenda and for links to the virtual public hearing.

Please direct all comments and questions regarding the City's draft 2020 UWMP and WSCP to Greg Gibson, Senior Civil Engineer at (209) 941-7442 or by email at [ggibson@ci.lathrop.ca.us](mailto:ggibson@ci.lathrop.ca.us).

Sincerely,

Michael King  
Director of Public Works



**Department of Public Works**  
***We are building a City!***

390 Towne Centre Drive, Lathrop, CA 95330  
Phone (209) 941-7430 – fax (209) 941-7449  
[www.ci.lathrop.ca.us](http://www.ci.lathrop.ca.us)

May 25, 2021

Juston Collins  
City of Escalon  
2060 McHenry Ave.  
Escalon, CA 95320

Via e-mail: [jcollins@cityofescalon.org](mailto:jcollins@cityofescalon.org)

**Subject: Notice of Public Hearing of Urban Water Management Plan and Water Shortage Contingency Plan - 2020 Update**

Dear Mr. Collins:

The Urban Water Management Planning Act (California Water Code §10608-10656) requires the City of Lathrop (City) to update its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) every 5 years. The City must also make the draft documents available for public review and hold a public hearing before adopting its UWMP and associated WSCP.

This is to notify you that the Lathrop City Council will hold a public hearing on Monday, June 14, 2021, at 7:00 PM in person and by virtual meeting to consider proposed revisions and updates to and adoption of the 2020 UWMP and WSCP. We invite the City of Escalon's participation in this process.

An electronic copy of the draft 2020 UWMP and WSCP will be made available for public review by May 28, 2021 at the following link: <https://www.ci.lathrop.ca.us/publicworks/page/urban-water-management-plan>. Visit <https://www.ci.lathrop.ca.us/meetings> for the City Council meeting agenda and for links to the virtual public hearing.

Please direct all comments and questions regarding the City's draft 2020 UWMP and WSCP to Greg Gibson, Senior Civil Engineer at (209) 941-7442 or by email at [ggibson@ci.lathrop.ca.us](mailto:ggibson@ci.lathrop.ca.us).

Sincerely,

Michael King  
Director of Public Works



**Department of Public Works**  
***We are building a City!***

390 Towne Centre Drive, Lathrop, CA 95330  
Phone (209) 941-7430 – fax (209) 941-7449  
[www.ci.lathrop.ca.us](http://www.ci.lathrop.ca.us)

May 25, 2021

Panos Kokkas  
Public Works Director  
City of Manteca  
1001 W Center St.  
Manteca, CA 95337

Via e-mail: [pkokkas@ci.manteca.ca.us](mailto:pkokkas@ci.manteca.ca.us)

**Subject: Notice of Public Hearing of Urban Water Management Plan and Water Shortage Contingency Plan - 2020 Update**

Dear Mr. Kokkas:

The Urban Water Management Planning Act (California Water Code §10608-10656) requires the City of Lathrop (City) to update its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) every 5 years. The City must also make the draft documents available for public review and hold a public hearing before adopting its UWMP and associated WSCP.

This is to notify you that the Lathrop City Council will hold a public hearing on Monday, June 14, 2021, at 7:00 PM in person and by virtual meeting to consider proposed revisions and updates to and adoption of the 2020 UWMP and WSCP. We invite the City of Manteca's participation in this process.

An electronic copy of the draft 2020 UWMP and WSCP will be made available for public review by May 28, 2021 at the following link: <https://www.ci.lathrop.ca.us/publicworks/page/urban-water-management-plan>. Visit <https://www.ci.lathrop.ca.us/meetings> for the City Council meeting agenda and for links to the virtual public hearing.

Please direct all comments and questions regarding the City's draft 2020 UWMP and WSCP to Greg Gibson, Senior Civil Engineer at (209) 941-7442 or by email at [ggibson@ci.lathrop.ca.us](mailto:ggibson@ci.lathrop.ca.us).

Sincerely,

Michael King  
Director of Public Works



**Department of Public Works**  
***We are building a City!***

390 Towne Centre Drive, Lathrop, CA 95330  
Phone (209) 941-7430 – fax (209) 941-7449  
[www.ci.lathrop.ca.us](http://www.ci.lathrop.ca.us)

May 25, 2021

Kuldeep Sharma  
Director of Utilities  
City of Tracy  
333 Civic Center Plaza  
Tracy, CA 95376

Via e-mail: [kuldeep.sharma@ci.tracy.ca.us](mailto:kuldeep.sharma@ci.tracy.ca.us)

**Subject: Notice of Public Hearing of Urban Water Management Plan and Water Shortage Contingency Plan - 2020 Update**

Dear Mr. Sharma:

The Urban Water Management Planning Act (California Water Code §10608-10656) requires the City of Lathrop (City) to update its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) every 5 years. The City must also make the draft documents available for public review and hold a public hearing before adopting its UWMP and associated WSCP.

This is to notify you that the Lathrop City Council will hold a public hearing on Monday, June 14, 2021, at 7:00 PM in person and by virtual meeting to consider proposed revisions and updates to and adoption of the 2020 UWMP and WSCP. We invite the City of Tracy' participation in this process.

An electronic copy of the draft 2020 UWMP and WSCP will be made available for public review by May 28, 2021 at the following link: <https://www.ci.lathrop.ca.us/publicworks/page/urban-water-management-plan>. Visit <https://www.ci.lathrop.ca.us/meetings> for the City Council meeting agenda and for links to the virtual public hearing.

Please direct all comments and questions regarding the City's draft 2020 UWMP and WSCP to Greg Gibson, Senior Civil Engineer at (209) 941-7442 or by email at [ggibson@ci.lathrop.ca.us](mailto:ggibson@ci.lathrop.ca.us).

Sincerely,

Michael King  
Director of Public Works





## APPENDIX D

### UWMP PUBLIC NOTIFICATION

TRANSMITTAL

**ATTN: LEGAL PUBLICATIONS**

PLEASE PUBLISH: **Friday, May 28 and Friday, June 4, 2021**

PLEASE EMAIL CONFIRMATION TO [tvargas@ci.lathrop.ca.us](mailto:tvargas@ci.lathrop.ca.us)

**CITY OF LATHROP - PUBLIC HEARING NOTICE**

Notice is hereby given that the City of Lathrop City Council will hold a Public Hearing meeting to consider the following proposal. Said meeting will be held at **7:00 P.M., Monday, June 14, 2021** at City Hall Council Chamber, 390 Towne Centre Dr., Lathrop, CA 95330, at which time all interested parties may attend and be heard:

PUBLIC HEARING TO CONSIDER (1) ADOPTION OF THE CITY OF LATHROP URBAN WATER MANAGEMENT PLAN 2020 AND WATER SHORTAGE CONTINGENCY PLAN AND (2) INTRODUCTION OF ORDINANCE AMENDING LMC 13.08 WATER CONSERVATION AND RATIONING

City Council to Consider the Following:

1. Hold a Public Hearing; and
2. Adopt a Resolution of the City Council of the City of Lathrop Certifying and Adopting the City of Lathrop Urban Water Management Plan 2020 and Water Shortage Contingency Plan; and
3. Introduction and First Reading of an Ordinance Amendment to Title 13, Chapter 13.08 Water Conservation and Rationing in Accordance with the City of Lathrop Urban Water Management Plan 2020 and Water Shortage Contingency Plan

Copies of the draft City of Lathrop Urban Water Management Plan – 2020, Water Shortage Contingency Plan and the draft LMC 13.08 Water Conservation and Rationing ordinance amendment are available for public review and comment at the following locations:

- City of Lathrop website:  
<https://www.ci.lathrop.ca.us/publicworks/page/urban-water-management-plan>

Please direct any questions or comments regarding the City's draft Urban Water Management Plan 2020, Water Shortage Contingency Plan, and LMC 13.08 Ordinance amendment to:

Greg Gibson  
390 Towne Center Drive  
Lathrop, CA 95330  
Email: [ggibson@ci.lathrop.ca.us](mailto:ggibson@ci.lathrop.ca.us)

If you challenge any decision of the City Council in court, you may be limited to raising only those issues you or someone else raised at the meeting described in this notice, or in written correspondence delivered to the City Council at, or prior to, the meeting.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please call (209) 941-7230. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility.

For more information, contact the Public Works Department, 390 Towne Centre Drive, Lathrop, CA 95330. Phone: (209) 941-7430, Fax: (209) 941-7449, or E-mail: [website\\_pwk@ci.lathrop.ca.us](mailto:website_pwk@ci.lathrop.ca.us)

TERESA VARGAS – CITY CLERK

**CITY OF LATHROP - PUBLIC HEARING  
NOTICE**

Notice is hereby given that the City of Lathrop City Council will hold a Public Hearing meeting to consider the following proposal. Said meeting will be held at **7:00 P.M., Monday, June 14, 2021** at City Hall Council Chamber, 390 Towne Centre Dr., Lathrop, CA 95330, at which time all interested parties may attend and be heard:

PUBLIC HEARING TO CONSIDER (1)  
ADOPTION OF THE CITY OF LATHROP  
URBAN WATER MANAGEMENT PLAN  
2020 AND WATER SHORTAGE  
CONTINGENCY PLAN AND (2)  
INTRODUCTION OF ORDINANCE  
AMENDING LMC 13.08 WATER  
CONSERVATION AND RATIONING  
City Council to Consider the Following:

1. Hold a Public Hearing; and
2. Adopt a Resolution of the City Council of the City of Lathrop Certifying and Adopting the City of Lathrop Urban Water Management Plan 2020 and Water Shortage Contingency Plan; and
3. Introduction and First Reading of an Ordinance Amendment to Title 13, Chapter 13.08 Water Conservation and Rationing in Accordance with the City of Lathrop Urban Water Management Plan 2020 and Water Shortage Contingency Plan

Copies of the draft City of Lathrop Urban Water Management Plan – 2020, Water Shortage Contingency Plan and the draft LMC 13.08 Water Conservation and Rationing ordinance amendment are available for public review and comment at the following locations:

- City of Lathrop website:  
<https://www.ci.lathrop.ca.us/publicworks/page/urban-water-management-plan>  
Please direct any questions or comments regarding the City's draft Urban Water Management Plan 2020, Water Shortage Contingency Plan, and LMC 13.08 Ordinance amendment to:

Greg Gibson  
390 Towne Center Drive  
Lathrop, CA 95330

Email: [ggibson@ci.lathrop.ca.us](mailto:ggibson@ci.lathrop.ca.us)

If you challenge any decision of the City Council in court, you may be limited to raising only those issues you or someone else raised at the meeting described in this notice, or in written correspondence delivered to the City Council at, or prior to, the meeting.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please call (209) 941-7230. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility.

For more information, contact the Public Works Department, 390 Towne Centre Drive, Lathrop, CA 95330. Phone: (209) 941-7430, Fax: (209) 941-7449, or E-mail: [website\\_pwk@ci.lathrop.ca.us](mailto:website_pwk@ci.lathrop.ca.us)

**TERESA VARGAS – CITY CLERK**

Publication Dates: 5/28/21 & 6/4/21

**MB#05-58**



## APPENDIX E

### PROJECTED DEMAND ESTIMATION METHODOLOGY

**Table 1a**  
**City of Lathrop Development Projections by Development Area, Potable Water**

Land Use Designation	Units	Incremental New Development (a)(b)						Total New Development	
		2020	2025	2030	2035	2040	Beyond 2040	By 2040	By Buildout
<i>Central Lathrop</i>									
Low Density Residential	du	209	1,002	786	--	--	4,101	1,997	6,098
Medium Density Residential	du	--	239	--	--	--	--	239	239
High Density Residential	du	--	274	--	--	--	179	274	453
Commercial	ac	8	126	39	--	--	106	173	279
Parks	ac	8.6	7.8	1.6	--	--	21	18	39
Schools	ac	--	--	--	--	--	55	--	55
Public Landscaping	ac	22	0.4	2.0	--	--	4	24	28
<i>Mossdale Landing</i>									
Low Density Residential	du	--	--	66	--	--	--	66	66
High Density Residential	du	62	--	--	--	--	--	62	62
Commercial	ac	--	1.5	--	4.5	--	--	6.0	6.0
Schools	ac	--	16	--	--	--	--	16	16
<i>Mossdale Landing East</i>									
Low Density Residential	du	--	40	--	--	--	--	40	40
High Density Residential	du	84	12	--	--	--	--	96	96
Commercial	ac	--	12	--	17	--	--	29	29
<i>Mossdale Landing South</i>									
Medium Density Residential	du	--	64	--	--	--	--	64	64
High Density Residential	du	--	120	--	--	--	--	120	120
Commercial	ac	--	--	--	--	13	--	13	13
Parks	ac	--	4.0	--	--	--	--	4.0	4.0
<i>Mossdale Landing - Other (c)</i>									
Low Density Residential	du	--	--	--	--	--	658	--	658
High Density Residential	du	--	72	--	--	--	--	--	72
<i>River Islands (d)</i>									
Low Density Residential	du	846	1,536	1,218	1,218	1,218	--	6,036	6,036
Medium Density Residential	du	67	676	945	945	945	--	3,578	3,578
High Density Residential	du	--	--	1395	1395	1395	--	4,185	4,185
Town Center	ac	--	--	22	22	22	--	67	67
Commercial	ac	--	--	73	73	73	--	220	220
Schools	ac	--	22	5	5	5	--	38	38
Parks	ac	--	3	4	4	4	--	16	16
Landscape Areas	ac	--	3	1	1	1	--	6	6
Street Landscape Area	ac	--	1	1	1	1	--	4	4
<i>South Lathrop</i>									
Light Industrial / R&D Flex	ac	91.0	84.0	--	--	--	71.4	175.0	175.0
Office Commercial	ac	--	8.8	--	--	--	1.2	8.8	8.8
Open Space-Parks	ac	5.6	--	--	--	--	15.4	6	5.6
Public Landscaping	ac	0.9	--	--	--	--	0	0.9	0.9
<i>Lathrop Gateway</i>									
Light Industrial / R&D Flex	ac	50	101	--	--	16.6	--	168	168
Office Commercial	ac	--	52	--	--	88	--	140	140
Open Space	ac	--	2.5	--	--	1.6	--	4.1	4.1
Public Landscaping	ac	--	2.6	--	--	8.8	--	11.4	11.4

**Table 1a (Cont.)  
City of Lathrop Development Projections by Development Area, Potable Water**

Land Use Designation	Units	Incremental New Development (a)(b)						Total New Development	
		2020	2025	2030	2035	2040	Beyond 2040	By 2040	By Buildout
<i>Crossroads</i>									
Industrial	ac	--	32	--	--	23	--	55	55
Commercial	ac	--	1	--	--	--	--	1.0	1
<i>Historic Lathrop and Other Development Areas</i>									
Low Density Residential (e)	du	--	6	6	6	5	29	23	52
Medium Density Residential (e)	du	--	27	26	26	26	113	105	218
High Density Residential	du	--	--	--	--	--	48	--	48
Commercial	ac	2	23	12	12	--	--	48	48
Industrial	ac	--	78	--	--	144	--	222	222
<i>Sharpe Army Depot</i>									
Industrial	ac	(f)	--	--	--	--	--	(f)	(f)

**Notes:**

- (a) Dwelling unit counts and acreages were based on information provided by developers and the City in November 2016, December 2016, May 2017, July 2017, and July 2020 and adjusting for the future development to be supplied by recycled water in Central Lathrop and River Islands as shown on Table 3a.
- (b) Includes dwelling units and acreages that are assumed to be developed during the preceding five-year period. Dwelling units and acreages shown for 2020 are those assumed to be developed between January and December 2020. Dwelling units and acreages developed before December 2019 are included in baseline water demand see Table 4-6).
- (c) The developments shown herein include low density residential units for the Sylveria Property and high density of Mossdale Apartments that are not part of a urban development center (UDC).
- (d) River Islands dwelling unit counts acreages based on information provided by developer on 3 August 2020. Only parcels to be served by potable water are shown herein.
- (e) Number of infill residential units from Appendix A, 2019 Housing Element Update (De Novo, 2019) distributed evenly over the planning period, except for parcels 196-050-20, 196-070-04 & -05 identified by the City as where development is highly unlikely.
- (f) The existing AAFES facility at the Sharpe Army Depot will be connected to City's water service by 2018. Water demand for the AAFES facility is estimated using historical metered consumption, as described in Section 3. Water demand for the California Military Department based on projections provided on 12 April 2018 as seen in Table 4-6.

**Table 1b  
Recycled Water Landscape Areas by Development Area**

Land Use Designation	Units	Recycled Water Use Area				
		2025	2030	2035	2040	Buildout
<i>Central Lathrop (a)</i>						
Parks and Public Landscaping	ac	42.2	61.1	61.1	61.1	93.5
<i>Mosssdale (b)</i>						
Parks and Public Landscaping	ac	34.47	34.47	34.47	34.47	34.47
<i>River Islands (c)</i>						
Town Center	ac	0	4.3	8.6	12.9	12.9
Commercial	ac	0	12.8	25.6	38.4	38.4
Schools	ac	71.3	81.3	91.3	100.3	100.3
Parks	ac	43	98.9	154.9	210.9	210.9
Landscape Areas	ac	31.6	47.6	63.6	79.6	79.6
Street Landscape Area	ac	10.5	20.5	30.5	40.5	40.5

Notes:

- (a) Total acreages to be served by recycled water within Central Lathrop by 2030 (61.1 acres by 2030) are obtained from Table 4-5 of the City's Recycled Water Master Plan (EKI, 2019) and includes recycled water areas planned for CLSP Phase 1A through 1D. Total acreages to be served by recycled water within Central Lathrop by Buildout (93.5 acres) are obtained from WDR memo (EKI, 2020) Table 6. For this UWMP, it is assumed that a fixed percentage of Central Lathrop parks and public landscaping development will be served by recycled water.
- (b) Total acreages to be served by recycled water within Mosssdale are obtained from WDR memo (EKI, 2020) Table 3 under short-term planned landscape use areas for Mosssdale. It assumed that these estimates consist of existing parks and public landscaping areas in Mosssdale area to be converted to the recycled water system when the City begins its recycled water program.
- (c) Net areas to be served by non-potable (recycled) water within River Islands, including both Phase 1 and Phase 2, are obtained from the River Islands Phase 2 Development WSA (Woodard & Curran, 2020).



**Table 2**  
**Existing Water Demand by Development Area (a)(b)**

Land Use Designation	Existing Development Built During 2019	Units	Water Demand Factor	Existing Water Demand (AFY)
<b>Central Lathrop</b>				
Average 2017-2019 Central Lathrop Water Demand				123
Total Estimated Water Demand for Existing Development Built During 2019				0
<b>Total Baseline Central Lathrop Water Demand</b>				<b>123</b>
<b>Mossdale Landing</b>				
Average 2017-2019 Mossdale Landing Water Demand				741
Total Estimated Water Demand for Existing Development Built During 2019				0
<b>Total Baseline Mossdale Landing Water Demand</b>				<b>741</b>
<b>Mossdale Landing East</b>				
Average 2017-2019 Mossdale Landing East Water Demand				149
Commercial	1.85	ac	860 gpd/ac	2
Total Estimated Water Demand for Existing Development Built During 2019				2
<b>Total Baseline Mossdale Landing East Water Demand</b>				<b>151</b>
<b>Mossdale Landing South</b>				
Average 2017-2019 Mossdale Landing South Water Demand				50
Total Estimated Water Demand for Existing Development Built During 2019				0.0
<b>Total Baseline Mossdale Landing South Water Demand</b>				<b>50</b>
<b>River Islands</b>				
Average 2017-2019 River Islands Water Demand				414
Low Density Residential	278	du	315 gpd/du	98
Medium Density Residential	58	du	235 gpd/du	15
Commercial	2.0	ac	860 gpd/ac	1.9
Total Estimated Water Demand for Existing Development Built During 2019				115
<b>Total Baseline River Islands Water Demand</b>				<b>530</b>
<b>South Lathrop</b>				
Average 2017-2019 South Lathrop Water Demand				0
Light Industrial / R&D Flex	49.76	ac	1,200 gpd/ac	67
Total Estimated Water Demand for Existing Development Built During 2019				67
<b>Total Baseline South Lathrop Water Demand</b>				<b>67</b>
<b>Lathrop Gateway</b>				
Average 2017-2019 Lathrop Gateway Water Demand				0
Total Estimated Water Demand for Existing Development Built During 2019				0
<b>Total Baseline Lathrop Gateway Water Demand</b>				<b>0</b>
<b>Crossroads</b>				
Average 2017-2019 Crossroads Water Demand				292
Total Estimated Water Demand for Existing Development Built During 2019				0
<b>Total Baseline Crossroads Water Demand</b>				<b>292</b>
<b>Historic Lathrop and Other Development Areas</b>				
Average 2017-2019 Historic Lathrop Water Demand				2,414
Low Density Residential	1	du	330 gpd/du	0.4
Medium Density Residential	1	du	250 gpd/du	0.3
Commercial	63.0	ac	860 gpd/ac	61
Total Estimated Water Demand for Existing Development Built During 2019				61
<b>Total Baseline Historic Lathrop Water Demand</b>				<b>2,475</b>
<b>Total Existing Urban Water Consumption</b>				<b>4,430</b>
<b>Agricultural Consumption</b>				<b>186</b>
<b>Non-Revenue Water (5%)</b>				<b>243</b>
<b>TOTAL EXISTING WATER DEMAND</b>				<b>4,858</b>

**Notes:**

- (a) Existing water demand is calculated as the sum of (1) the City's average 2017-2019 water use for existing developments built before 2019; and (2) estimated water use using the updated demand factors for existing development built during 2019.
- (b) City-operated parks and landscape irrigation in 2019 was lower than normal because of distribution system issues related to exclusive supply via the SSIJD turnout and temporary shutdown of the LAWTF. Therefore, 2019 water use for City-operated parks and landscape irrigation was excluded from calculation of 2017 through 2019 average water demand.

**Table 3a**  
**Projected Potable Water Demand by Development Area**

Land Use Designation	Updated Demand Factor	Projected New Water Demand (AFY) (a)					
		2020	2025	2030	2035	2040	Buildout
<i>Central Lathrop</i>							
Low Density Residential	330 gpd/du	77	448	738	738	738	2,254
Medium Density Residential	250 gpd/du	0	67	67	67	67	67
High Density Residential	135 gpd/du	0	41	41	41	41	69
Commercial	860 gpd/ac	8	129	166	166	166	268
Parks	2,450 gpd/ac	24	45	49	49	49	108
Schools	1,500 gpd/ac	0	0	0	0	0	92
Public Landscaping	2,450 gpd/ac	59	60	66	66	66	78
	New Central Lathrop Demand	168	790	1,128	1,128	1,128	2,936
	Existing Central Lathrop Demand	123	123	123	123	123	123
	<i>Projected Central Lathrop Potable Demand</i>	<i>291</i>	<i>913</i>	<i>1,251</i>	<i>1,251</i>	<i>1,251</i>	<i>3,059</i>
<i>Mossdale Landing</i>							
Low Density Residential	330 gpd/du	0	0	24	24	24	24
High Density Residential	135 gpd/du	9	9	9	9	9	9
Commercial	860 gpd/ac	0	1	1	6	6	6
Schools	1,500 gpd/ac	0	27	27	27	27	27
	New Mossdale Landing Demand	9	38	63	67	67	67
	Existing Mossdale Landing Demand	741	741	741	741	741	741
	Potable Demand to be Converted to Recycled Water (c)	0	(147)	(147)	(147)	(147)	(147)
	<i>Projected Mossdale Landing Potable Demand</i>	<i>751</i>	<i>632</i>	<i>657</i>	<i>661</i>	<i>661</i>	<i>661</i>
<i>Mossdale Landing East</i>							
Low Density Residential	330 gpd/du	0	15	15	15	15	15
High Density Residential	135 gpd/du	13	15	15	15	15	15
Commercial	860 gpd/ac	0	12	12	28	28	28
	New Mossdale Landing East Demand	13	41	41	58	58	58
	Existing Mossdale Landing East Demand	151	151	151	151	151	151
	<i>Projected Mossdale Landing East Potable Demand</i>	<i>164</i>	<i>192</i>	<i>192</i>	<i>209</i>	<i>209</i>	<i>209</i>
<i>Mossdale Landing South</i>							
Medium Density Residential	250 gpd/du	0	18	18	18	18	18
High Density Residential	135 gpd/du	0	18	18	18	18	18
Commercial	860 gpd/ac	0	0	0	0	13	13
Parks	2,450 gpd/ac	0	11	11	11	11	11
	New Mossdale Landing South Demand	0	47	47	47	60	60
	Existing Mossdale Landing South Demand	50	50	50	50	50	50
	<i>Projected Mossdale Landing South Potable Demand</i>	<i>50</i>	<i>97</i>	<i>97</i>	<i>97</i>	<i>110</i>	<i>110</i>
<i>Mossdale Landing - Other</i>							
Low Density Residential	330 gpd/du	0	0	0	0	0	243
High Density Residential	135 gpd/du	0	11	11	11	11	11
	New Mossdale Landing Sylveria Demand	0	11	11	11	11	254
	Existing Mossdale Landing Sylveria Demand	0	0	0	0	0	0
	<i>Projected Mossdale Landing Sylveria Potable Demand</i>	<i>0</i>	<i>11</i>	<i>11</i>	<i>11</i>	<i>11</i>	<i>254</i>
<i>River Islands</i>							
Low Density Residential	315 gpd/du	299	840	1,270	1,700	2,130	2,130
Medium Density Residential	235 gpd/du	18	196	444	693	942	942
High Density Residential	135 gpd/du	0	0	211	422	633	633
Town Center	860 gpd/ac	0	0	22	43	65	65
Commercial	860 gpd/ac	0	0	71	141	212	212
Schools	1,500 gpd/ac	0	37	47	55	64	64
Parks	2,450 gpd/ac	0	7	19	31	43	43
Landscape Area	2,450 gpd/ac	0	8	11	14	17	17
Street Landscape Area	2,450 gpd/ac	0	2	5	8	11	11
	New River Islands Demand	316	1,091	2,100	3,108	4,116	4,116
	Existing River Islands Demand	530	530	530	530	530	530
	<i>Projected River Islands Potable Demand</i>	<i>846</i>	<i>1,621</i>	<i>2,629</i>	<i>3,638</i>	<i>4,646</i>	<i>4,646</i>

**Table 3a (Cont.)  
Projected Potable Water Demand by Development Area**

Land Use Designation	Updated Demand Factor	Projected New Water Demand (AFY) (a)					
		2020	2025	2030	2035	2040	Buildout
<i>South Lathrop</i>							
Light Industrial / R&D Flex	1,200 gpd/ac	122	235	235	235	235	331
Office Commercial	860 gpd/ac	0	8	8	8	8	10
Open Space	2,450 gpd/ac	15	15	15	15	15	58
Public Landscaping	2,450 gpd/ac	3	3	3	3	3	3
New South Lathrop Demand		140	261	261	261	261	401
Existing South Lathrop Demand		67	67	67	67	67	67
<i>Projected South Lathrop Potable Demand</i>		<i>207</i>	<i>328</i>	<i>328</i>	<i>328</i>	<i>328</i>	<i>468</i>
<i>Lathrop Gateway</i>							
Light Industrial / R&D Flex	1,200 gpd/ac	67	203	203	203	225	225
Office Commercial	860 gpd/ac	0	50	50	50	135	135
Open Space	2,450 gpd/ac	0	7	7	7	11	11
Public Landscaping	2,450 gpd/ac	0	7	7	7	31	31
New Lathrop Gateway Demand		67	267	267	267	402	402
Existing Lathrop Gateway Demand		0	0	0	0	0	0
<i>Projected Lathrop Gateway Potable Demand</i>		<i>67</i>	<i>267</i>	<i>267</i>	<i>267</i>	<i>402</i>	<i>402</i>
<i>Crossroads</i>							
Industrial	1,200 gpd/ac	0	43	43	43	74	74
Commercial	860 gpd/ac	0	1	1	1	1	1
New Crossroads Demand		0	44	44	44	75	75
Existing Crossroads Demand		292	292	292	292	292	292
<i>Projected Crossroads Potable Demand</i>		<i>292</i>	<i>336</i>	<i>336</i>	<i>336</i>	<i>367</i>	<i>367</i>
<i>Historic Lathrop and Other Development Areas</i>							
Low Density Residential	330 gpd/du	0	2	4	7	9	19
Medium Density Residential	250 gpd/du	0	8	15	22	29	61
High Density Residential	135 gpd/du	0	0	0	0	0	7
Commercial	860 gpd/ac	2	24	35	47	47	47
Industrial	1,200 gpd/ac	0	105	105	105	298	298
New Historic Lathrop / Other Demand		2	138	159	180	383	433
Existing Historic Lathrop / Other Demand		2,475	2,475	2,475	2,475	2,475	2,475
<i>Projected Historic Lathrop / Other Potable Demand</i>		<i>2,477</i>	<i>2,613</i>	<i>2,634</i>	<i>2,655</i>	<i>2,858</i>	<i>2,908</i>
<i>Sharpe Army Depot</i>							
AAFES	- -	16	16	16	16	16	16
California Military Department	- -	25	41	41	41	41	41
New Sharpe Army Depot Demand		41	56	56	56	56	56
Existing Sharpe Army Depot Demand		0	0	0	0	0	0
<i>Projected Sharpe Army Depot Potable Demand</i>		<i>41</i>	<i>56</i>	<i>56</i>	<i>56</i>	<i>56</i>	<i>56</i>
Total Projected New Urban Consumption		756	2,785	4,177	5,227	6,617	8,857
Agricultural Consumption (b)		186	0	0	0	0	0
Potable Demand to be Converted to Recycled Water (c)		0	(147)	(147)	(147)	(147)	(147)
<b>Baseline Urban Consumption</b>		<b>4,430</b>	<b>4,430</b>	<b>4,430</b>	<b>4,430</b>	<b>4,430</b>	<b>4,430</b>
Total Urban and Agricultural Non-revenue Water (5%)		283	372	445	501	574	692
<b>TOTAL PROJECTED POTABLE WATER DEMAND</b>		<b>5,654</b>	<b>7,439</b>	<b>8,905</b>	<b>10,010</b>	<b>11,473</b>	<b>13,831</b>

**Notes:**

- (a) Projected residential water demand calculated as the total number of projected residential dwelling units (Table 1a) multiplied by the applicable water demand factor. Projected non-residential water demand calculated as the total projected acreage (Table 1a) multiplied by the applicable water demand factor.
- (b) Agricultural consumption is assumed to be the average water use during 2017-2019 for the City's single agricultural customer and will be replaced by development at Lathrop Gateway.
- (c) Water demand for existing landscape areas that are currently served by potable water and will be converted to recycled water demand by 2025 are subtracted from projected potable water demand. Demand for these areas are calculated in Table 3b.

**Table 3b**  
**Projected Recycled Water Demand by Development Area**

Land Use Designation	Demand Factor	Projected Recycled Water Demand (AFY)				
		2025	2030	2035	2040	Buildout
<i>Central Lathrop</i>						
Parks and Public Landscaping	3,817 gpd/ac	181	261	261	261	400
<i>Projected Central Lathrop Demand</i>		181	261	261	261	400
<i>Mosssdale</i>						
New Parks and Public Landscaping	3,817 gpd/ac	147	147	147	147	147
<i>Projected Mosssdale Demand</i>		147	147	147	147	147
<i>River Islands</i>						
Town Center	3,817 gpd/ac	0	18	37	55	55
Commercial	3,817 gpd/ac	0	55	109	164	164
Schools	3,817 gpd/ac	305	348	390	429	429
Parks	3,817 gpd/ac	184	423	662	902	902
Landscape Areas	3,817 gpd/ac	135	203	272	340	340
Street Landscape Area	3,817 gpd/ac	45	88	130	173	173
<i>Projected River Islands Demand</i>		669	1,135	1,601	2,063	2,063
<b>Total Recycled Water Consumption</b>		<b>997</b>	<b>1,543</b>	<b>2,010</b>	<b>2,472</b>	<b>2,610</b>

Notes:

- (a) Projected recycled water demand calculated as the projected acreage (Table 1b) multiplied by the recycled water demand factor. Recycled water demand factor 3,817 gpd/ac (51.3 in/ac) is obtained from the City's 2020 Recycled Water System Operation technical memorandum (EKI, 2020), average year scenario water balance.

**Table 4**  
**Projected Potable Water Demand by Sector**

Water Use Sector	Projected Potable Water Demand					
	2020	2025	2030	2035	2040	Buildout
<i>Residential Water Use</i>						
Single Family Residential	2,607	3,807	4,810	5,498	6,186	7,987
Multi-Family Residential	100	172	383	594	805	839
<i>Subtotal Residential</i>	<i>2,707</i>	<i>3,979</i>	<i>5,193</i>	<i>6,092</i>	<i>6,990</i>	<i>8,826</i>
<i>CII Water Use</i>						
Commercial	377	593	734	859	1,048	1,152
Industrial	1,443	1,854	1,854	1,854	2,101	2,197
Institutional/Governmental	380	445	454	463	471	563
<i>Subtotal CII</i>	<i>2,200</i>	<i>2,892</i>	<i>3,043</i>	<i>3,176</i>	<i>3,621</i>	<i>3,912</i>
<i>Other Water Use</i>						
Irrigation (a)	279	196	224	242	288	401
Agricultural	186	0	0	0	0	0
<i>Subtotal Other</i>	<i>465</i>	<i>196</i>	<i>224</i>	<i>242</i>	<i>288</i>	<i>401</i>
<b>Total Water Consumption</b>	<b>5,372</b>	<b>7,067</b>	<b>8,459</b>	<b>9,510</b>	<b>10,899</b>	<b>13,139</b>
Non-revenue Water	526	615	688	743	817	934
<b>Total Potable Water Demand</b>	<b>5,897</b>	<b>7,682</b>	<b>9,148</b>	<b>10,253</b>	<b>11,716</b>	<b>14,074</b>

(a) Potable water demand to be converted to recycled water is assumed to be associated with the irrigation sector.



## APPENDIX F

### SBX7-7 COMPLIANCE TABLES

## SB X7-7 2020 Compliance Form

**The SB X7-7 2020 Compliance Form is for the calculation of 2020 compliance only. All retail suppliers must complete the SB X7-7 Compliance Form.** Baseline and target calculations are done in the SB X 7-7 Verification Form.

**The SB X7-7 Verification Form is for the calculation of baselines and targets and is a separate workbook from the SB X7-7 2020 Compliance Form.** Most Suppliers will have completed the SB X7-7 Verification Form with their 2015 UWMP and do not need to complete this form again in 2020. See Chapter 5 Section 5.3 of the UWMP Guidebook for more information regarding which Suppliers must, or may, complete the SB X7-7 Verification Form for their 2020 UWMP. 2020 compliance calculations are done in the SB X7-7 2020 Compliance Form.

## WUE Data Portal Entry Exceptions

**The data from the tables below will not be entered into WUE Data Portal tables. These tables will be submitted as separate uploads, in Excel, to WUE Data Portal.**

### **Process Water Deduction**

SB X7-7 tables 4-C, 4-C.1, 4-C.2, 4-C.3, 4-C.4 and 4-D

A supplier that will use the process water deduction will complete the appropriate tables in Excel, submit them as a separate upload to the WUE Data Portal, and include them in its UWMP.

**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**

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

**SB X7-7 Table 3: 2020 Service Area Population**

**2020 Compliance Year Population**

<b>2020</b>	26,833
-------------	--------

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>	
	5,485	-	-	-	-	-	5,485

\* 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 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
5,485	26,833	<b>182</b>

NOTES:

**SB X7-7 Table 9: 2020 Compliance**

Actual 2020 GPCD <sup>1</sup>	Optional Adjustments to 2020 GPCD					2020 Confirmed Target GPCD <sup>1,2</sup>	Did Supplier Achieve Targeted Reduction for 2020?
	Enter "0" if Adjustment Not Used			TOTAL Adjustments <sup>1</sup>	Adjusted 2020 GPCD <sup>1</sup> <i>(Adjusted if applicable)</i>		
	Extraordinary Events <sup>1</sup>	Weather Normalization <sup>1</sup>	Economic Adjustment <sup>1</sup>				
182	-	-	-	-	182	188	YES

<sup>1</sup> All values are reported in GPCD

<sup>2</sup> **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 7: 2020 Target Method***Select Only One*

Target Method		Supporting Documentation
<input 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 checked="" type="checkbox"/>	Method 4	Method 4 Calculator

NOTES:

**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 <sup>1</sup>	Calculated 2020 Target <sup>2</sup>	<b>Confirmed 2020 Target</b>
236	224	188	<b>188</b>

<sup>1</sup> Maximum 2020 Target is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD.

<sup>2</sup> 2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.

NOTES:

**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>	<b>2015 Interim Target GPCD</b>
188	230	<b>209</b>

NOTES:



**SB X7-7 Table 9: 2015 Compliance**

Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments <i>(in GPCD)</i>					2015 GPCD <i>(Adjusted if applicable)</i>	Did Supplier Achieve Targeted Reduction for 2015?
		Enter "0" if Adjustment Not Used			TOTAL Adjustments	Adjusted 2015 GPCD		
		Extraordinary Events	Weather Normalization	Economic Adjustment				
148	209	<i>From Methodology 8 (Optional)</i>	<i>From Methodology 8 (Optional)</i>	<i>From Methodology 8 (Optional)</i>	-	148	148	<b>YES</b>

NOTES:

## User Input -- Provisional Method 4 Target

Target Calculation Option (select one): \*

Calculate Targets Using Default Indoor Residential Savings

\* = Required Data

Water Supplier Name: \*

City of Lathrop

### 10-15 Year Baseline Water Use Information

Baseline Period: \*

2000-2010

Midpoint of Baseline Period:

2005

Baseline Water Use GPCD: \*

230.0

Population in Midpoint Year: \*

12,768

### 5 Year Baseline Water Use Information

Baseline Period: \*

2003-2007

Baseline Water Use GPCD: \*

236.0

95% of 5-Year Baseline GPCD:

224.2

### Unmetered Connections

Number of Unmetered Connections in 2005: \*

0

Water Use By Unmetered Connections In 2005: \*

0

Acre-Feet

### Baseline CII Water Use<sup>1</sup>

CII Water Use in 2005: \*

915

Acre-Feet

Per Capita Use:

64.0

GPCD

<sup>1</sup>CII = Commercial, Industrial, Institutional.

If you have chosen to calculate targets using the Default Indoor Residential Savings, you do not need to complete the remaining tables.  
Go to the "Calculated Targets" worksheet.

## Target Calculation -- Provisional Method 4 Target

### Step 1. Calculation of Landscape Water Use and System Water Loss

Urban Supplier	2000-2010 Baseline GPCD	-	Assumed Indoor Residential per Capita Water Use GPCD	-	CII per Capita Water Use GPCD	=	Estimated Landscape Water Use and System Water Loss GPCD
City of Lathrop	230.0		70.0		64.0		96.0

### Step 2. Calculation of Savings Using BMP Calculators

(Alternate) STEP 2 BEING USED TO CALCULATE TARGET

Urban Supplier	Indoor Residential Savings Calculators					+	Metering Savings BMP 1.3	+	CII Savings BMP 4	+	Land-scape + Water Loss Savings 21.6%	=	Total Savings GPCD
	Single Family Toilets	Multi Family Toilets	Residential Washers	Residential Showers	Total IR Savings								
City of Lathrop	XXXX	XXXX	XXXX	XXXX	XXXX		XXXX		XXXX		XXXX		XXXX

### (Alternate) Step 2. Calculation of Savings Using Default Indoor Residential Savings

Urban Supplier	Default Residential Indoor Savings	+	Metering Savings BMP 1.3	+	CII Savings BMP 4	+	Land-scape + Water Loss Savings 21.6%	=	(alt) Total Savings GPCD
City of Lathrop	15.0		0.0		6.4		20.7		42.1

### Step 3. Calculation of Urban Water Use Targets

Urban Supplier	2000-2010 Baseline GPCD	-	Total Savings GPCD	=	Computed 2020 Target GPCD	➡	Less Than 95% of 5-Year Baseline	➡	Final 2020 Target	➡	Final 2015 Target
City of Lathrop	230.0		42.1		187.9		TRUE		187.9		208.9



## APPENDIX G

### SUPPLY RELIABILITY INFORMATION PROVIDED BY SSJID



**SOUTH SAN JOAQUIN  
IRRIGATION DISTRICT**

October 26, 2016

City of Escalon  
Interim City Manager, Tammy Alcantor  
[talcantor@cityofescalon.org](mailto:talcantor@cityofescalon.org)

City of Lathrop  
City Manager, Stephen Salvatore  
[city.manager@ci.lathrop.ca.us](mailto:city.manager@ci.lathrop.ca.us)

City of Manteca  
City Manager, Elena Reyes  
[ereyes@ci.manteca.ca.us](mailto:ereyes@ci.manteca.ca.us)

City of Ripon  
City Administrator, Kevin Werner  
[kwerner@cityofripon.org](mailto:kwerner@cityofripon.org)

City of Tracy  
City Manager, Troy Brown  
[cm@ci.tracy.ca.us](mailto:cm@ci.tracy.ca.us)

Dear Public Officials:

On September 15, 2016, the State Water Resources Control Board released a revised Phase 1 Substitute Environmental Document (SED) analyzing proposed changes to the current Bay-Delta Water Quality Control Plan. The document proposes to release approximately 40-percent of what would naturally flow in watersheds tributary to the San Joaquin River like the Stanislaus River, during the February – June period. This means that surface water users on those watersheds would be restricted from using and storing water until 40-percent of unimpaired flows are rededicated for water quality and instream fishery purposes.

For the Stanislaus River, surface water cutbacks would be drastic. SSJID estimates the SED will result in average annual reductions of between 10 and 25-percent, with drought period reductions critically reducing surface water supplies by up to 64-percent. This would result in crippling water supply shortages for its agricultural customers and permanent mandatory conservation for the Cities of Manteca, Lathrop, Tracy, and Escalon who have partnered with SSJID on the Nick C. DeGroot Water Treatment Plant to meet current and future water supply needs. The SED also calls on additional groundwater pumping to make up the surface water deficit created by the plan, without adequately analyzing the local “critical” subbasin or new laws requiring sustainable use of our local groundwater resources. The implementation of the SED is expected to result in annual losses of thousands of jobs and billions of dollars to the regional economy.

At the SSJID Board of Director’s meeting on Tuesday, October 11, 2016, the Board adopted a Resolution #16-13-W (attached) opposing the State Water Resources Control Board 2016 revised draft Substitute Environmental Document. The District is reaching out to the Cities of Escalon, Lathrop, Manteca, Ripon, and Tracy to urge your support in its efforts to oppose the SED by having your city councils adopt a similar resolution. We also invite you to voice your support at a State Board Hearing to be held at 9:00 am on Friday, December 16, at the Stockton Memorial Civic Auditorium, located at 525 N. Center Street, in Stockton, and provide comments on the SED to the State Board, due by January 17, 2016. We stand ready to assist in coordinating comments with you as we continue to study and understand the impacts associated with the SED to the local area.

Thank you for your consideration. If you have any questions regarding this matter, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Peter M. Rietkerk".

Peter M. Rietkerk  
General Manager

P.O. Box 747, Ripon, CA 95366-0747 (Mailing)  
11011 E. Highway 120, Manteca, CA 95336-9750  
(209) 249-4600

## Tina Wang

---

**From:** Brandon Nakagawa <bnakagawa@ssjid.com>  
**Sent:** Friday, April 30, 2021 8:49 AM  
**To:** Dave Umezaki  
**Cc:** Tina Wang; ggibson@ci.lathrop.ca.us; Anona Dutton  
**Subject:** RE: SSJID Reliability Discussion

Dave,

Please see the District's response below. The tables will also need to be revised in accordance with the additional water available for drought planning purposes. Hopefully this will address the needs of Lathrop in their planning.

Brandon

As in most of California, in the long term, new urban water supplies will be made available through a series of innovations, including additional urban and agricultural conservation measures, further repair and modernization of loss prevention, multi-use water re-cycling, and wet year groundwater storage, among others. The future reliability of water provided by SSJID under Phase II is likely to require a combination of additional conservation measures that reduce the amount of water consumed by SSJID's agricultural customers. The basis for drought reliability planning even in the driest of years is that SSJID's water rights and its 1988 Agreement with the US Bureau of Reclamation entitles the district to take up to 225,000 AF/yr based on "formula water" and conservation account provisions in the 1988 Agreement and Stipulation. It is likely that more water will be available for other local purposes in 2040 (when Phase II production is assumed) based on trends in more efficient water management and urban growth displacing irrigated agriculture. For purposes of the UWMP, SSJID assumes that its agricultural demands during single dry-year and multiple dry-year events will be linearly reduced by 0.25% per year from 2020 levels freeing up an additional 10,050 AF to be delivered under Phase II from the WTP in 2040. Prior to undertaking Phase II, the cities and SSJID will need further investigate how municipal water deliveries are coordinated with agricultural operations in accordance with the Water Supply Development and Operations Agreement.

**Brandon W. Nakagawa P.E.**  
**Water Resources Coordinator**  
**South San Joaquin Irrigation District**  
Direct: 209.249.4613  
Cell: 209.305.8442  
Fax: 209.249.4691

---

**From:** Dave Umezaki <dumezaki@ekiconsult.com>  
**Sent:** Thursday, April 22, 2021 11:56 AM  
**To:** Brandon Nakagawa <bnakagawa@ssjid.com>  
**Cc:** Tina Wang <twang@ekiconsult.com>; ggibson@ci.lathrop.ca.us; Anona Dutton <adutton@ekiconsult.com>  
**Subject:** RE: SSJID Reliability Discussion

Hi Brandon,

Greg Gibson of the City of Lathrop, noting that the Phase II allocation does not provide any additional reliability in dry years, asked the following question:

We are having difficulty understanding the reason why the Phase II allocation does not provide additional reliability in dry years and would like EKI and/or SSJID to provide an explanation of why this is the case. I'm sure

the other SCWSP participating cities would like to better understand the rationale behind this as well, and we will likely need to provide a consistent narrative explanation in our respective UWMP reports and other water planning documents.

How would you respond to this question?

Thanks,

--Dave

**C. David Umezaki, P.E.**

Senior Project Engineer

**EKI Environment & Water, Inc.**

2001 Junipero Serra Boulevard, Suite 300

Daly City, California 94014

T: (650) 292-9100 | D: (650) 292-9079

[domezaki@ekiconsult.com](mailto:domezaki@ekiconsult.com) | [www.ekiconsult.com](http://www.ekiconsult.com)

---

**From:** [Brandon Nakagawa](#)  
**To:** [Dave Umezaki](#)  
**Subject:** RE: SSJID Reliability Discussion  
**Date:** Tuesday, April 20, 2021 2:56:49 PM

---

In December 2018, the State Water Resources Control Board (SWRCB) adopted amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment) which, if and when implemented, may have an impact on the Stanislaus River. The SWRCB is required by law to regularly review this plan. The adopted Bay-Delta Plan Amendment was developed with the stated goal of increasing salmonid populations in three San Joaquin River tributaries (the Stanislaus, Merced, and Tuolumne Rivers) and the Bay-Delta. The Bay-Delta Plan Amendment requires the release of up to 30-50% of the unimpaired flow on the three tributaries from February through June in every year type.

If the Bay-Delta Plan Amendment is implemented as adopted, there are significant impacts in some years to the ability of the Bureau of Reclamation to meet its obligations under the 1988 Stipulation and Agreement to provide formula water to the both Oakdale Irrigation District and SSJID in years when inflow into New Melones is below 600,000 AF which typical occur in dry and critically dry years. This could reduce the minimum projected supply amount of 225,000 AF/year as planned for by SSJID in this UWMP. The SWRCB has stated that it intends to implement the Bay-Delta Plan Amendment on the Stanislaus River by the year 2022, assuming all required approvals are obtained by that time; however, implementation of the Bay-Delta Plan Amendment remains uncertain for multiple reasons.

Over a dozen lawsuits have been filed in both state and federal courts, including challenges filed by the Oakdale Irrigation District and SSJID, challenging the SWRCB's adoption of the Bay-Delta Plan Amendment are in the early stages and there have been no consequential court rulings as of this date. Secondly, the Bay-Delta Plan Amendment did not include an allocation of responsibility for meeting the flow requirements. Such an allocation of responsibility must consider the senior water rights of both OID and SSJID who have adjudicated pre-1914 rights and other senior appropriative rights. In recognition of the difficult legal process ahead, many stakeholders throughout California including the State and Federal Government have opted to explore the possibility of voluntary agreements to achieve outcomes comparable to those described in the Bay-Delta Amendment balancing the needs of all water users. Both OID and SSJID have participated in voluntary agreement negotiations. Based on these uncertainties, SSJID has opted to make no near-term planning assumptions related to the implementation of the Bay-Delta Plan Amendment for the purposes of this 2020 UWMP. Should conditions change or consequential resolution of the issues aforementioned come to be, SSJID will revise and re-adopt a 2020 UWMP to reflect changes to its impacted water supply.

**Brandon W. Nakagawa P.E.**  
**Water Resources Coordinator**  
**South San Joaquin Irrigation District**  
Direct: 209.249.4613  
Cell: 209.305.8442  
Fax: 209.249.4691

---



**From:** Dave Umezaki <dumezaki@ekiconsult.com>  
**Sent:** Tuesday, April 20, 2021 12:15 PM  
**To:** Brandon Nakagawa <bnakagawa@ssjid.com>  
**Subject:** RE: SJJID Reliability Discussion

We would like some sort of narrative or paragraph explaining the rationale for not assuming implementation of the Bay Delta Plan.

--Dave

**C. David Umezaki, P.E.**  
Senior Project Engineer  
**EKI Environment & Water, Inc.**  
2001 Junipero Serra Boulevard, Suite 300  
Daly City, California 94014  
T: (650) 292-9100 | D: (650) 292-9079  
[dumezaki@ekiconsult.com](mailto:dumezaki@ekiconsult.com) | [www.ekiconsult.com](http://www.ekiconsult.com)

---

**From:** Brandon Nakagawa <bnakagawa@ssjid.com>  
**Sent:** Tuesday, April 20, 2021 12:10 PM  
**To:** Dave Umezaki <dumezaki@ekiconsult.com>  
**Subject:** RE: SJJID Reliability Discussion

To keep things simple, I made a few notes in the tables. If you need more I can provide something.

**Brandon W. Nakagawa P.E.**  
**Water Resources Coordinator**  
**South San Joaquin Irrigation District**  
Direct: 209.249.4613  
Cell: 209.305.8442  
Fax: 209.249.4691

---

**From:** Dave Umezaki <[dumezaki@ekiconsult.com](mailto:dumezaki@ekiconsult.com)>  
**Sent:** Tuesday, April 20, 2021 12:06 PM  
**To:** Brandon Nakagawa <[bnakagawa@ssjid.com](mailto:bnakagawa@ssjid.com)>  
**Subject:** RE: SJJID Reliability Discussion

Thanks Brandon – we'll take a look. Will you also be able to send me the narrative today?

--Dave

**C. David Umezaki, P.E.**

Senior Project Engineer

**EKI Environment & Water, Inc.**

2001 Junipero Serra Boulevard, Suite 300

Daly City, California 94014

T: (650) 292-9100 | D: (650) 292-9079

[domezaki@ekiconsult.com](mailto:domezaki@ekiconsult.com) | [www.ekiconsult.com](http://www.ekiconsult.com)

---

**From:** Brandon Nakagawa <[bnakagawa@ssjid.com](mailto:bnakagawa@ssjid.com)>

**Sent:** Tuesday, April 20, 2021 11:56 AM

**To:** Dave Umezaki <[domezaki@ekiconsult.com](mailto:domezaki@ekiconsult.com)>

**Subject:** RE: SSJID Reliability Discussion

Dave,

I have filled out the tables to the best of my abilities. I'm sure that you will have questions. Please feel free to contact me.

Brandon

**Brandon W. Nakagawa P.E.**

**Water Resources Coordinator**

**South San Joaquin Irrigation District**

Direct: 209.249.4613

Cell: 209.305.8442

Fax: 209.249.4691

---

DRAFT Submittal Table 6-9 Wholesale: Water Supplies — Projected											
Water Supply	Additional Detail on Water Supply	Projected Water Supply <i>Report To the Extent Practicable</i>									
		2025		2030		2035		2040		2045 (opt)	
<i>Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool</i>		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
<i>Add additional rows as needed</i>											
Surface Water	Pre-1914 Rights	225,000	300,000	225,000	300,000	225,000	300,000	225,000	300,000	225,000	300,000
	<b>Total</b>	0	0	0	0	0	0	0	0	0	0

NOTES: The Bureau of Reclamation recognizes the sum of SSJID's pre-1914 water rights as an amount provided for referred to as "formula water" as mutually agreed in the 1988 Agreement and Stipulation

DRAFT OPTIONAL Table 6-9 Wholesale: Water Supplies — Projected Potable											
Water Supply	Additional Detail on Water Supply	Projected Water Supply									
		2025		2030		2035		2040		2045 (opt)	
<i>Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool</i>		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
<i>Add additional rows as needed</i>											
Surface Water	Pre-1914 Rights	31,522	300,000	31,522	300,000	31,522	300,000	43,090	300,000	43,090	300,000
	<b>Total</b>	0	0	0	0	0	0	0	0	0	0

NOTES: SSJID has agreed to supply up to 31,522 AF/yr to its municipal customers under Phase I of the SCSWSP Project and up to 43,090 Af/yr under Phase II. This UWMP assumes a Phase II production date of 2040.

DRAFT OPTIONAL Table 6-9 Wholesale: Water Supplies — Projected Non-Potable											
Water Supply		Projected Water Supply									
		2025		2030		2035		2040		2045 (opt)	

<i>Drop down list</i> <i>May use each category multiple times.</i> <i>These are the only water supply categories</i> <i>that will be recognized by the WUEdata</i> <i>online submittal tool</i>	Additional Detail on Water Supply	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
<i>Add additional rows as needed</i>											
<b>Total</b>		0	0	0	0	0	0	0	0	0	0
NOTES:											

DRAFT Submittal Table 7-1 Wholesale: Basis of Water Year Data (Reliability Assessment)			
Year Type	Base Year <i>If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 1999-2000, use 2000</i>	Available Supplies if Year Type Repeats	
		<input type="checkbox"/>	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		<input type="checkbox"/>	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	% of Average Supply
Average Year	2020	300,000	100%
Single-Dry Year	1977	225,000	75%
Multiple-Dry Years 1st Year	2012	300,000	100%
Multiple-Dry Years 2nd Year	2013	287,000	95.6%
Multiple-Dry Years 3rd Year	2014	225,000	75%
Multiple-Dry Years 4th Year	2015	225,000	75%
Multiple-Dry Years 5th Year	2016	300,000	100%
Supplier may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a supplier uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table. Suppliers may create an additional worksheet for the additional tables.			
NOTES:			

[Agency Name]

<b>DRAFT Submittal Table 7-2 Wholesale: Normal Year Supply and Demand Comparison</b>					
	2025	2030	2035	2040	2045 <i>(Opt)</i>
Supply totals <i>(autofill from Table 6-9)</i>					
Demand totals <i>(autofill fm Table 4-3)</i>					
Difference	0	0	0	0	0
NOTES:					

<b>DRAFT OPTIONAL Table 7-2 Wholesale: Normal Year Supply and Demand Comparison - Potable</b>					
	2025	2030	2035	2040	2045 <i>(Opt)</i>
Supply totals <i>(autofill from Table 6-9)</i>	0	0	0	0	0
Demand totals <i>(autofill from Table 4-3)</i>	0	0	0	0	0
Difference	0	0	0	0	0
NOTES:					

<b>DRAFT OPTIONAL Table 7-2 Wholesale: Normal Year Supply and Demand Comparison - Non-Potable</b>					
	2025	2030	2035	2040	2045 <i>(Opt)</i>
Supply totals <i>(autofill from Table 6-9)</i>	0	0	0	0	0
Demand totals <i>(autofill fm Table 4-3)</i>	0	0	0	0	0
Difference	0	0	0	0	0
NOTES:					

[Agency Name]

**DRAFT Submittal Table 7-3 Wholesale: Single Dry Year Supply and Demand Comparison**

	2025	2030	2035	2040	2045 (Opt)
Supply totals	23,935	23,935	23,935	23,935	23,935
Demand totals					
Difference	0	0	0	0	0

NOTES: Annual supply is reduced to 23,935 AF/yr based on actual 2020 calendar year WTP deliveries when supplies are projected to be 225,000 AF or less for the water year. SSJID will endeavor to deliver more water if conditions allow at the request of their municipal customers.

**OPTIONAL Table 7-3 Wholesale: Single Dry Year Supply and Demand Comparison - Potable**

	2025	2030	2035	2040	2045 (Opt)
Supply totals					
Demand totals					
Difference	0	0	0	0	0

NOTES:

**OPTIONAL Table 7-3 Wholesale: Single Dry Year Supply and Demand Comparison - Non-Potable**

	2025	2030	2035	2040	2045 (Opt)
Supply totals					
Demand totals					
Difference	0	0	0	0	0

NOTES:




**DRAFT Submittal Table 7-4 Wholesale: Multiple Dry Years Supply and Demand Comparison**

		2025	2030	2035	2040	2045 (Opt)
First year	Supply totals	31,522	31,522	31,522	43,090	43,090
	Demand totals					
	Difference	0	0	0	0	0
Second year	Supply totals	31,522	31,522	31,522	43,090	43,090
	Demand totals					
	Difference	0	0	0	0	0
Third year	Supply totals	23,935	23,935	23,935	23,935	23,935
	Demand totals					
	Difference	0	0	0	0	0
Fourth year (optional)	Supply totals	23,935	23,935	23,935	23,995	23,995
	Demand totals					
	Difference	0	0	0	0	0
Fifth year (optional)	Supply totals	31,522	31,522	31,522	43,090	43,090
	Demand totals					
	Difference	0	0	0	0	0
Sixth year (optional)	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0

NOTES:

**OPTIONAL Table 7-4 Wholesale: Multiple Dry Years Supply and Demand Comparison - Potable**

		2025	2030	2035	2040	2045 (Opt)
	Supply totals					

[Agency Name]

First year	Demand totals					
	Difference	0	0	0	0	0
Second year	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Third year	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Fourth year <i>(optional)</i>	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Fifth year <i>(optional)</i>	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Sixth year <i>(optional)</i>	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
NOTES:						

**OPTIONAL Table 7-4 Wholesale: Multiple Dry Years Supply and Demand Comparison - Non-Potable**

		2025	2030	2035	2040	2045 (Opt)
First year	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Second year	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Third year	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Fourth year <i>(optional)</i>	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Fifth year <i>(optional)</i>	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Sixth year <i>(optional)</i>	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
NOTES:						

Note: Totals can be entered directly or from the Optional Planning Tool available

**DRAFT Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)**

2021	Total
Gross Water Use	
Total Supplies	
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	#DIV/0!

2022	Total
Gross Water Use [Use Worksheet]	
Total Supplies [Supply Worksheet]	
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	#REF!

2023	Total
Gross Water Use [Use Worksheet]	
Total Supplies [Supply Worksheet]	
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	#DIV/0!

2024	Total
Gross Water Use [Use Worksheet]	
Total Supplies [Supply Worksheet]	
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	

[Agency Name]

Resulting % Use Reduction from WSCP action	#DIV/0!
--	---------

2025	Total
Gross Water Use [Use Worksheet]	
Total Supplies [Supply Worksheet]	
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	#DIV/0!



## APPENDIX H

### WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT ASSUMING IMPLEMENTATION OF BAY-DELTA PLAN AMENDMENT

**Water Service Reliability and Drought Risk Assessment  
Assuming Implementation of Bay-Delta Plan Amendment**

As described in Chapter 7 of the Urban Water Management Plan (UWMP), the City of Lathrop (City) relies on its wholesale agency the South San Joaquin Irrigation District (SSJID) for the reliability projections related to the South County Water Supply Project (SCWSP). Information on supply reliability provided by SSJID is included as Appendix F of the UWMP. Chapter 7 of the UWMP presents results for the SCWSP water reliability assessment assuming that the Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment) will not be implemented, which is consistent with SSJID's approach. SSJID has provided the following rationale for this approach:

*In December 2018, the State Water Resources Control Board (SWRCB) adopted amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment) which, if and when implemented, may have an impact on the Stanislaus River. The SWRCB is required by law to regularly review this plan. The adopted Bay-Delta Plan Amendment was developed with the stated goal of increasing salmonid populations in three San Joaquin River tributaries (the Stanislaus, Merced, and Tuolumne Rivers) and the Bay-Delta. The Bay-Delta Plan Amendment requires the release of up to 30-50% of the unimpaired flow on the three tributaries from February through June in every year type.*

*If the Bay-Delta Plan Amendment is implemented as adopted, there are significant impacts in some years to the ability of the Bureau of Reclamation to meet its obligations under the 1988 Stipulation and Agreement to provide formula water to both the Oakdale Irrigation District and SSJID in years when inflow into New Melones is below 600,000 AF which typical occur in dry and critically dry years. This could reduce the minimum projected supply amount of 225,000 AF/year as planned for by SSJID in this UWMP. The SWRCB has stated that it intends to implement the Bay-Delta Plan Amendment on the Stanislaus River by the year 2022, assuming all required approvals are obtained by that time; however, implementation of the Bay-Delta Plan Amendment remains uncertain for multiple reasons.*

*Over a dozen lawsuits have been filed in both state and federal courts, including challenges filed by the Oakdale Irrigation District and SSJID, challenging the SWRCB's adoption of the Bay-Delta Plan Amendment are in the early stages and there have been no consequential court rulings as of this date. Secondly, the Bay-Delta Plan Amendment did not include an allocation of responsibility for meeting the flow requirements. Such an allocation of responsibility must consider the senior water rights of both OID and SSJID who have adjudicated pre-1914 rights and other senior appropriative rights. In recognition of the difficult legal process ahead, many stakeholders throughout California including the State and Federal Government have opted to explore the possibility of voluntary agreements to achieve outcomes comparable to those described in the Bay-Delta Amendment balancing the needs of all water users. Both OID and SSJID have participated in voluntary agreement negotiations. Based on these uncertainties, SSJID has opted to make no near-term planning assumptions related to the implementation of the Bay-Delta Plan Amendment for the purposes of this 2020 UWMP. Should conditions change or consequential resolution of the issues aforementioned come to be, SSJID will revise and re-adopt a 2020 UWMP to reflect changes to its impacted water supply.*

**Appendix H**  
**2020 Urban Water Management Plan**  
**City of Lathrop**

However, the City recognizes that it is helpful to understand the possible supply implications in the event that the Bay-Delta Plan Amendment is implemented as adopted. To fully assess the impacts of the Bay-Delta Plan Amendment and better plan for the potential shortfalls, the City conducted a parallel set of reliability analyses assuming that the Bay-Delta Plan Amendment will be implemented, which is presented below.

Table 1 below mirrors Table 7-4 in the UWMP and presents the City’s projected water supply in normal years based on the assumption that the reliability of the SCWSP in normal years will be 75% of the contractual amount<sup>1</sup>. The City’s current contractual amount of SCWSP water is 6,887 acre-feet per year (AFY) in total and is expected to increase to 10,671 AFY with implementation of SCWSP Phase II by 2040. As such, the City anticipates being able to receive 5,165 AFY of SCWSP supply through 2035 and 8,003 AFY afterwards, assuming normal year conditions.

---

<sup>1</sup> October 26, 2016 letter from SSJID to Cities of Escalon, Lathrop, Manteca, Ripon, and Tracy (see UWMP Appendix F).

Appendix H  
 2020 Urban Water Management Plan  
 City of Lathrop

**Table 1 Projected Water Supply in Normal Years  
 Assuming Implementation of Bay-Delta Plan Amendment**

Water Supply	Allocation / Reliability	Supply Amount				
		2025	2030	2035	2040	2045 (Buildout)
<i>Potable Supplies</i>						
SCWSP Contract Phase I and Phase II	75% of Contract	5,165	5,165	5,165	8,003	8,003
Groundwater	100% Reliable	4,720	4,720	4,720	4,720	4,720
<b>Total Potable Supply</b>	--	<b>9,885</b>	<b>9,885</b>	<b>9,885</b>	<b>12,723</b>	<b>12,723</b>
<i>Non-Potable Supplies</i>						
Recycled Water	100% Reliable	997	1,543	2,010	2,472	2,610
<b>Total Non-Potable Supply</b>	--	<b>997</b>	<b>1,543</b>	<b>2,010</b>	<b>2,472</b>	<b>2,610</b>
<b>Total Supply</b>	--	<b>10,882</b>	<b>11,428</b>	<b>11,895</b>	<b>15,195</b>	<b>15,333</b>
NOTES: (a) Volumes are in units of AF. (b) Information provided by the City.						



**Appendix H**  
**2020 Urban Water Management Plan**  
**City of Lathrop**

Table 2 below mirror Table 7-5 in the UWMP and presents the City’s projected water supply in single dry years. Based on the assumption that in single dry years the reliability of the SCWSP will be reduced to 36% of the contract amount<sup>2</sup>, the City anticipates being able to receive 2,479 AFY of SCWSP supply through 2035 and 3,842 AFY afterwards.

**Table 2 Projected Water Supply in Single Dry Years  
Assuming Implementation of Bay-Delta Plan Amendment**

Water Supply	Allocation / Reliability	Supply Amount				
		2025	2030	2035	2040	2045 (Buildout)
<i>Potable Supplies</i>						
SCWSP Contract Phase I and Phase II	36% of Contract	2,479	2,479	2,479	3,842	3,842
Groundwater	100% Reliable	4,720	4,720	4,720	4,720	4,720
<b>Total Potable Supply</b>	--	<b>7,199</b>	<b>7,199</b>	<b>7,199</b>	<b>8,562</b>	<b>8,562</b>
<i>Non-Potable Supplies</i>						
Recycled Water	100% Reliable	997	1,543	2,010	2,472	2,610
<b>Total Non-Potable Supply</b>	--	<b>997</b>	<b>1,543</b>	<b>2,010</b>	<b>2,472</b>	<b>2,610</b>
<b>Total Supply</b>	--	<b>8,196</b>	<b>8,742</b>	<b>9,209</b>	<b>11,033</b>	<b>11,172</b>
NOTES: (a) Volumes are in units of AF. Total may not sum due to rounding. (b) Information provided by the City.						

<sup>2</sup> Ibid.

**Appendix H**  
**2020 Urban Water Management Plan**  
**City of Lathrop**

Similarly, Table 3 below mirrors Tables 7-2 and 7-6 in the UWMP and presents the City’s projected water supply in multiple dry years. Based on the same assumption that in multiple dry years the reliability of the SCWSP will be reduced to 36% of the contract amount<sup>3</sup>, the City anticipates being able to receive 2,479 AFY of SCWSP supply through 2035 and 3,841 AFY afterwards.

**Table 3 Projected Water Supplies in Multiple Dry Years  
Assuming Implementation of Bay-Delta Plan Amendment**

Water Supply	Allocation / Reliability	Supply Amount				
		2025	2030	2035	2040	2045 (Buildout)
<i>Potable Supplies</i>						
SCWSP Contract Phase I and Phase II	36% of Contract	2,479	2,479	2,479	3,842	3,842
Groundwater	100% Reliable	4,720	4,720	4,720	4,720	4,720
<b>Total Potable Supply</b>	--	<b>7,199</b>	<b>7,199</b>	<b>7,199</b>	<b>8,562</b>	<b>8,562</b>
<i>Non-Potable Supplies</i>						
Recycled Water	100% Reliable	997	1,543	2,010	2,472	2,610
<b>Total Non-Potable Supply</b>	--	<b>997</b>	<b>1,543</b>	<b>2,010</b>	<b>2,472</b>	<b>2,610</b>
<b>Total Supply</b>	--	<b>8,196</b>	<b>8,742</b>	<b>9,209</b>	<b>11,033</b>	<b>11,172</b>
NOTES: (a) Volumes are in units of AF. (b) Information provided by the City.						

<sup>3</sup> *Ibid.*

**Appendix H**  
**2020 Urban Water Management Plan**  
**City of Lathrop**

The City’s projected water demands are compared to its water supplies in normal years, single dry years, and multiple dry year periods in Table 4, Table 5 and Table 6, which mirror Tables 7-7 through 7-9 in the UWMP. As can be seen below, in normal years, the City is expected to experience a shortfall of 368 AFY (3%) in 2035, as well as a potential shortfall of 1,351 AFY (8%) at Buildout. In single or multiple dry years, supply shortfalls are projected in all years between 2025 and Buildout, with maximum shortfalls of 6% on a percentage basis of the projected demand (in 2025) or 5,512 AFY on a volumetric basis (at Buildout).

**Table 4 Normal Year Supply and Demand Comparison  
Assuming Implementation of Bay-Delta Plan Amendment**

	2025	2030	2035	2040	2045 (Buildout)
Supply totals <i>From DWR Table 6-9</i>	10,882	11,428	11,895	15,195	15,333
Demand totals <i>From DWR Table 4-3</i>	8,679	10,691	12,263	14,188	16,684
Difference	2,203	738	(368)	1,007	(1,351)
NOTES: (a) Volumes are in units of AF.					

**Table 5 Single Dry Year Supply and Demand Comparison  
Assuming Implementation of Bay-Delta Plan Amendment**

	2025	2030	2035	2040	2045 (Buildout)
Supply totals	8,196	8,742	9,209	11,033	11,172
Demand totals	8,679	10,691	12,263	14,188	16,684
Difference	(483)	(1,948)	(3,054)	(3,154)	(5,512)
NOTES: (a) Volumes are in units of AF.					

Appendix H  
 2020 Urban Water Management Plan  
 City of Lathrop

**Table 6 Multiple Dry Years Supply and Demand Comparison  
 Assuming Implementation of Bay-Delta Plan Amendment**

		2025	2030	2035	2040	2045 (Buildout)
First year	Supply totals	8,196	8,742	9,209	11,033	11,172
	Demand totals	8,679	10,691	12,263	14,188	16,684
	Difference	(483)	(1,948)	(3,054)	(3,154)	(5,512)
Second year	Supply totals	8,196	8,742	9,209	11,033	11,172
	Demand totals	8,679	10,691	12,263	14,188	16,684
	Difference	(483)	(1,948)	(3,054)	(3,154)	(5,512)
Third year	Supply totals	8,196	8,742	9,209	11,033	11,172
	Demand totals	8,679	10,691	12,263	14,188	16,684
	Difference	(483)	(1,948)	(3,054)	(3,154)	(5,512)
Fourth year	Supply totals	8,196	8,742	9,209	11,033	11,172
	Demand totals	8,679	10,691	12,263	14,188	16,684
	Difference	(483)	(1,948)	(3,054)	(3,154)	(5,512)
Fifth year	Supply totals	8,196	8,742	9,209	11,033	11,172
	Demand totals	8,679	10,691	12,263	14,188	16,684
	Difference	(483)	(1,948)	(3,054)	(3,154)	(5,512)
NOTES: (a) Volumes are in units of AF.						

**Appendix H**  
**2020 Urban Water Management Plan**  
**City of Lathrop**

Table 7 below mirrors Table 7-10 in the UWMP and presents a Drought Risk Assessment (DRA) which considers the effects on available water supply sources of an assumed five-year drought commencing the year after the assessment is completed, i.e., from 2021 through 2025. The estimates below assume implementation of the Bay-Delta Plan Amendment by 2023 and the City’s use of recycled water for landscape irrigation by 2025<sup>4</sup>. Supply shortfalls are projected in 2023 through 2025 with the largest shortfall being approximately 946 AFY in 2024, or 12% of the projected demand.

**Table 7 Five-Year Drought Risk Assessment Tables to Address Water Code 10635(b)  
Assuming Implementation of Bay-Delta Plan Amendment**

2021	Total
Total Water Use	6,545
Total Supplies	11,607
Surplus/Shortfall w/o WSCP Action	5,062
<b>Planned WSCP Actions (use reduction and supply augmentation)</b>	
WSCP - supply augmentation benefit	-
WSCP - use reduction savings benefit	-
Revised Surplus/(shortfall)	-
Resulting % Use Reduction from WSCP action	-

2022	Total
Total Water Use	7,078
Total Supplies	11,607
Surplus/Shortfall w/o WSCP Action	4,529
<b>Planned WSCP Actions (use reduction and supply augmentation)</b>	
WSCP - supply augmentation benefit	-
WSCP - use reduction savings benefit	-
Revised Surplus/(shortfall)	-
Resulting % Use Reduction from WSCP action	-

---

<sup>4</sup> It is anticipated that the City will obtain its National Pollutant Discharge Elimination System (NPDES) permit and begin providing recycled water for landscape irrigation uses before 2025 (e.g. by 2023). The UWMP conservatively assumes recycled water will not be available for landscape irrigation uses until 2025.

Appendix H  
 2020 Urban Water Management Plan  
 City of Lathrop

**Table 7 Five-Year Drought Risk Assessment Tables to Address Water Code 10635(b)  
 Assuming Implementation of Bay-Delta Plan Amendment**

2023	Total
Total Water Use	7,612
Total Supplies	7,199
Surplus/Shortfall w/o WSCP Action	(413)
<b>Planned WSCP Actions (use reduction and supply augmentation)</b>	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	413
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	5%

2024	Total
Total Water Use	8,145
Total Supplies	7,199
Surplus/Shortfall w/o WSCP Action	(946)
<b>Planned WSCP Actions (use reduction and supply augmentation)</b>	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	946
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	12%

2025	Total
Total Water Use	8,679
Total Supplies	8,196
Surplus/Shortfall w/o WSCP Action	(483)
<b>Planned WSCP Actions (use reduction and supply augmentation)</b>	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	483
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	6%
NOTES: (a) Volumes are in units of AF.	

As presented in the tables, supply shortfalls are significantly increased under the assumption that the Bay-Delta Plan Amendment will be implemented. However, there are currently numerous sources of uncertainty in the supply projections as summarized below:

- Implementation of the Bay-Delta Plan Amendment is under negotiation. The SSJID and others are continuing negotiations with the State Water Resources Control Board (SWRCB) on

## Appendix H

### 2020 Urban Water Management Plan

#### City of Lathrop

implementation of the Bay-Delta Plan Amendment for water supply cutbacks, particularly during droughts. This is a dynamic situation and the projected drought cutback allocations may need to be revised before the next (i.e., 2025) UWMP depending on the outcome of ongoing negotiations.

- The City will have to continue to work closely with SSJID on their rationing policies to ensure that Municipal and Industrial (M&I) needs can be met.
- The City is likely able to begin providing recycled water for landscape irrigation uses before 2025 (i.e. by 2023). If recycled water is made available prior to 2025, the City's total supply will be more than the current projections and therefore the resultant supply shortage will likely to be smaller.
- The City's projected water demands are subject to change in the future based upon future housing needs, increased conservation, and development of additional local supplies associated with current and future development.
- Frequency and duration of cutbacks are also uncertain. While the projected shortfalls presented here appear severe, the actual frequency and duration of such shortfalls are uncertain. In addition to the supply volumes, the above listed uncertainties would also impact the projected frequency and duration of shortfalls.

As mentioned above, the City is conducting this analysis as part of the planning efforts. Despite that there remains large uncertainty in future supply availability, the City has developed and will continue to develop various strategies and actions to address the projected supply shortfalls. In addition, as conditions evolve and as new information becomes available, the City may conduct an interim update or updates to the UWMP within the five-year cycle, i.e., before the 2025 UWMP.



## APPENDIX I

### WATER SHORTAGE CONTINGENCY PLAN





**Water Shortage Contingency Plan  
2020 Update  
City of Lathrop**

**June 2021**



**TABLE OF CONTENTS**

1. INTRODUCTION ..... 5

2. WATER SUPPLY RELIABILITY ANALYSIS..... 6

3. PRIOR DROUGHT ACTIONS..... 7

4. ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES..... 8

    4.1 Evaluation Criteria ..... 9

    4.2 Water Supply ..... 9

    4.3 Unconstrained Customer Demand..... 10

    4.4 Planned Water Use for Current Year Considering Dry Subsequent Year ..... 10

    4.5 Infrastructure Considerations ..... 10

    4.6 Team Members and Decision Makers..... 10

    4.7 Timeline ..... 11

5. WATER SHORTAGE LEVELS ..... 13

6. SHORTAGE RESPONSE ACTIONS..... 15

    6.1 Supply Augmentation ..... 15

    6.2 Demand Reduction..... 15

    6.3 Operational Changes ..... 16

    6.4 Defining Water Features ..... 16

    6.5 Prohibitions on End Uses..... 22

    6.6 Shortage Response Action Effectiveness ..... 22

    6.7 Catastrophic Supply Interruption Plan ..... 27

7. SEISMIC RISK ASSESSMENT ..... 28

8. COMMUNICATION PROTOCOLS..... 29

9. COMPLIANCE AND ENFORCEMENT..... 30

10. LEGAL AUTHORITIES ..... 32

11. FINANCIAL CONSEQUENCES OF WSCP ..... 34

12. MONITORING AND REPORTING ..... 36

13. WSCP REFINEMENT PROCEDURES..... 37

14. PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY ..... 38

REFERENCE..... 39



**TABLES**

- Table 5-1 Stages of Water Shortage Contingency Plan
- Table 6-1 Stages of Action and Water Shortage Responses (DWR Table 8-2)
- Table 6-2 Supply Augmentation and Other Actions (DWR Table 8-3)
- Table 6-3 Baseline Residential Per Capita Water Demand
- Table 6-4 Baseline Water Use Profile
- Table 9-1 Water Shortage Contingency – Penalties and Charges
- Table 12-1 Water Use Monitoring Mechanisms

**ATTACHMENTS**

- Attachment 1. Drought Response Tool Quantitative Assessment
- Attachment 2. Resolution 21-4909 on UWMP and WSCP 2020 Update
- Attachment 3. Draft Ordinance Amending LMC 13.08



**ABBREVIATIONS**

AF	acre-foot
AFY	acre-foot per year
ASR	Aquifer Storage and Recovery
CCR	California Code of Regulations
CII	Commercial, industrial, and institutional
CVP	Central Valley Project
CWC	California Water Code
DRA	Drought Risk Assessment
DRT	Drought Response Tool
DWR	Department of Water Resources
ERP	Emergency Response Plan
GPCD	gallons per capita per day
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
LHMP	Local Hazard Mitigation Plan
LMC	Lathrop Municipal Code
MUSD	Manteca Unified School District
R-GPCD	residential gallons per capita per day
SCADA	Supervisory Control and Data Acquisition
SCWSP	South County Water Supply Project
SSJID	South San Joaquin Irrigation District
SWRCB	State Water Resources Control Board
USBR	United States Bureau of Reclamation
UWMP	Urban Water Management Plan
WSCP	Water Shortage Contingency Plan



## 1. INTRODUCTION

### **CWC § 10640**

*(a) Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630). The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.*

*(b) Every urban water supplier required to prepare a water shortage contingency plan shall prepare a water shortage contingency plan pursuant to Section 10632. The supplier shall likewise periodically review the water shortage contingency plan as required by paragraph (10) of subdivision (a) of Section 10632 and any amendments or changes required as a result of that review shall be adopted pursuant to this article.*

This Water Shortage Contingency Plan (WSCP) is developed to serve as a flexible framework of planned response measures to mitigate future water supply shortages for the City of Lathrop (City). The City's Water Conservation Ordinance contains provisions related to water conservation and rationing and was incorporated into the Lathrop Municipal Code (LMC; Section 13.08) in 1991. This WSCP builds upon and supersedes the WSCP that was presented in the 2015 Urban Water Management Plan (UWMP).

The City developed this WSCP based on the following guiding principle:

*This WSCP concentrates on the reduction of non-essential water uses such as landscape irrigation and other discretionary outdoor water use and gives the highest priority to preserving water uses that are essential to the health, safety, welfare, and economic vitality of The City's customers.*

Practically, this principle guides the City to ask for a shared contribution from all of its customers towards meeting water reduction goals during periods of water shortage. It further directs the City to focus its water conservation efforts on reducing discretionary water uses such as outdoor irrigation, while attempting to minimize economic and other impacts to its residential and commercial customers.



## 2. WATER SUPPLY RELIABILITY ANALYSIS

**CWC § 10632 (a) (1)** *The analysis of water supply reliability conducted pursuant to Section 10635.*

This section provides a summary of the City's water supply reliability analysis, recognizing that the WSCP is intended to be a standalone document that can be adopted and amended independently.

The City obtains water from both imported surface water and local groundwater sources. The City receives Stanislaus River water through the South County Water Supply Project (SCWSP) provided the South San Joaquin Irrigation District (SSJID). The City also owns and operates five active groundwater production wells. Further, the City produces recycled water and anticipates providing recycled water for landscape irrigation uses before 2025.

The reliability analysis was performed based on, among other things, SSJID's water reliability analysis, which assumes that the State Water Resources Control Board's (SWRCB's) adopted amendments to the Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment) will not be implemented. If the Bay-Delta Plan Amendment is implemented, significant surface water cutbacks would likely be experienced, as presented in Appendix G to the UWMP.

Based on the service reliability analysis, the City's is expected to have adequate water supplies during all year types to meet projected demands through 2040. At buildout, anticipated to occur after 2045, the City is projecting up to 314 acre-feet per year (AFY) of supply shortfall or up to 2% of the projected demand in dry years.

A Drought Risk Assessment (DRA) was also conducted during the water supply reliability assessment, which evaluates the effects on available water supply sources of an assumed five-year drought commencing the year after the assessment is completed (i.e., from 2021 through 2025). Based on the DRA, the City is expected to have sufficient water supply from 2021 through 2025.

This WSCP addresses such water shortage conditions and identifies a variety of actions that the City will implement to reduce demands and further ensure supply reliability at various levels of water shortage.



### 3. PRIOR DROUGHT ACTIONS

The City's actions in response to the recent severe drought that occurred in California between 2014 and 2017 are discussed below. Experience implementing drought response actions and water savings achieved during this period are incorporated into development of this WSCP update.

On 1 April 2015, Governor Brown issued the fourth in a series of Executive Orders regarding actions necessary to address California's severe drought conditions. Executive Order B-29-15 directed the SWRCB to impose the first-ever mandatory restrictions on urban water suppliers to achieve a statewide 25% reduction in potable urban water usage through February 2016. The Executive Order also requires commercial, industrial, and institutional (CII) users to implement water efficiency measures, prohibits irrigation with potable water of ornamental turf in public street medians, and prohibits irrigation with potable water outside newly constructed homes and buildings that is not delivered by drip or microspray systems, along with numerous other directives.

On 5 May 2015, the SWRCB adopted Resolution 2015-0032, which mandated minimum actions by water suppliers and their customers to conserve water supplies into 2016 and assigned a mandatory water conservation savings goal to each water supplier based on their R-GPCD. The mandatory conservation standards established by the SWRCB and included in CWC §865(c) ranged from 8% for suppliers with an R-GPCD below 65 R-GPCD to 36% for suppliers with an R-GPCD of greater than 215 GPCD. As with the emergency drought regulations adopted by the SWRCB in 2014, the 2015 SWRCB Resolution was primarily intended to reduce outdoor urban water use.

The City was originally assigned a mandatory water conservation standard of 20%, which was effective from June 2015 through February 2016. Prior to the 2015 SWRCB Resolution, the City Council declared Phase II of the WSCP by Urgency Ordinance 14-342 to respond to 2014 SWRCB actions. The City observed a 14% reduction in water use as a result of the Phase II restrictions. The City Council then enacted Phase III of the 2010 WSCP on 18 June 2015 by Urgency Ordinance 15-347 to achieve and surpass the SWRCB mandated water reduction goal of 20%.

On 2 February 2016, the SWRCB voted to extend the reduction targets through October 2016 with some modifications. As part of this revised emergency regulation, the City qualified for an adjustment due to climate considerations and, effective March 2016, the City's conservation standard was reduced to 18%.<sup>1</sup> The City achieved high savings (up to a 38% reduction in total demand) during the late spring through summer months of 2016, likely corresponding to large cut-backs in irrigation water uses. On 7 April 2017, Governor Brown issued Executive Order B-40-17, which lifted the drought emergency in most of California. Between June 2015 and April 2017, the City had achieved a cumulative water conservation savings of 26% relative to its 2013 water use, exceeding its original mandatory standard by almost 6%.

---

<sup>1</sup> On 18 May 2016, the SWRCB established a mechanism whereby water suppliers are able to receive a new mandatory water conservation standard. This approach – where water suppliers self-certify the level of available water supplies they anticipate receiving if the drought were to continue for an additional three years – is intended to better reflect actual water supply conditions that a supplier is facing. The City did not submit a self-certification.



#### 4. ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES

**CWC § 10632 (a) (2)**

*The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:*

*(A) The written decision making process that an urban water supplier will use each year to determine its water supply reliability.*

*(B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:*

*(i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.*

*(ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.*

*(iii) Existing infrastructure capabilities and plausible constraints.*

*(iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.*

*(v) A description and quantification of each source of water supply.*

**CWC § 10632.1**

*An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before July 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan. An urban water supplier that relies on imported water from the State Water Project or the Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocations, or by July 1 of each year, whichever is later.*

**CWC § 10632.2**

*An urban water supplier shall follow, where feasible and appropriate, the prescribed procedures and implement determined shortage response actions in its water shortage contingency plan, as identified in subdivision (a) of Section 10632, or reasonable alternative actions, provided that descriptions of the alternative actions are submitted with the annual water shortage assessment report pursuant to Section 10632.1. Nothing in this section prohibits an urban water supplier from taking actions not specified in its water shortage contingency plan, if needed, without having to formally amend its urban water management plan or water shortage contingency plan.*

On an annual basis, the City will conduct a Supply-Demand Assessment (Annual Assessment) to identify whether there is likely to be a water shortage condition in the following year. Each element of the Annual Assessment is described below, along with the key data inputs and methodologies for determining these elements.





#### 4.1 Evaluation Criteria

The City will conduct its Annual Assessment in consideration of existing hydrological and regulatory conditions such as any state-mandated drought or water use restrictions. Further, as imported SCWSP water constitutes a significant portion of the City's supply, the City will rely on information provided by SSJID for the supply reliability portion of its Annual Assessment. The City's supply and demand evaluation criteria will be calculated using the key data inputs to the Annual Assessment, including:

- Imported water allocation;
- Groundwater production constraints;
- Local or state regulatory conditions;
- Effectiveness of active conservation;
- Demand; and
- Infrastructure constraints.

#### 4.2 Water Supply

On the basis of the evaluation criteria above and available supporting information, the City will quantify the projected available supply over the forthcoming year. This quantification will likely be a range and subject to revision as new data are available and as conditions evolve.

##### 4.2.1 SCWSP Available Supply

SSJID makes an annual determination of allocation which is provided to the City in late April or early May.

##### 4.2.2 Groundwater Available Supply

The City will assess the prior year's production and any production constraints. Evaluations include consideration of:

- Declining water levels in the City's production wells or monitoring wells below management levels established by the City or in the Tracy Subbasin Groundwater Sustainability Plan (GSP)<sup>2</sup>;
- Increasing trends of groundwater contaminant concentrations in nearby monitoring wells that indicates a potential migration of constituents of concern towards City production wells or any constituents detected in the City's production wells approaching regulatory limits; and
- Any other Groundwater Sustainability Agency (GSA) policies (e.g., pump allocations) or sustainability criteria that could trigger a change in groundwater volume available for pumping.

---

<sup>2</sup> The Tracy Subbasin GSP is under development as of May 2021. The GSP may identify representative monitoring sites near the City and establish sustainable management criteria at the selected sites.



#### **4.2.3 Recycled Water (Non-Potable) Supply Availability**

The City will assess the previous year's production and any production constraints to evaluate the availability of recycled water. The evaluations will include any new recycled water policies and criteria that could trigger a change in volume available.

#### **4.2.4 Local or State Regulatory Conditions**

The City will assess any local regulatory conditions or state-mandated water use restrictions that may impact supplies during preparation of the Annual Assessment.

### **4.3 Unconstrained Customer Demand**

Unconstrained customer demands (i.e., the expected water use in the absence of shortage-caused reductions in water use) will be evaluated and estimated for the forthcoming year based on:

- A comparison of monthly customer demands relative to prior years (e.g., last 3 years),
- Evaluation of current and anticipated weather conditions,
- New demands anticipated during the coming year (e.g., new accounts coming online), and
- Any other potentially pertinent factors identified by the City (e.g., pandemic-related stay-at-home orders).

### **4.4 Planned Water Use for Current Year Considering Dry Subsequent Year**

The City will compare the estimated unconstrained demands to the anticipated supplies for the current year, assuming that the following year will be dry (i.e., a shortfall greater than 10%), and using the Evaluation Criteria identified above.

### **4.5 Infrastructure Considerations**

The City will evaluate how infrastructure capabilities and constraints may affect its ability to deliver supplies to meet expected customer water demands in the coming year. The constraints and capabilities are expected to include, among other things:

- Anticipated capital projects and upgrades;
- Anticipated maintenance and repairs; and
- Emergency maintenance and repairs.

### **4.6 Team Members and Decision Makers**

Key team members involved in the evaluation and decision-making process described herein include key staff of the Public Works and Community Development Departments, as well as the City Engineer.



#### 4.7 Timeline

The decision-making process and timeline are anticipated to be as follows:

- Late April to Early May:
  - SSJID conveys the available percentage of contracted allocation that the City shall receive.
  - City determines local supply availability.
  - City determines total supply availability.
  - City determines expected demand.
  - City compares supply and demand to determine the water supply conditions for the current year and one dry year.
  - If a shortage greater than 10% is determined to exist, the City shall implement response actions in the WSCP through City Council declaration.

Per Section 13.08.140 of the City Municipal Code, the City Council shall declare a drought when one or more of the following conditions exist:

- a) *A water shortage of greater than 10% is determined to exist based on the City's Annual Demand and Supply Assessment; and*
- b) *A drought is declared by the Governor of California covering the water sources used by the City, and subsequent reductions of water supplied to the City will occur or are likely to occur.*

Per Section 13.08.150 of the City Municipal Code, the City Council shall declare a water emergency when one or more of the following conditions exist:

- a) *A water shortage of greater than 10% is determined to exist based on the City's Annual Demand and Supply Assessment attributed to factors other than drought conditions.*
- b) *A decrease in the ability to draw ground water due to well contamination, well failure or other equipment or system failure, and no alternative source of water is available;*
- c) *Contamination of the water system;*
- d) *Natural disasters affecting water deliveries;*
- e) *During times of floods which would affect water quality;*
- f) *Sabotage or threats of sabotage against the water system;*
- g) *Any unusual situation or circumstance which affects the quantity or quality of the water supply.*

- City prepares the Annual Assessment report.
- July 1 or within 14 days of receiving final allocation from the USBR, whichever is later:

## Water Shortage Contingency Plan

### 2020 Update

#### City of Lathrop



- City submits the Annual Assessment to the California Department of Water Resources (DWR).

As stated in the regulations, the City shall follow, where feasible and appropriate, the prescribed procedures and implement determined shortage response actions in this WSCP, as identified in the California Water Code (CWC) subdivision (a) of §10632, or reasonable alternative actions, provided that descriptions of the alternative actions are submitted with the Annual Assessment Report pursuant to CWC §10632.1. Should the City choose to include reasonable alternative actions, it will describe these actions (shortage response actions in addition to what has been identified in Section 6 of this WSCP) to reduce the gap between water supply and demand.



## 5. WATER SHORTAGE LEVELS

### **CWC § 10632 (a) (3)**

*(A) Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on the suppliers' water supply conditions, including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels shall also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, and other potential emergency events.*

*(B) An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagraph (A) by developing and including a cross-reference relating its existing categories to the six standard water shortage levels.*

Consistent with the requirements of CWC §10632(a)(3), this WSCP is based on the six water shortage levels (also referred to as “stages”) shown in **Table 5-1**. These shortage stages are intended to address shortage caused by any condition, including the catastrophic interruption of water supplies.

Besides the mandatory prohibitions, each stage of the WSCP is implemented by a formal declaration by the City Council recognizing the need for a reduction in water use and enacting a specific stage of action due to a water supply shortage of emergency. All of the stages allow for adequate water to protect public health and safety and satisfy the fire protection needs of the City. **Table 5-1** summarizes the water supply reduction and supply conditions associated with each stage of action.



**Table 5-1 Stages of Water Shortage Contingency Plan**

Shortage Level	Percent Shortage Range	Shortage Response Actions
1	Up to 10%	<ul style="list-style-type: none"> <li>Declaration by the City Council upon the determination that one or more of the trigger mechanisms exist per LMC Sections 13.08.140 and 13.08.150 and that the City may reduce water use by up to 10% due to water supply shortages or emergency.</li> <li>Includes implementation of voluntary restrictions on end uses as well as agency actions (see <b>Table 6-1</b> and <b>Table 6-2</b>).</li> </ul>
2	Up to 20%	<ul style="list-style-type: none"> <li>Declaration by the City Council upon the determination that one or more of the trigger mechanisms exist per LMC Sections 13.08.140 and 13.08.150 and that the City must reduce water use by greater than 10% up to 20% due to water supply shortages or emergency.</li> <li>Includes implementation of mandatory restrictions on end uses as well as agency actions (see <b>Table 6-1</b> and <b>Table 6-2</b>).</li> </ul>
3	Up to 30%	<ul style="list-style-type: none"> <li>Declaration by the City Council upon the determination that one or more of the trigger mechanisms exist per LMC Sections 13.08.140 and 13.08.150 and that the City must reduce water use by greater than 20% up to 30% due to water supply shortages or emergency.</li> <li>Includes implementation of mandatory restrictions on end uses as well as agency actions (see <b>Table 6-1</b> and <b>Table 6-2</b>).</li> </ul>
4	Up to 40%	<ul style="list-style-type: none"> <li>Declaration by the City Council upon the determination that one or more of the trigger mechanisms exist per LMC Sections 13.08.140 and 13.08.150 and that the City must reduce water use by greater than 30% up to 40% due to water supply shortages or emergency.</li> <li>Includes implementation of mandatory restrictions on end uses as well as agency actions (see <b>Table 6-1</b> and <b>Table 6-2</b>).</li> </ul>
5	Up to 50%	<ul style="list-style-type: none"> <li>Declaration by the City Council upon the determination that one or more of the trigger mechanisms exist per LMC Sections 13.08.140 and 13.08.150 and that the City must reduce water use by greater than 40% up to 50% due to water supply shortages or emergency.</li> <li>Includes implementation of mandatory restrictions on end uses as well as agency actions (see <b>Table 6-1</b> and <b>Table 6-2</b>).</li> </ul>
6	>50%	<ul style="list-style-type: none"> <li>Declaration by the City Council upon the determination that one or more of the trigger mechanisms exist per LMC Sections 13.08.140 and 13.08.150 and that the City must reduce water use by greater than 50% due to water supply shortages or emergency.</li> <li>Includes implementation of mandatory restrictions on end uses as well as agency actions (see <b>Table 6-1</b> and <b>Table 6-2</b>).</li> </ul>



## 6. SHORTAGE RESPONSE ACTIONS

### **CWC § 10632 (a) (4)**

*Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:*

*(A) Locally appropriate supply augmentation actions.*

*(B) Locally appropriate demand reduction actions to adequately respond to shortages.*

*(C) Locally appropriate operational changes.*

*(D) Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions.*

*(E) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.*

### **CWC § 10632 (b)**

*For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.*

This section describes the response actions the City will take to deal with the shortages associated with each of the six stages enumerated in Section 5.

### 6.1 Supply Augmentation

There are currently no supply augmentation actions planned in the City's shortage response actions. However, as discussed in Section 6.7 of the City's 2020 UWMP, potential transfer and exchange opportunities exist with other SSJID contractors. Additionally, the City is evaluating supply projects, such as conjunctive use and aquifer storage and recovery, to provide additional supply during drought conditions.

### 6.2 Demand Reduction

As discussed above and shown in **Table 6-1**, the WSCP lists the demand reduction methods that the City will implement during each stage of action to reduce the City's own water consumption and encourage reduction in water use by its customers. The monthly and cumulative annual water savings impacts associated with each restriction, prohibition, and consumption reduction method were quantitatively estimated using the Drought Response Tool (DRT) for each stage of action, see Attachment 1.

A main focus of the City's planned demand reduction measures is to increase public outreach and keep customers informed of the water shortage emergency and actions they can take to reduce consumption. The public outreach efforts that The City will implement to respond to a water shortage are described in Section 8.



### 6.3 Operational Changes

As shown in **Table 6-2**, the WSCP lists the operational changes that the City will implement during each stage of action including measures to: (1) reduce system losses through a reduction in line flushing and fire training exercises, (2) increase enforcement and patrols, (3) develop water budgets, and in certain conditions, (4) implement a moratorium on new services.

### 6.4 Defining Water Features

**CWC § 10632 (b)**

*For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.*

As required by CWC §10632, the City distinguishes between “decorative water features” such as ponds, lakes, and fountains that are artificially supplied with water and “recreational water features” such as swimming pools and spas. Prohibitions on water use for decorative water features are listed separately from those for recreational water features (see **Table 6-1**).





**Table 6-1 Stages of Action and Water Shortage Responses (DWR Table 8-2)**

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? (a)	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
1	Other	10%	<ol style="list-style-type: none"> <li>1. Continue with mandatory requirements in promotion of water conservation as required in LMC 13.08.120.</li> <li>2. Application of potable water directly to driveways and sidewalks is prohibited.</li> <li>3. Irrigating outdoor landscapes or turf is limited to no more than three (3) days per week following schedules established by resolution of city council.</li> <li>4. Watering only after 7 p.m. in the evening and before 10 a.m. in the morning.</li> <li>5. To promote water conservation, operators of hotels and motels are encouraged to provide guests with the option of choosing not to have towels and linens laundered daily.</li> <li>6. Eating or drinking establishments are encouraged to serve drinking water only upon request</li> </ol>	No
2	Other	20%	<ol style="list-style-type: none"> <li>1. Continue with action and measures from Stage I except where superseded by more stringent requirements (b).</li> <li>2. Irrigating outdoor landscapes or turf is limited to no more than two (2) days per week following schedules established by resolution of city council.</li> </ol>	Yes



**Table 6-1 Stages of Action and Water Shortage Responses (DWR Table 8-2)**

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? (a)	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
3	Other	30%	<ol style="list-style-type: none"> <li>1. Continue with action and measures from Stage II except where superseded by more stringent requirements.</li> <li>2. All schools, institutions, and dedicated irrigation customers shall reach a water reduction of sixty percent (60%) from previous use (c).</li> <li>3. Car washing shall be allowed only at facilities using recycled or recirculating water. Automobile and recreational vehicle dealerships shall be allowed to continue washing vehicles with a hose and a hand-held trigger nozzle under the following conditions:                             <ol style="list-style-type: none"> <li>a. Automobiles and recreational vehicles may be washed only on Fridays using the method outlined above.</li> <li>b. An automobile, motorcycle, boat or motor home may be washed the day before or the day of delivery to the purchaser.</li> </ol> </li> </ol>	Yes
4	Other	40%	<ol style="list-style-type: none"> <li>1. Continue with action and measures from Stage III except where superseded by more stringent requirements.</li> <li>2. All schools, institutions, and dedicated irrigation customers shall reach a water reduction of seventy-five percent (75%) from previous use (c).</li> <li>3. Irrigating outdoor landscapes or turf is limited to no more than one (1) day per week following schedules established by resolution of city council.</li> </ol>	Yes



**Table 6-1 Stages of Action and Water Shortage Responses (DWR Table 8-2)**

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? (a)	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
5	Other	50%	<ol style="list-style-type: none"> <li>Continue with actions and measures from Stage IV except where superseded by more stringent requirements.</li> <li>All residential and CII customers shall reach a water reduction of forty five percent (45%) from previous use (c).</li> <li>Excess water use will be subject to payment under the excess use rate schedule. (d)</li> <li>Use of potable water for irrigation is prohibited for all customers.</li> </ol>	Yes
6	Other	55%	<ol style="list-style-type: none"> <li>Continue with actions and measures from Stage V except where superseded by more stringent requirements.</li> <li>All residential and CII customers shall reach a water reduction of fifty five percent (55%) from previous use (c).</li> </ol>	Yes
<p>NOTES:</p> <p>(a) The percentages listed in this table are the cumulative savings for each shortage level with implementation of corresponding supply augmentation and other agency actions in <b>Table 6-2</b>. Detailed saving estimates based on end use, response action, and implementation rates are in Attachment 1.</p> <p>(b) Action and measures from Stage I, except for numbers 5 and 6, are enforced beginning this stage.</p> <p>(c) Previous use defined as water use during the corresponding month in the latest pre-drought year.</p> <p>(d) See excess use rate schedule in <b>Table 9-1</b>.</p>				



**Table 6-2 Supply Augmentation and Other Actions (DWR Table 8-3)**

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	How much is this going to reduce the shortage gap? (a)	Additional Explanation or Reference <i>(optional)</i>
1	Other actions	10%	<ol style="list-style-type: none"> <li>1. Given the experience in the recent (2014- 2016) drought, the City’s reductions were substantially driven by State media campaigns. Therefore, at this stage of the WSCP, the City may rely on statewide media campaigns. If the State does not implement media campaigns, the City may:                             <ol style="list-style-type: none"> <li>a. Publicize the water shortage and conservation measures using a media campaign, newspaper articles, and website.</li> <li>b. Promote water conservation programs.</li> <li>c. Hold water efficiency workshops and public events.</li> <li>d. Distribute water bill inserts with information about water shortage and conservation.</li> </ol> </li> <li>2. The days and times during which residential, commercial and industrial uses of water are restricted shall be established by resolution of city council.</li> <li>3. Provide notice to a customer when there is indication that a leak may exist within the end-user’s exclusive control.</li> </ol>
2	Other actions	20%	<ol style="list-style-type: none"> <li>1. Continue with action and measures from Stage I except where superseded by more stringent requirements.</li> <li>2. Schedule staff for enforcement and customer service to ensure customers comply with the assigned water budget.</li> <li>3. Accelerate leak detection and repair program.</li> <li>4. Conduct surveys targeting high water users with CII, irrigation, and residential accounts.</li> </ol>
3	Other actions	30%	<ol style="list-style-type: none"> <li>1. Continue with action and measures from Stage II except where superseded by more stringent requirements.</li> <li>2. Suspend routine flushing of water mains except when necessary to address immediate health or safety concerns.</li> </ol>
4	Other actions	40%	<ol style="list-style-type: none"> <li>1. Continue with action and measures from Stage III except where superseded by more stringent requirements.</li> <li>2. Increase enforcement and water waste patrols.</li> </ol>



**Table 6-2 Supply Augmentation and Other Actions (DWR Table 8-3)**

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	How much is this going to reduce the shortage gap? (a)	Additional Explanation or Reference (optional)
5	Other actions	50%	<ol style="list-style-type: none"> <li>1. Continue with action and measures from Stage IV except where superseded by more stringent requirements.</li> <li>2. Impose penalties for excess water usage that increase with increments of greater water use. (b)</li> <li>3. Reduce distribution system pressures.</li> </ol>
6	Other actions	55%	<ol style="list-style-type: none"> <li>1. Continue with action and measures from Stage V except where superseded by more stringent requirements.</li> <li>2. Increase staff enforcement to ensure customers complying with the assigned water budget.</li> </ol>
<p>NOTES:                      (a) The percentages listed in this table are the cumulative savings for each shortage level with implementation of corresponding demand reduction actions in <b>Table 6-1</b>. Detailed saving estimates based on end use, response action, and implementation rates are in Attachment 1.                      (b) See excess use rate schedule in <b>Table 9-1</b>.</p>			



## 6.5 Prohibitions on End Uses

Restrictions and prohibitions associated with each stage of action in the City’s WSCP are presented in **Table 6-1**. As discussed above, these responses focus on the reduction of non-essential water uses such as ornamental landscape irrigation, and preserve water uses that are estimated to the health, safety, welfare, and economic vitality of the City’s customers.

## 6.6 Shortage Response Action Effectiveness

In order to evaluate and ensure that effective actions will be implemented with the proper level of intensity, the City employed the DRT. The DRT model calculates monthly savings anticipated by implementing each stage of action as detailed below.

### 6.6.5 Baseline Water Use Profile

Using the DRT, the City developed a pre-drought baseline water use profile that reflected usage patterns within the City’s service area by major water use sector for 2020 (selected as a representative “pre-drought” period). Additionally, data from the SWRCB was analyzed to understand the impact of WSCP actions on water use in 2016, in the midst of the historic drought. Key findings from these analyses are presented below.

#### *Residential Per Capita Demand*

The City’s baseline residential gallons per capita per day (R-GPCD) demand during 2019 was approximately 88 R-GPCD. As shown in **Table 6-3**, this R-GPCD is slightly higher than the statewide average of 85 R-GPCD.

#### *Estimated Proportion of Outdoor Water Use*

As shown on **Table 6-4** and the associated charts, outdoor water use, which can generally be considered as a “discretionary or non-essential water use”, was estimated to be approximately 46% of the City’s total consumption during this pre-drought time period. The high proportion of outdoor water use within both residential and commercial sectors (39% and 36%, respectively) indicates that there is the potential to achieve significant water savings across these sectors during water shortages, simply by focusing on outdoor uses. As further shown in the **Table 6-4** and associated charts, the seasonal variation in baseline water use reflects increased irrigation demands during the summer and fall months. Therefore, the greatest potential for reductions in non-essential water use are expected during these months.



**Table 6-3 Baseline Residential Per Capita Water Demand**

	Baseline Residential Per Capita Water Demand (R-GPCD)
Lathrop (a)	88
Statewide Average (c)	85
<p>NOTES:                      (a) Lathrop R-GPCD calculated using 2019 metered data.                      (b) State-wide R-GPCD for 2019 obtained from data provided at California State Water Resources Control Board Water Conservation Portal - Conservation Reporting, <a href="http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/conservation_reporting.shtml">http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/conservation_reporting.shtml</a>, accessed March 2021.</p>	



**Table 6-4 Baseline Water Use Profile**

Sector	End-Use	Baseline (2019) Water Use													Annual % of Total by Sector
		January	February	March	April	May	June	July	August	September	October	November	December	Annual	
Residential	Indoor	137	124	137	133	137	133	137	137	133	137	133	137	1,619	31%
	Outdoor	0	17	19	25	104	138	135	173	160	132	93	45	1,039	20%
	<i>Subtotal Residential</i>	<i>137</i>	<i>141</i>	<i>156</i>	<i>159</i>	<i>242</i>	<i>271</i>	<i>272</i>	<i>310</i>	<i>293</i>	<i>270</i>	<i>226</i>	<i>182</i>	<i>2,658</i>	<i>50%</i>
CII	Indoor	81	74	81	79	81	79	81	81	79	81	79	81	959	18%
	Outdoor	0	29	9	22	43	58	64	71	86	68	58	21	529	10%
	<i>Subtotal CII</i>	<i>81</i>	<i>103</i>	<i>90</i>	<i>101</i>	<i>124</i>	<i>137</i>	<i>145</i>	<i>153</i>	<i>165</i>	<i>150</i>	<i>136</i>	<i>103</i>	<i>1,488</i>	<i>28%</i>
Dedicated Irrigation	Outdoor	9	6	55	34	83	109	126	133	124	91	65	35	870	17%
Non-Revenue	Non-Revenue (a)	11	13	15	15	22	26	27	30	29	26	21	16	251	5%
Total	Indoor	219	198	219	212	219	212	219	219	212	219	212	219	2,578	49%
	Outdoor	9	53	82	81	230	305	324	377	369	292	215	101	2,438	46%
	Non-Revenue(a)	11	13	15	15	22	26	27	30	29	26	21	16	251	5%
	<b>Total</b>	<b>239</b>	<b>263</b>	<b>316</b>	<b>308</b>	<b>471</b>	<b>543</b>	<b>570</b>	<b>626</b>	<b>610</b>	<b>537</b>	<b>448</b>	<b>336</b>	<b>5,267</b>	<b>100%</b>

NOTES:

(a) Non-revenue water is assumed to be 5% of the total production.

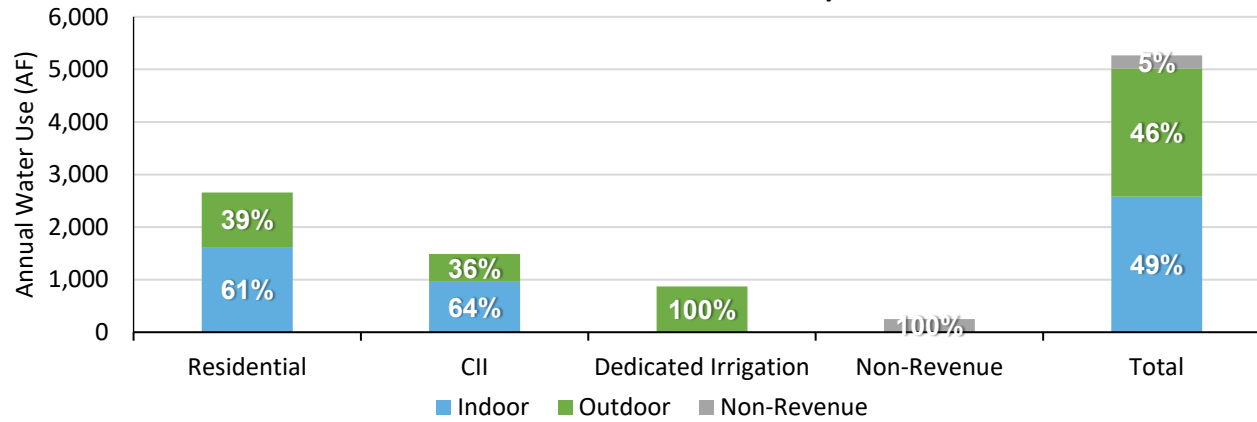
(b) Volumes are in units of acre-foot (AF).

(c) Indoor water use was estimated to be the lowest monthly water use for each sector, accounting for the number of days in each month. Outdoor water use for each sector was estimated to be the difference between the total water use and the estimated indoor water use.

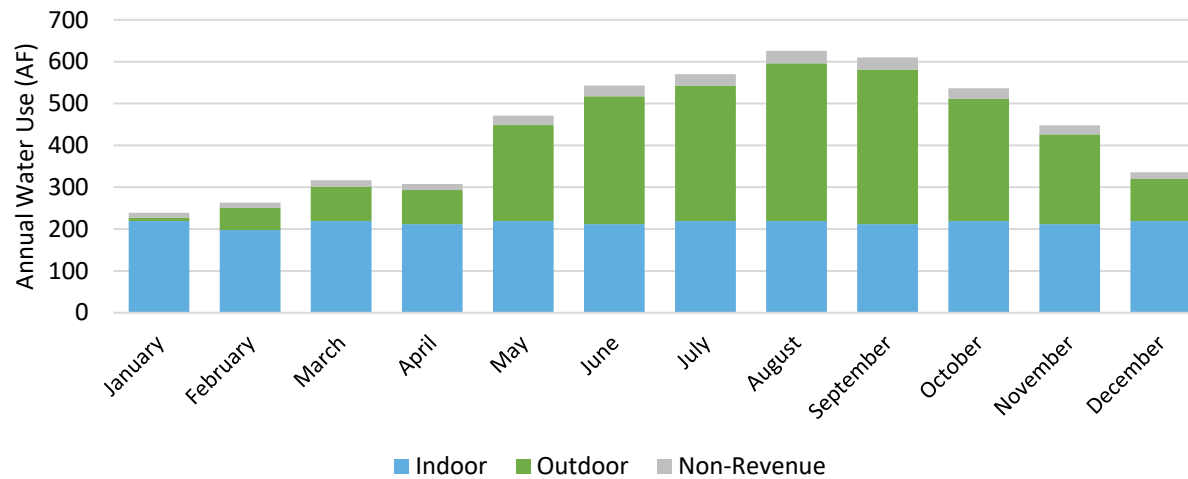




**Chart 6-4A Baseline Year Annual Water Use by Sector and End Use**



**Chart 6-4B Baseline Year Monthly Indoor vs. Outdoor Water Use**





### 6.6.6 Shortage Response Action Effectiveness

The DRT provides a quantitative framework that allows the City to systematically estimate the monthly and cumulative annual demand reductions expected to result from particular combinations of drought response actions and associated implementation rates. Data inputs to the DRT include total production, class-specific water use, population, and assumptions regarding the split between indoor and outdoor water use for each customer class.

For each drought response action, the user specifies:

- The customer class(es) and end use(s) that are affected;
- The percent savings for that end use for each account that implements the action. These are based on evaluations reported in the literature, or where such studies are not available, on best estimates based on the City's experience; and
- The percentage of accounts assumed to implement the action, which is presumed to be the result of the intensity level of the City's program implementation, including but not limited to, marketing and enforcement activities.

An additional critical DRT user input is a set of constraints on demand reductions to ensure that usage levels do not endanger health and safety or result in unacceptable economic impacts. The DRT will not permit estimated usage reductions to violate these constraints, regardless of the demand reduction actions selected. The constraints are:

- A minimum residential indoor per capita daily usage of 25 gallons,
- A maximum residential outdoor usage reduction of 100%,
- A maximum Commercial, industrial, and institutional (CII) indoor usage reduction of 30%, and
- A maximum CII outdoor usage reduction of 100%.

Based on the foregoing data, the DRT model calculates the resulting monthly savings. The City adjusted the combination of actions and implementation levels to achieve the targeted savings levels at each of the six stages of action.

For each of the stages of action, the modeling targeted the mid-range of the required demand reduction range, ergo:

- 10% for Stage 1,
- 20% for Stage 2,
- 30% for Stage 3,
- 40% for Stage 4,
- 50% for Stage 5, and
- 55% for Stage 6.



The key DRT inputs and outputs for each of the stages of action are reproduced in **Attachment 1**.

**Table 6-1** shows the water shortage reduction actions, savings assumptions, and implementation rates that are required for the City to achieve the required annual demand reductions for each of the six stages of action. At each stage, there are two types of demand-reduction actions identified:

- Restrictions on customer water usage; and
- Consumption reduction actions by the City to encourage decreased water usage.

Many actions are implemented across a number of stages, some at increasing implementation levels.

Therefore, the actions in **Table 6-1** and **Table 6-2** are listed as a row under the first stage at which they are implemented. The percentages shown in the tables represent savings of the end uses.

## 6.7 Catastrophic Supply Interruption Plan

The City's Emergency Response Plan for Water Utility Management (ERP) outlines the water system's response plan in the event of a disaster such as an earthquake, major fire, flooding, or sabotage. The City has emergency standby generators at all wells and at all pump stations to provide uninterrupted water supply. The Plan includes the following:

- Description of water system components (wells, distribution system, storage tanks);
- Protective measures to be taken prior to a disaster;
- List of City emergency operation personnel;
- Information regarding coordination with police and fire department personnel;
- List of water testing laboratories, water system contractors, and pipe repair and installation contractors; and
- Utility service numbers for traffic signal repairs, gas and electrical repairs, and water works suppliers.

The City is exploring water connections with other water suppliers, so that more options for alternative sources of water are available during an emergency. In the event of a catastrophic water shortage, the ERP calls for prioritization in furnishing water for firefighting and health and safety uses. The City may evaluate and require appropriate WSCP response actions during a catastrophic supply interruption, such as end-use prohibitions and mandatory rationing, as well as implement the operational changes and communication protocols described herein.

An update to the City's ERP pursuant to the America's Water Infrastructure Act (AWIA) is currently in progress and is planned to be completed before December 2021.



## 7. SEISMIC RISK ASSESSMENT

### CWC § 10632.5

*(a) In addition to the requirements of paragraph (3) of subdivision (a) of Section 10632, beginning January 1, 2020, the plan shall include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.*

*(b) An urban water supplier shall update the seismic risk assessment and mitigation plan when updating its urban water management plan as required by Section 10621.*

*(c) An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multihazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multihazard mitigation plan addresses seismic risk.*

Per the CWC §10632.5, suppliers are required include a seismic risk assessment and mitigation plan as part of their WSCP. The City is located within the San Joaquin County, which is in a low seismic risk area per the revised 2017 San Joaquin County Local Hazard Mitigation Plan (LHMP).<sup>3</sup> No earthquake hazard is addressed in the LHMP due to no earthquakes in the last 100 years on local fault lines.

---

<sup>3</sup> The San Joaquin County LHMP could be found in the County website:  
<https://www.sjgov.org/uploadedfiles/sjc/departments/oes/content/docs/plans/lhmp.pdf>.



## 8. COMMUNICATION PROTOCOLS

### *CWC § 10632 (a) (5)*

*Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, all of the following:*

*(A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.*

*(B) Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1.*

*(C) Any other relevant communications.*

Each stage of the WSCP is implemented with a formal declaration by the City Council upon the determination of a drought or a water emergency pursuant to Section 13.08.130 and Section 13.08.140 of the City's Municipal Code.

Even before formal declaration of a water shortage, a public information program will be activated to provide customers with as much advance notice as possible. Following declaration of a shortage, City customers would need to be provided notice of water shortage rules and regulations via a variety of media and communications methods.

Coordination between the City and with other public agencies can begin prior to formal declaration of a water shortage and can be accomplished through regular meetings, e-mail group updates, letters, telephone, and Council meetings. In the event of a current or predicted water shortages, the City will communicate all pertinent water shortage information, including but not limited to shortage response actions triggered, to customers, the public, and government agencies. As determined by the City at the time of the water shortage to be most effective and appropriate for communication, the City may utilize methods such as direct mail or email newsletters, bill inserts, website postings, and/or expand its normal public outreach to support its water conservation efforts (see Chapter 9 of the 2020 UWMP).

As discussed in Chapter 9 of the 2020 UWMP, the several City staff members jointly share the responsibility for water conservation. Staff time dedicated to water conservation and enforcement action will increase with the severity of a supply shortage. Additional duties may be assigned to current employees or hiring of temporary staff may be considered to meet staffing needs during extreme water shortages.



## 9. COMPLIANCE AND ENFORCEMENT

**CWC § 10632 (a) (6)** *For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined pursuant to Section 10632.2.*

The City is authorized under LMC 13.08.260 to enforce the requirements of the WSCP. Enforcement of the City's water use restrictions and prohibitions is focused on soliciting cooperation from water customers who are unaware of the restrictions or have failed to comply with the provisions of the WSCP. **Table 9-1** summarizes the penalties and charges to be imposed if the provisions of the LMC are violated. These penalties and charges are provided in LMC 13.08.190 and 13.08.260. Pursuant to LMC 13.08.050, the public works director (i.e., the duly appointed manager of the water system of the city) and its designees have the authority to issue citations. LMC 13.08.100 additionally authorizes the City to correct any violations.

Pursuant to LMC 13.08.200, the public works director or designee may grant variances for customers upon determination that failure to do so would cause an emergency conditions affecting health, sanitation, or fire protection of the applicant or public. Customer who wishes to appeal any actions taken by the City must follow the requirements as listed in LMC 13.08.210 Appeals. The steps to appeal are provided in verbatim below:

- *All appeals shall be filed in writing with the city clerk and shall state the nature of the appeal or request and the basis upon which the decision of the public works director is considered to be in error.*
- *Such appeals, to be effective, must be received by the city clerk not later than ten (10) business days following the date that the public works director has given notice of such action from which the appeal is being taken and be accompanied by a fee of fifty dollars (\$50.00). The fee of fifty dollars (\$50.00) will be refunded if the appeal is granted.*
- *The city clerk shall schedule the appeal for consideration by the city council at the earliest next regularly scheduled council meeting.*
- *The decision of the city council on the appeals shall be final.*
- *A successful appeal by an applicant shall include reimbursement, if any, of an excess use fee by the city in a timely fashion.*

It is anticipated that staff time dedicated to water conservation and enforcement action will increase with the severity of a supply shortage. Additional duties may be assigned to current City employees or hiring of temporary staff may be considered to meet staffing needs during extreme water shortages.



**Table 9-1 Water Shortage Contingency – Penalties and Charges**

Stage	Warnings, Penalties, and Charges (a)
1	None
2	1. One warning/notification. 2. Levy heavy fine: \$50, second notification; \$75, third notification; \$100, fourth notification; Failure to pay assessed fines will result in termination of service until such time as payment in full is collected from customer. 3. Installation of flow restrictor by City staff at customer’s expense upon fourth notification; flow restrictor to remain in place for remainder of the drought or water emergency.
3	Same as Stage 2
4	Same as Stage 2
5	Same as Stage 2, with the addition of the following excess water use surcharges: 1. One notification if user’s water use exceeds water ration 2. If the water user again exceeds water ration during the following billing period, the excess use fee shall be imposed as a surcharge upon all water use in excess of that user’s water ration, dating back to the original billing period for which notice of excess use had been given and extending forward until the water user consumes no more than allowed under the Stage 4 rationing standard. Surcharge rates are as follows: <ul style="list-style-type: none"> <li>• 1-5 units over base - \$12.50/unit</li> <li>• 6-10 units over base - \$15.00/unit</li> <li>• 11-15 units over base - \$17.50/unit</li> <li>• 16-25 units over base - \$30.00/unit</li> <li>• 26-50 units over base - \$42.50/unit</li> <li>• More than 50 units over base - \$100.00/unit</li> </ul>
6	Same as Stage 5
Note: (a) Warnings, penalties, and charges are in LMC 13.08.190 and 13.08.260.	



## 10. LEGAL AUTHORITIES

### **CWC § 10632 (a) (7)**

(A) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions.

(B) A statement that an urban water supplier shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1.

(C) A statement that an urban water supplier shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

### **CWC § 10632.3**

It is the intent of the Legislature that, upon proclamation by the Governor of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on drought conditions, the board defer to implementation of locally adopted water shortage contingency plans to the extent practicable.

As discussed above, the City has authority within Section 13.08 of the LMC to require water rationing and conservation and to enforce penalties. The resolution adopted this WSCP and associated ordinance to amend LMC 13.08 are included as Attachment 2 and Attachment 3.

The City shall declare a water shortage emergency in accordance with Water Code Chapter 3 (commencing with Section 350) of Division 1 Declaration of Water Shortage Emergency Condition.

*The governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, shall declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.*

The City shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency. The City is located within the County of San Joaquin and only provides water to itself. A list of contacts for cities and counties within the City service area is provided below:

- San Joaquin County Public Works  
Matt Zidar, Water Resources Manager  
1810 East Hazelton Avenue  
Stockton, CA 95205  
[mzidar@sjgov.org](mailto:mzidar@sjgov.org)
- San Joaquin County Office of Emergency Services  
Lowell Allen, Emergency Planner  
2101 E. Earhart Ave., Suite 300



## Water Shortage Contingency Plan

### 2020 Update

#### City of Lathrop

Stockton, CA 95206

[lhallen@sjgov.org](mailto:lhallen@sjgov.org)

(209) 953-6200

In addition, the City is a SSJID contractor and will coordinate with SSJID for possible proclamation of a water shortage emergency.





## 11. FINANCIAL CONSEQUENCES OF WSCP

### *CWC § 10632 (a) (8)*

*A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:*

*(A) A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).*

*(B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).*

*(C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1.*

Revenues from water rates are needed to enable water suppliers to cover the costs in pumping, storing, treating, and delivering water. Revenues also need to be collected to build reserves for future water system repairs, maintenance, and replacement. However, water shortages that result in the implementation of the Water Conservation and Rationing Plan are expected to result in reduced water usage, and accordingly, reduced operating revenues.

Also, during a water shortage, the City's expenditures for water-related services may be impacted. Expenditures may increase for a number of reasons, including the following:

- Increased conservation program costs to implement, monitor, and enforce new or more intensive water conservation programs;
- Increased staff costs for operation and maintenance of facilities to ensure efficient operation of available facilities;
- Increased costs for acquisition and treatment of additional surface water supplies, if needed to compensate for decreased groundwater supplies; and
- Increased costs for groundwater pumping, if additional groundwater pumping is needed to compensate for decreased surface water supplies or if more energy is required because of increased pumping lifts associated with decreasing groundwater levels (although these increased groundwater pumping costs may be offset by overall lower groundwater production costs due to the lower overall demand).

In order to mitigate the financial impacts of a water shortage, the City will need to rely on reserves and increased water rates, when justified. As shown in Section 13.08.180 of the LMC has the following provision for temporary rate increases.

*Section 13.08.180. Temporary Rate Increases. When drought conditions or water emergency conditions prevail for more than two months, it may become necessary to implement a temporary rate increase to cover lost revenues due to water consumption reductions. Rates shall be increased as recommended by the Public Works Director and at the City Council's discretion when it is determined that revenues are inadequate to maintain the water enterprise. Such increase will be accomplished by resolution action.*

## Water Shortage Contingency Plan

### 2020 Update

#### City of Lathrop



In addition to increasing water rates, as shown in **Table 6-1**, the City also imposes excess water use surcharges beginning in Stage 5. The surcharges are listed in **Table 9-1** and shown in Section 13.08.230 of the LMC.

Other potential funding sources and/or short-term management options include careful monitoring of system costs, managing the short-term water reduction plans, initiating a water contingency fund and/or temporary deferral of capital improvement projects. There may also be additional external funding sources made available to water agencies for emergency situations.



**12. MONITORING AND REPORTING**

**CWC § 10632 (a) (9)** For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

The City’s water production (including deliveries from SSJID and City well production) is metered and continuously monitored by the City’s Supervisory Control and Data Acquisition (SCADA) system. Daily water flow data and monthly customer billing data are compiled into a Monthly Water Usage Report. As discussed in Chapter 9 in the 2020 UWMP, the City is continuously working on automating and improving the reporting function of the City’s customer billing system.

During a water shortage, production totals versus consumption will be reported more frequently, on an as needed basis, to monitor the effectiveness of imposed water use restrictions and consumption reduction methods. Water use monitoring mechanisms are summarized in **Table 12-1**. Based on the compiled data, the City will compare total water production to total metered water consumption on a monthly basis to further evaluate the effectiveness of water conservation programs and better quantify losses within the water system.

**Table 12-1 Water Use Monitoring Mechanisms**

Mechanism for Determining Actual Reductions	Type of Data Expected
Groundwater Well Monitoring	Production Volume
SSJID Turnout Monitoring	Delivery Volume
Customer Water Meters & Customer Billing System	Customer Water Use (Demand)

Pursuant to California Code of Regulations (CCR) Title 23 §991, the City reports monthly water use and production to the SWRCB.<sup>4</sup> Effective October 1, 2020, during a governor declared drought emergency or when an urban water supplier invokes a water shortage level to respond to a drought greater than 10%, each supplier is required to submit an expanded report that contains the supplier’s actions and statistics in achieving planning reductions.

---

<sup>4</sup> Water supplier monthly reports can be accessed at [https://www.waterboards.ca.gov/water\\_issues/programs/conservation\\_portal/conservation\\_reporting.html](https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/conservation_reporting.html)



### 13. WSCP REFINEMENT PROCEDURES

**CWC § 10632 (a) (10)** *Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.*

As part of the Annual Assessment, the City's team members will review the results of prior monitoring and reporting to determine the effectiveness of the WSCP. In addition, the City will consult with other SSJID contractors and SSJID directly. If modifications to shortage response actions are needed, the City team will present the proposed modifications to the City Council and request changes to the WSCP by resolution.

The WSCP is implemented as an adaptive management plan. The City will evaluate the need for revise its WSCP every year after performing its Annual Assessment. The evaluation will consider effective of WSCP actions and any anticipated water supply shortages assessed by the Annual Assessment. If the WSCP is revised, the City Council will adopt a new resolution adopting the revised WSCP, and if necessary, declare a water shortage level to implement.



#### 14. PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

**CWC § 10632 (c)** *The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.*

As described in Chapter 10 of the 2020 UWMP, the City informed the public and the appropriate agencies of: (1) its intent to prepare a WSCP, (2) where the WSCP was available for public review, and (3) when the public hearing regarding the WSCP would be held. All notifications were completed in compliance with the stipulations of Section 6066 of the Government Code.

A copy of the adopted 2020 WSCP including any amendments will be provided to the Department of Water Resources (DWR), the California State Library, San Joaquin County, and South San Joaquin Irrigation District (SSJID) within 30 days of the adoption. An electronic copy of the adopted 2020 WSCP will be submitted to the DWR using the DWR online submittal tool.

A copy of the adopted 2020 WSCP will be available for public review in Lathrop City Hall during normal business hours and on the City website within 30 days after filing the plan with DWR.



**REFERENCE**

San Joaquin County, 2017. Local Hazard Mitigation Plan, revised in 2017.

<https://www.sjgov.org/uploadedfiles/sjc/departments/oes/content/docs/plans/lhmp.pdf>



## **ATTACHMENT 1**

### **DROUGHT RESPONSE TOOL QUANTITATIVE ASSESSMENT**



**1 - Home**  
City of Lathrop

Enter Agency Information	
Agency Name	City of Lathrop
Total Population Served	26,833
Conservation Goal (%)	10%
Drought Stage	Stage 1
Number of Residential Accounts	7,473
Number of Commercial, Industrial, and Institutional (CII) Accounts	232
Number of Dedicated Irrigation Accounts	196
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	100%
Percentage of CII Indoor Use During Minimum Month (%)	100%
Comments	

Navigation	
<b>USER'S GUIDE</b>	Download and read the guide before using this Tool
<b>1 - HOME</b>	Enter agency information
<b>2 - INPUT BASELINE YEAR WATER USE</b>	Enter Baseline Year production and use
<b>3 - BASELINE YEAR WATER USE</b>	Review and confirm entered information
<b>4 - DROUGHT RESPONSE ACTIONS</b>	Select Drought Response Actions and input estimated water savings and implementation rates.
<b>5 - ESTIMATED WATER SAVINGS</b>	Review estimated water production and compare estimated savings to conservation target.
<b>6 - DROUGHT RESPONSE TRACKING</b>	Track production and water savings against the conservation target.

## 1 - Home

### City of Lathrop

For questions about this tool or for additional information, contact:

**Anona Dutton, P.G., C.Hg.**  
[adutton@ekiconsult.com](mailto:adutton@ekiconsult.com)  
(650) 292-9100



**Disclaimer:** This electronic file is being provided by EKI Environment & Water Inc. (EKI; formerly Erler & Kalinowski, Inc.) at the request of (CLIENT). The Drought Response Tool was transmitted to CLIENT in electronic format, on a CD dated [DATE] (Original Document). Only the Original Document, provided to, and for the sole benefit of, CLIENT constitutes EKI's professional work product. An electronic copy of the Drought Response Tool is provided to CLIENT's Customer Agencies, for use only by CLIENT-designated Customer Agencies. The Drought Response Tool is copyrighted by EKI. All rights are reserved by EKI, and content may not be reproduced, downloaded, disseminated, published, or transferred in any form or by any means, except with the prior written permission of EKI. Customer Agencies may use the Drought Response Tool for reviewing potential drought response alternatives. The delivery to, or use by, Customer Agencies of the Drought Response Tool does not provide rights of reliance by Client Agencies or other third parties without the express written consent of EKI and subject to the execution of an agreement between such Customer Agency or other third party and EKI. EKI makes no warranties, either express or implied, of the electronic media or regarding its merchantability, applicability, compatibility with the recipients' computer equipment or software; of the fitness for any particular purpose; or that the electronic media contains no defect or is virus free. Use of EKI's Drought Response Tool, other electronic media, or other work product by Client Agency or others shall be at the party's sole risk. Further, by use of this electronic media, the user agrees, to the fullest extent permitted by law, to defend, indemnify and hold harmless EKI, CLIENT, and their officers, directors, employees, and subconsultants against all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, arising from any use, modification or changes made to the electronic files by anyone other than EKI or from any unauthorized distribution or reuse of the electronic files without the prior written consent of EKI.

© 2015 Erler & Kalinowski, Inc.

## 2 - Input Baseline Year (2020) Water Use City of Lathrop

Input Baseline Year (2020) Production and Water Use							
Units: <input type="text" value="(af)"/>							
Select the units to input monthly production and use data. Enter the total monthly potable water production for the Baseline Year. Next, enter monthly water use data by sector for the Baseline Year. If you bill on a bi-monthly basis, divide your billing data between the months that the billing cycle includes. If your single-family and multi-family accounts are tracked separately, enter the combined water use for both sectors in the Residential Water Use column. If your commercial, industrial, and institutional (CII) accounts are tracked separately, enter the combined water use for each sector in the CII Water Use column. Your non-revenue water use is calculated by subtracting your monthly residential, CII, and dedicated irrigation water uses from your monthly production. Your monthly residential gallons per capita per day (R-GPCD) is calculated by dividing your monthly residential water use by your population entered in Worksheet 1 - Home.							
Date	Total Production (af)	Residential Water Use (af)	CII Water Use (af)	Dedicated Irrigation Water Use (af)	Non-Revenue Water Use (af)	Total R-GPCD	Comments
January	239	137	81	9	11	54	water loss is assumed to be 5% of the consumpti
February	263	141	103	6	13	61	production by month does not align with consump
March	316	156	90	55	15	61	
April	308	159	101	34	15	64	
May	471	242	124	83	22	95	
June	543	271	137	109	26	110	
July	570	272	145	126	27	107	
August	626	310	153	133	30	121	
September	610	293	165	124	29	118	
October	537	270	150	91	26	106	
November	448	226	136	65	21	91	
December	336	182	103	35	16	71	

### 3 - Baseline Year (2020) Water Use Profile City of Lathrop

Baseline Year (2020) Annual Water Use Summary						
Units: <input type="text" value="(af)"/>						
A summary of your Baseline Year water use by sector and major end use category is shown below. Select the units in which your production and use data are displayed.						
Water Use	Total Production (af)	Water Use (af)				Comments
		Residential	CII	Dedicated Irrigation	Non-Revenue	
<b>Total</b>	5,267	2,658	1,488	870	251	
<b>Total Indoor</b>	2,578	1,619	959	--	--	
<b>Total Outdoor</b>	2,438	1,039	529	870	--	
<b>Total Non-Revenue</b>	251	--	--	--	251	
<b>Total Indoor %</b>	49%	61%	64%	0%	--	
<b>Total Outdoor %</b>	46%	39%	36%	100%	--	
<b>Total Non-Revenue %</b>	5%	--	--	--	100%	

Chart 8-A Baseline Year (2020) Percent Annual Water Use by Sector

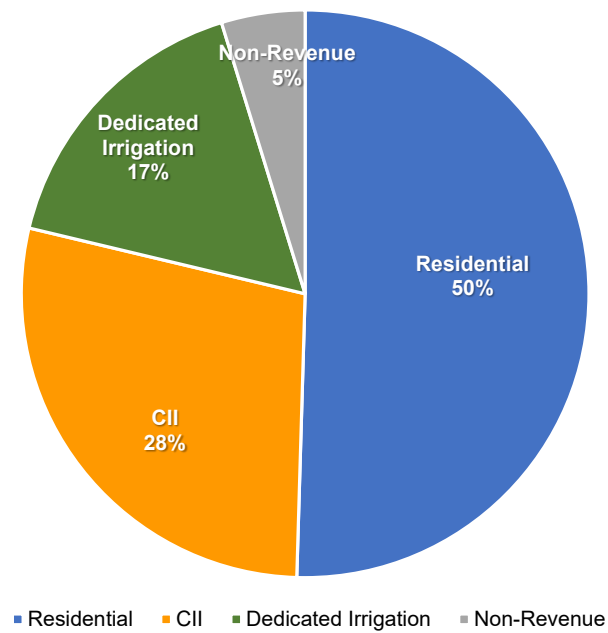
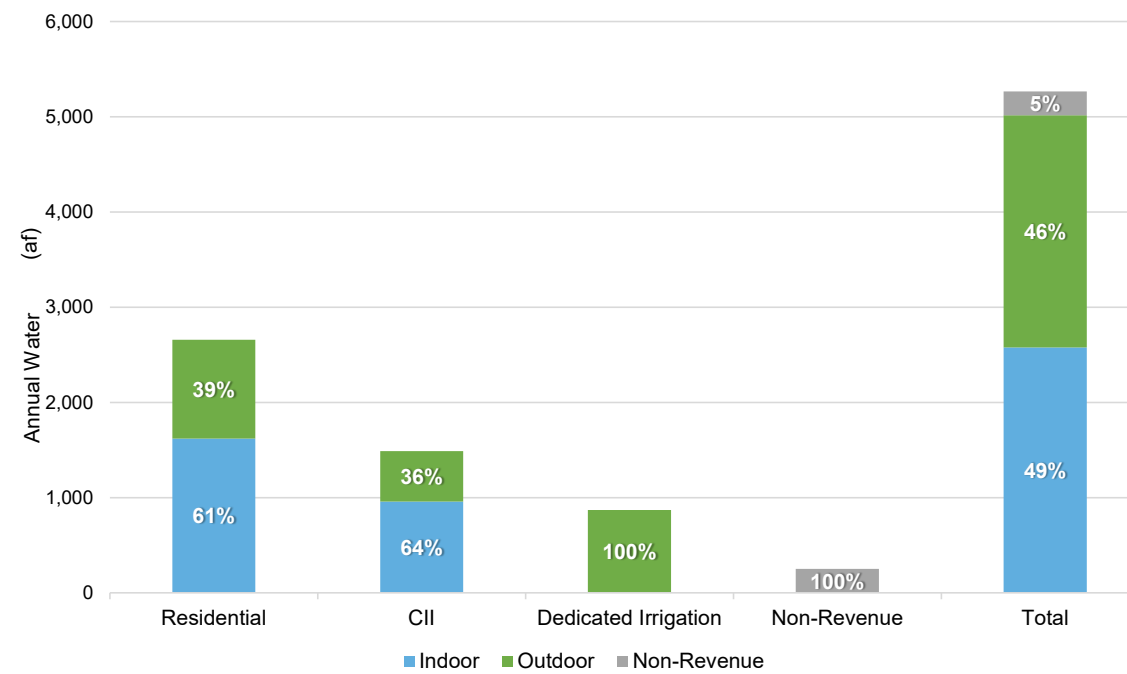
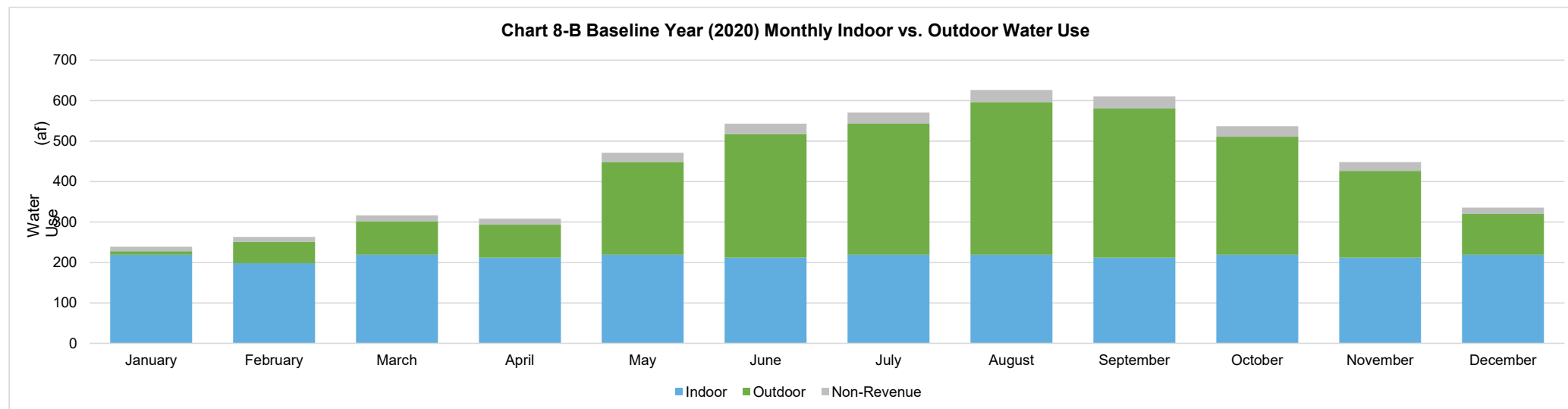
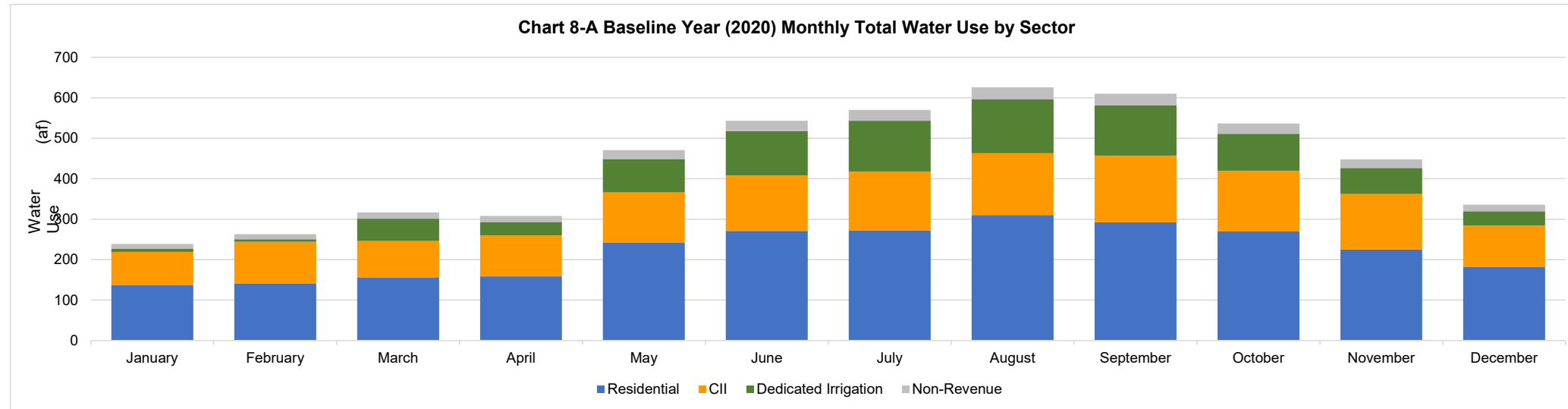


Chart 8-B Baseline Year (2020) Annual Water Use by Sector and End Use

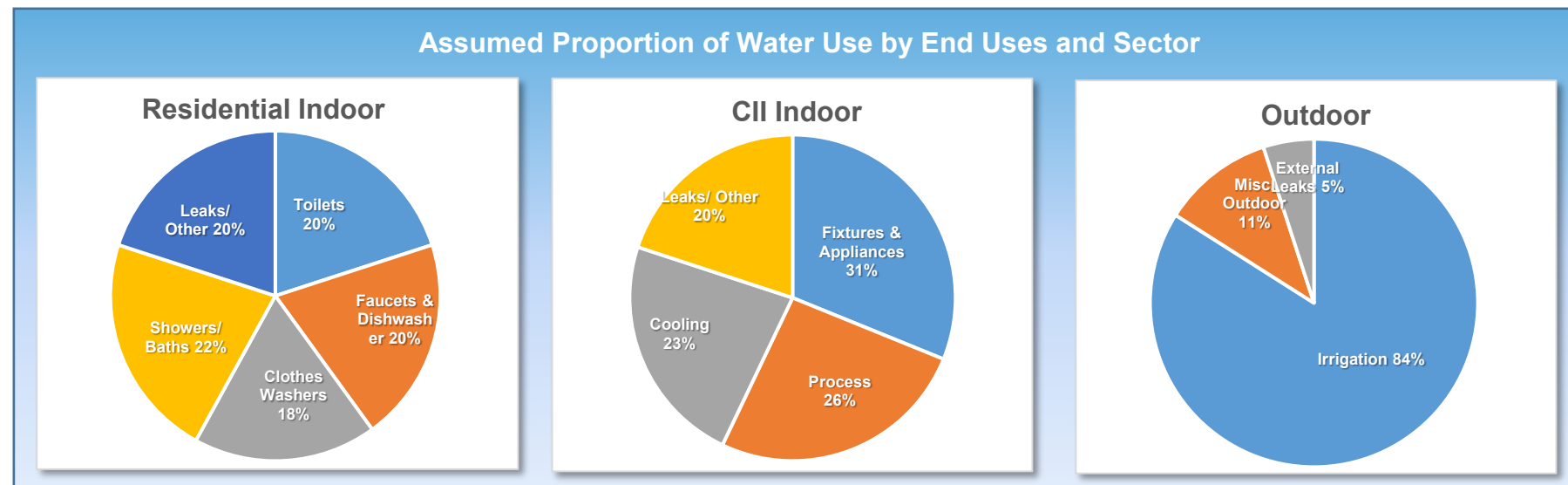


### 3 - Baseline Year (2020) Water Use Profile City of Lathrop



## 4 - Drought Response Actions - Stage 1 City of Lathrop

Maximum Savings Potential		
<i>Use the default values or enter your own criteria for the maximum savings potential. Estimated water savings within each sector will not exceed the maximum savings criteria.</i>		
Minimum Residential Indoor GPCD	25	R-GPCD
Maximum Residential Outdoor Savings	100%	of Baseline Residential Outdoor Water Use
Maximum CII Indoor Savings	30%	of Baseline CII Indoor Water Use
Maximum CII Outdoor Savings	100%	of Baseline CII Outdoor Water Use
Maximum Dedicated Irrigation Account Savings	100%	of Baseline Dedicated Irrigation Water Use
Maximum Non-Revenue Water Savings	50%	of Baseline Non-Revenue Water Use
<b>Resulting Total Maximum Annual Savings Potential</b>	<b>71%</b>	<b>of Total Baseline Production</b>



## 4 - Drought Response Actions - Stage 1 City of Lathrop

Drought Response Actions						
<p><i>Select the Drought Response Actions you would like to include in your estimated savings calculations. For each selected action, use the default end use savings estimates and implementation rates or input your own values. The "End Use Savings" estimates the percent water use reduction that could occur at a particular end use as a result of a specific action. The "Implementation Rate" refers to the estimated percentage of accounts that will implement a specific action. The water savings potential at each end use is capped based on the assumed distribution of end use water demands shown in the pie charts above. A dash (-) indicates that professional judgement was used to establish the default value, or that savings are expected to be accounted for as part of a Public Information Program; additional basis for the default values are included in the User Manual.</i></p>						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Possible Mandatory Prohibitions</b>	All Outdoor	<input checked="" type="checkbox"/>	14%	50%	--	--
Prohibit Irrigation with Potable Water Outside of Newly Constructed Homes and Buildings that is not Delivered by Drip or Microspray Systems	Irrigation	<input type="checkbox"/>			--	--
Require Shut-Off Nozzles on Hoses for Vehicle Washing	Misc. Outdoor	<input type="checkbox"/>	17%	50%	See Appendix D of the DRP	--
Prohibit Use of Potable Water to Wash Sidewalks and Driveways	Misc. Outdoor	<input type="checkbox"/>	17%	50%		--
Prohibit the Use of Potable Water for Street Washing	Misc. Outdoor	<input checked="" type="checkbox"/>	17%	50%		--
Prohibit Irrigation with Potable Water in a Manner that causes Runoff	Irrigation	<input type="checkbox"/>	3%	50%	DeOreo et al., 2011	--
Prohibit Irrigation with Potable Water within 48 Hours following Measurable Rainfall	Irrigation	<input type="checkbox"/>			--	--
Prohibit Irrigation of Ornamental Turf with Potable Water on Street Medians	Irrigation	<input type="checkbox"/>			--	--
Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water	Misc. Outdoor	<input type="checkbox"/>	50%	50%	EBMUD, 2008	--
Provide Linen Service Opt Out Options	Fixtures & Appliances	<input checked="" type="checkbox"/>	0.5%	50%	EBMUD, 2011	--
Prohibit Serving Drinking Water other than upon Request in Eating or Drinking Establishments	Fixtures & Appliances	<input checked="" type="checkbox"/>	0.5%	50%	EBMUD, 2011	--

## 4 - Drought Response Actions - Stage 1 City of Lathrop

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Agency Drought Actions / Restrictions</b>						
<b>► Agency Actions</b>						
Media Campaign, Newspaper Articles, Website	All	<input checked="" type="checkbox"/>	1.0%	50%	EBMUD, 2011	--
Promote Water Conservation / Rebate Programs	All	<input checked="" type="checkbox"/>		50%	--	--
Water Efficiency Workshops, Public Events	All	<input checked="" type="checkbox"/>	1.0%	25%	EBMUD, 2011	--
Water Bill Inserts	All	<input checked="" type="checkbox"/>	0.5%	100%	EBMUD, 2011	--
Promote / Expand Use of Recycled Water	Irrigation	<input type="checkbox"/>	100%		--	--
Home or Mobile Water Use Reports	All	<input type="checkbox"/>	5%	10%	WaterSmart Software, 2015	--
Decrease Frequency and Length of Line Flushing	Non Revenue Water	<input type="checkbox"/>	25%	50%	See Appendix D of the DRP	Reduced flushing by 50%.
Audit and Reduce System Water Loss	Non Revenue Water	<input type="checkbox"/>	45%	50%	DWR, 2015	Target 50% of leakage.
Implement Drought Rate Structure / Water Budgets	All	<input type="checkbox"/>	5%	100%	CUWCC, 2015	--
Establish Retrofit on Resale Ordinance	All Residential Indoor	<input type="checkbox"/>	21%	6%	SFPUC, 2004	First Tuesday, 2015
Require Net Zero Demand Increase on New Connections	All	<input type="checkbox"/>			--	--
Moratorium on New Connections	All	<input type="checkbox"/>			--	--
Move to Monthly Metering / Billing	All	<input type="checkbox"/>	5%	10%	See Appendix D of the DRP	--
Increase Water Waste Patrols / Enforcement	All	<input type="checkbox"/>			--	--
Establish Drought Hotline	All	<input type="checkbox"/>			--	--
Reduce Distribution System Pressures	Non Revenue Water	<input type="checkbox"/>	4.5%	100%	CUWCC, 2010; DWR, 2015	--
<b>► Dedicated Irrigation</b>						
Conduct Irrigation Account Surveys	Irrigation	<input type="checkbox"/>	30%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 3 Days/Week, 15 Minutes/Day, Between 10PM and 7AM	Irrigation	<input checked="" type="checkbox"/>	17%	60%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	79%	50%		
Prohibit use of Potable Water for Irrigation	Irrigation	<input type="checkbox"/>	100%	50%		
Require Repair of all Leaks within 24 hours	External Leaks	<input checked="" type="checkbox"/>	100%	5%	--	--
Customer Water Budgets						
Establish Water Budget - 25% Reduction	Irrigation	<input type="checkbox"/>	25%	50%	--	--
Establish Water Budget - 50% Reduction	Irrigation	<input type="checkbox"/>	50%	50%	--	--
Establish Water Budget - 75% Reduction	Irrigation	<input type="checkbox"/>	75%	50%	--	--



## 4 - Drought Response Actions - Stage 1 City of Lathrop

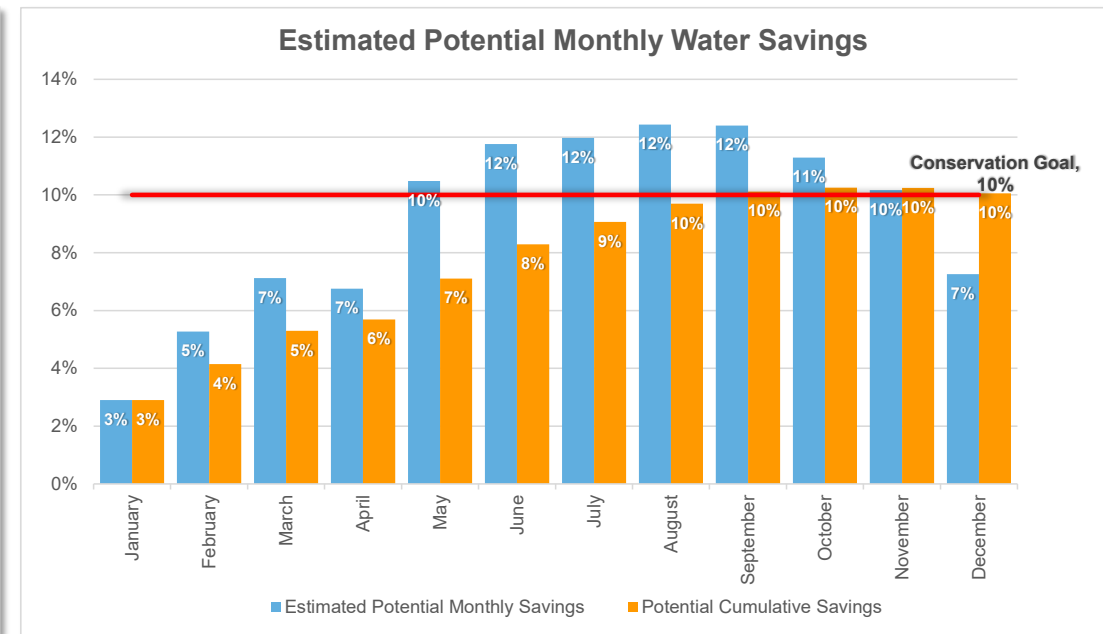
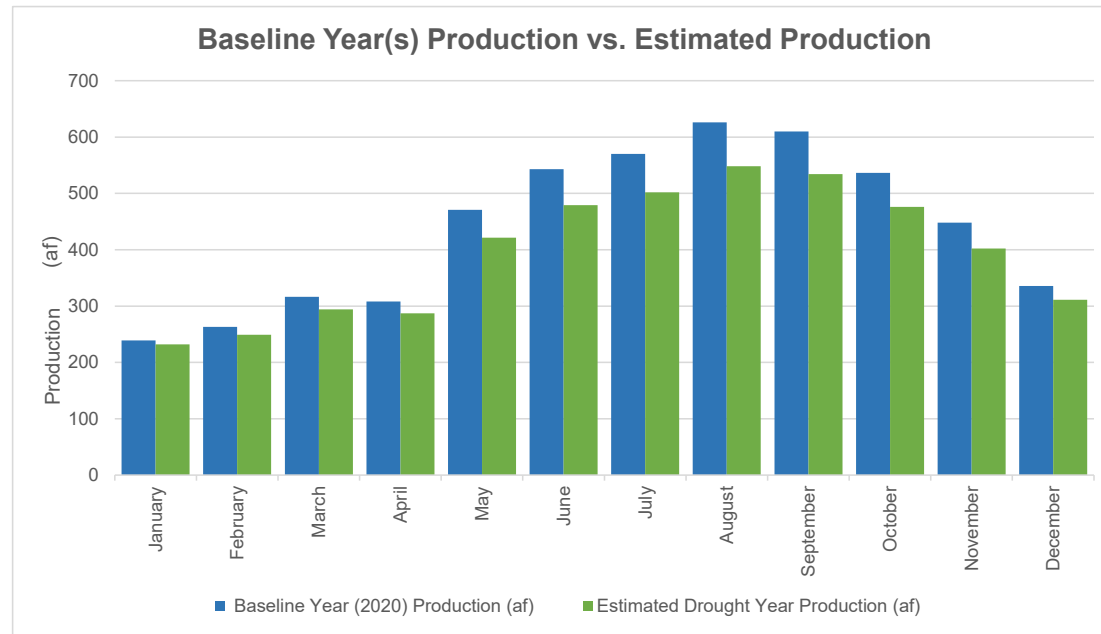
Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Agency Drought Actions / Restrictions</b>						
<b>► Residential</b>						
Conduct Water Use Surveys Targeting High Water Users	All Residential Uses	<input type="checkbox"/>	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 3 Days/Week, 15 Minutes/Day, Between 10PM and 7AM	Irrigation	<input checked="" type="checkbox"/>	<b>17%</b>	<b>60%</b>	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	79%	50%		
Prohibit use of Potable Water for Irrigation	Irrigation	<input type="checkbox"/>	100%	50%		
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	<input type="checkbox"/>	50%	50%	EBMUD, 2008	--
Require Repair of all Leaks within 24 hours	Leaks	<input checked="" type="checkbox"/>	100%	5%	--	--
Require Pool Covers	Misc. Outdoor	<input type="checkbox"/>	28%	25%	Maddaus & Mayer, 2001	--
Prohibit Filling of Pools	Misc. Outdoor	<input type="checkbox"/>	55%	25%	DeOreo et al., 2011	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All Residential Uses	<input type="checkbox"/>	10%	50%	--	--
Establish Water Budget - 20% Reduction	All Residential Uses	<input type="checkbox"/>	20%	50%	--	--
<b>► CII</b>						
Conduct CII Surveys Targeting High Water Users	All CII uses	<input type="checkbox"/>	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 3 Days/Week, 15 Minutes/Day, Between 10PM and 7AM	Irrigation	<input checked="" type="checkbox"/>	<b>17%</b>	<b>60%</b>	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	79%	50%		
Prohibit Use of Potable Water for Construction and Dust Control	Misc. Outdoor	<input type="checkbox"/>		100%	--	--
Prohibit Single-Pass Cooling Systems	Cooling	<input type="checkbox"/>	80%	1%	Vickers, 2001	--
Require Repair of all Leaks within 24 hours	Leaks	<input checked="" type="checkbox"/>	100%	5%	--	--
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	<input type="checkbox"/>	50%	50%	EBMUD, 2008	--
Require Water-Efficient Pre-Rinse Spray Valves	Fixtures & Appliances	<input type="checkbox"/>	0.8%	50%	EPA, 2015; Pacific Institute, 2003	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All CII uses	<input type="checkbox"/>	10%	50%	--	--
Establish Water Budget - 20% Reduction	All CII uses	<input type="checkbox"/>	20%	50%	--	--
Establish Water Budget - 30% Reduction	All CII uses	<input type="checkbox"/>	30%	50%	--	--

**4 - Drought Response Actions - Stage 1**  
City of Lathrop

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Residential Customer Actions to Encourage</b>						
Install Bathroom Faucet Aerators	Faucets and Dishwashers	<input type="checkbox"/>			--	--
Install a Water-Efficient Showerhead	Showers/Baths	<input type="checkbox"/>			--	--
Turn Off Water when Brushing Teeth, Shaving, Washing Dishes, or Cooking	Faucets and Dishwashers	<input type="checkbox"/>			--	--
Fill the Bathtub Halfway	Showers/Baths	<input type="checkbox"/>			--	--
Wash Only Full Loads of Clothes	Clothes Washers	<input type="checkbox"/>			--	--
Install a High-Efficiency Toilet	Toilets	<input type="checkbox"/>			--	--
Take Shorter Showers	Showers/Baths	<input type="checkbox"/>			--	--
Run Dishwasher Only When Full	Faucets and Dishwashers	<input type="checkbox"/>			--	--
Reduce Outdoor Irrigation	Irrigation	<input type="checkbox"/>			--	--
Install Drip-Irrigation	Irrigation	<input type="checkbox"/>			--	--
Use Mulch	Irrigation	<input type="checkbox"/>			--	--
Plant Drought Resistant Trees and Plants	Irrigation	<input type="checkbox"/>			--	--
Use a Broom to Clean Outdoor Areas	Misc. Outdoor	<input type="checkbox"/>			--	--
Flush Less Frequently	Toilets	<input type="checkbox"/>			--	--
Re-Use Shower or Bath Water for Irrigation	Irrigation	<input type="checkbox"/>			--	--
Wash Car at Facility that Recycles the Water	Misc. Outdoor	<input type="checkbox"/>			--	--

## 5 - Estimated Water Savings - Stage 1 City of Lathrop

Estimated Monthly Water Use and Savings Summary						
Units: <input type="text" value="(af)"/>						
<small>i This provides a summary of the estimated production relative to Baseline Year production and potential water savings, assuming implementation of selected actions at the water savings and implementation rates indicated in the Drought Response Actions worksheet. Select the units that your production data are displayed in.</small>						
Month	Baseline Year (2020) Production (af)	Estimated Drought Year Production (af)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
January	239	232	3%	3%	10%	
February	263	249	5%	4%	10%	
March	316	294	7%	5%	10%	
April	308	287	7%	6%	10%	
May	471	422	10%	7%	10%	
June	543	479	12%	8%	10%	
July	570	502	12%	9%	10%	
August	626	548	12%	10%	10%	
September	610	534	12%	10%	10%	
October	537	476	11%	10%	10%	
November	448	402	10%	10%	10%	
December	336	311	7%	10%	10%	



Home    Input Baseline Year Water Use    Baseline Year Water Use Profile    Drought Response Actions    Estimated Water Savings    Drought Response Tracking

**1 - Home**  
City of Lathrop

Enter Agency Information	
Agency Name	City of Lathrop
Total Population Served	26,833
Conservation Goal (%)	20%
Drought Stage	Stage 2
Number of Residential Accounts	7,473
Number of Commercial, Industrial, and Institutional (CII) Accounts	232
Number of Dedicated Irrigation Accounts	196
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	100%
Percentage of CII Indoor Use During Minimum Month (%)	100%
Comments	

Navigation	
<b>USER'S GUIDE</b>	Download and read the guide before using this Tool
<b>1 - HOME</b>	Enter agency information
<b>2 - INPUT BASELINE YEAR WATER USE</b>	Enter Baseline Year production and use
<b>3 - BASELINE YEAR WATER USE</b>	Review and confirm entered information
<b>4 - DROUGHT RESPONSE ACTIONS</b>	Select Drought Response Actions and input estimated water savings and implementation rates.
<b>5 - ESTIMATED WATER SAVINGS</b>	Review estimated water production and compare estimated savings to conservation target.
<b>6 - DROUGHT RESPONSE TRACKING</b>	Track production and water savings against the conservation target.

## 1 - Home

### City of Lathrop

For questions about this tool or for additional information, contact:

**Anona Dutton, P.G., C.Hg.**  
[adutton@ekiconsult.com](mailto:adutton@ekiconsult.com)  
 (650) 292-9100



**Disclaimer:** This electronic file is being provided by EKI Environment & Water Inc. (EKI; formerly Erler & Kalinowski, Inc.) at the request of (CLIENT). The Drought Response Tool was transmitted to CLIENT in electronic format, on a CD dated [DATE] (Original Document). Only the Original Document, provided to, and for the sole benefit of, CLIENT constitutes EKI's professional work product. An electronic copy of the Drought Response Tool is provided to CLIENT's Customer Agencies, for use only by CLIENT-designated Customer Agencies. The Drought Response Tool is copyrighted by EKI. All rights are reserved by EKI, and content may not be reproduced, downloaded, disseminated, published, or transferred in any form or by any means, except with the prior written permission of EKI. Customer Agencies may use the Drought Response Tool for reviewing potential drought response alternatives. The delivery to, or use by, Customer Agencies of the Drought Response Tool does not provide rights of reliance by Client Agencies or other third parties without the express written consent of EKI and subject to the execution of an agreement between such Customer Agency or other third party and EKI. EKI makes no warranties, either express or implied, of the electronic media or regarding its merchantability, applicability, compatibility with the recipients' computer equipment or software; of the fitness for any particular purpose; or that the electronic media contains no defect or is virus free. Use of EKI's Drought Response Tool, other electronic media, or other work product by Client Agency or others shall be at the party's sole risk. Further, by use of this electronic media, the user agrees, to the fullest extent permitted by law, to defend, indemnify and hold harmless EKI, CLIENT, and their officers, directors, employees, and subconsultants against all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, arising from any use, modification or changes made to the electronic files by anyone other than EKI or from any unauthorized distribution or reuse of the electronic files without the prior written consent of EKI.

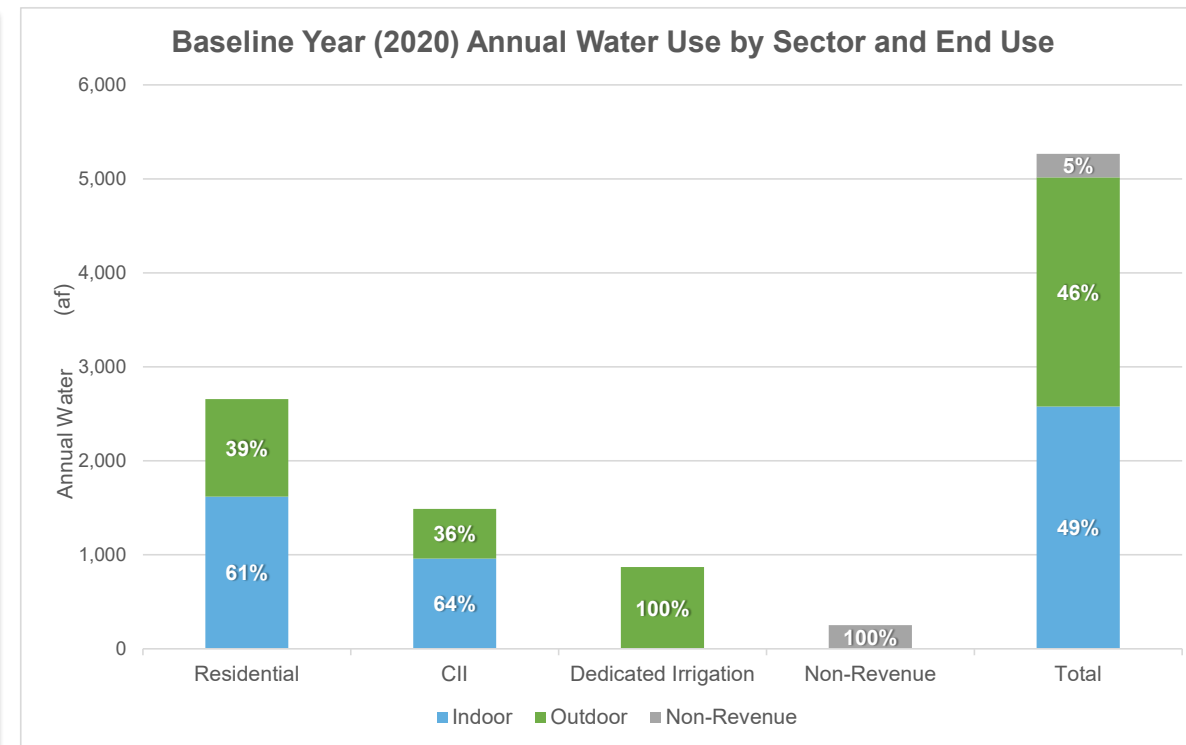
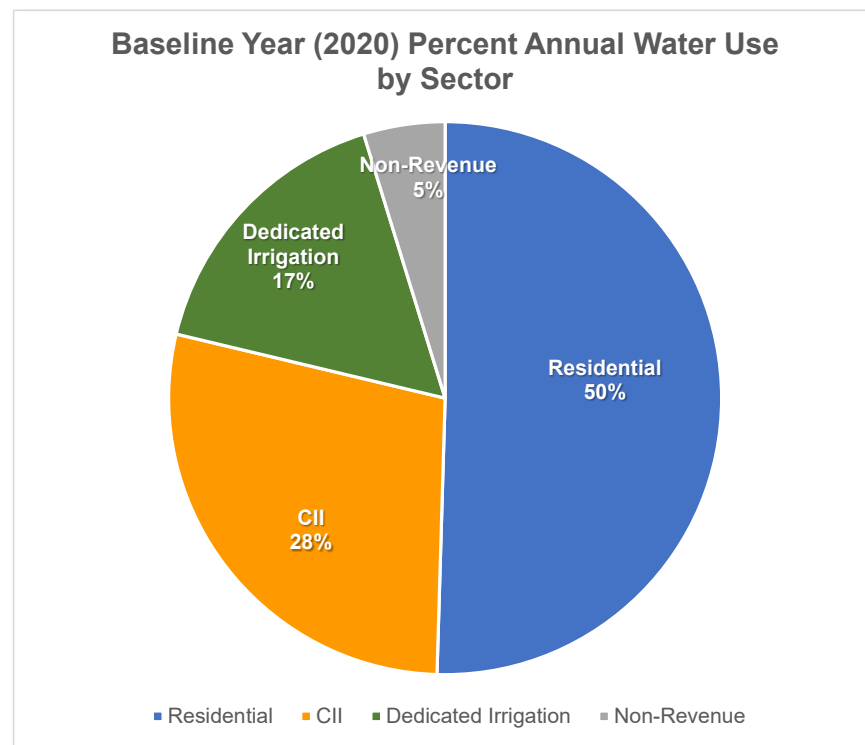
© 2015 Erler & Kalinowski, Inc.

## 2 - Input Baseline Year (2020) Water Use City of Lathrop

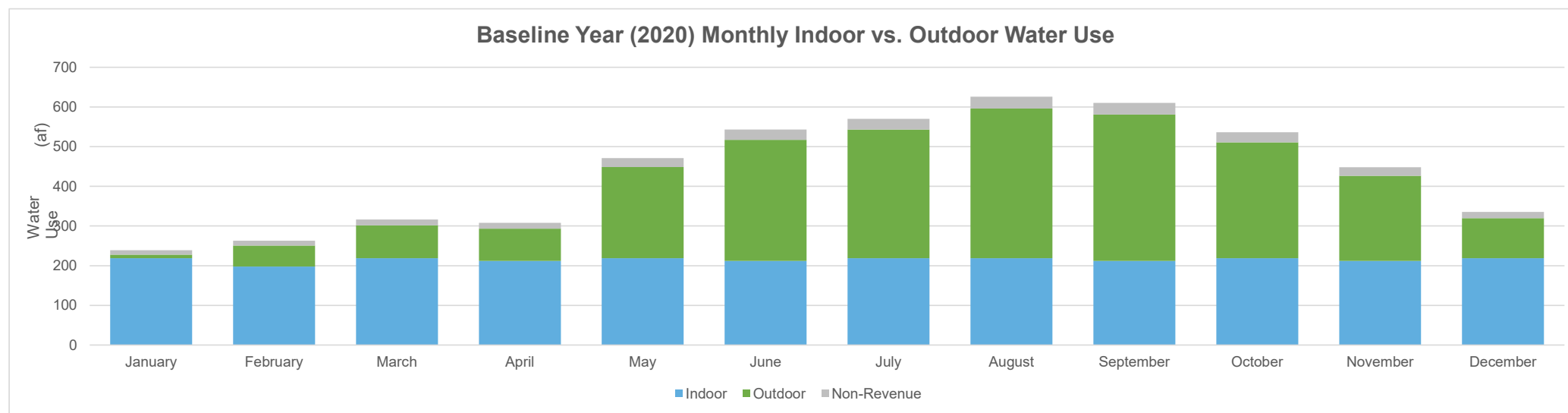
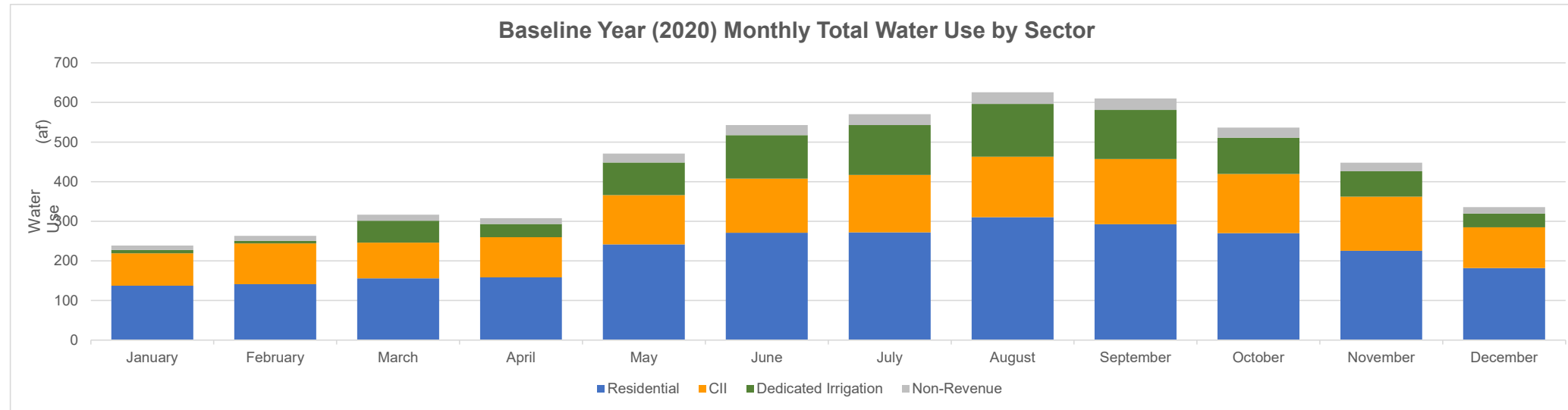
Input Baseline Year (2020) Production and Water Use							
Units: <input type="text" value="(af)"/>							
Select the units to input monthly production and use data. Enter the total monthly potable water production for the Baseline Year. Next, enter monthly water use data by sector for the Baseline Year. If you bill on a bi-monthly basis, divide your billing data between the months that the billing cycle includes. If your single-family and multi-family accounts are tracked separately, enter the combined water use for both sectors in the Residential Water Use column. If your commercial, industrial, and institutional (CII) accounts are tracked separately, enter the combined water use for each sector in the CII Water Use column. Your non-revenue water use is calculated by subtracting your monthly residential, CII, and dedicated irrigation water uses from your monthly production. Your monthly residential gallons per capita per day (R-GPCD) is calculated by dividing your monthly residential water use by your population entered in Worksheet 1 - Home.							
Date	Total Production (af)	Residential Water Use (af)	CII Water Use (af)	Dedicated Irrigation Water Use (af)	Non-Revenue Water Use (af)	Total R-GPCD	Comments
January	239	137	81	9	11	54	water loss is assumed to be 5% of the consumpti
February	263	141	103	6	13	61	production by month does not align with consump
March	316	156	90	55	15	61	
April	308	159	101	34	15	64	
May	471	242	124	83	22	95	
June	543	271	137	109	26	110	
July	570	272	145	126	27	107	
August	626	310	153	133	30	121	
September	610	293	165	124	29	118	
October	537	270	150	91	26	106	
November	448	226	136	65	21	91	
December	336	182	103	35	16	71	

### 3 - Baseline Year (2020) Water Use Profile City of Lathrop

Baseline Year (2020) Annual Water Use Summary						
Units: <input type="text" value="(af)"/>						
A summary of your Baseline Year water use by sector and major end use category is shown below. Select the units in which your production and use data are displayed.						
Water Use	Total Production (af)	Water Use (af)				Comments
		Residential	CII	Dedicated Irrigation	Non-Revenue	
<b>Total</b>	5,267	2,658	1,488	870	251	
<b>Total Indoor</b>	2,578	1,619	959	--	--	
<b>Total Outdoor</b>	2,438	1,039	529	870	--	
<b>Total Non-Revenue</b>	251	--	--	--	251	
<b>Total Indoor %</b>	49%	61%	64%	0%	--	
<b>Total Outdoor %</b>	46%	39%	36%	100%	--	
<b>Total Non-Revenue %</b>	5%	--	--	--	100%	



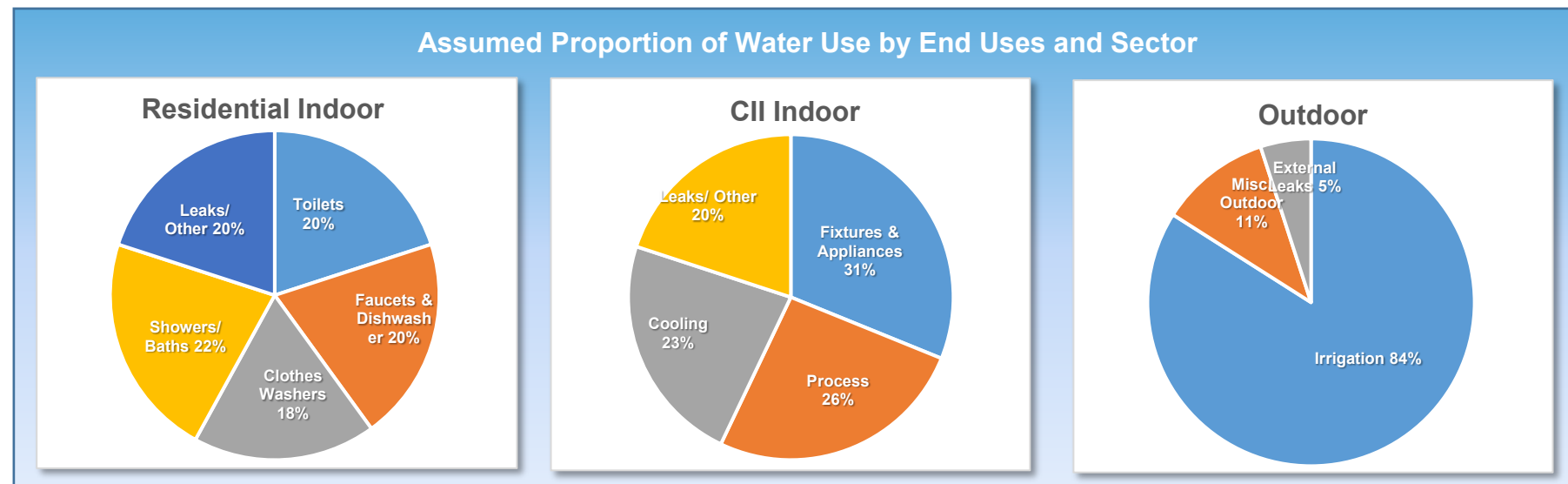
### 3 - Baseline Year (2020) Water Use Profile City of Lathrop





## 4 - Drought Response Actions - Stage 2 City of Lathrop

Maximum Savings Potential		
<i>Use the default values or enter your own criteria for the maximum savings potential. Estimated water savings within each sector will not exceed the maximum savings criteria.</i>		
Minimum Residential Indoor GPCD	25	R-GPCD
Maximum Residential Outdoor Savings	100%	of Baseline Residential Outdoor Water Use
Maximum CII Indoor Savings	30%	of Baseline CII Indoor Water Use
Maximum CII Outdoor Savings	100%	of Baseline CII Outdoor Water Use
Maximum Dedicated Irrigation Account Savings	100%	of Baseline Dedicated Irrigation Water Use
Maximum Non-Revenue Water Savings	50%	of Baseline Non-Revenue Water Use
<b>Resulting Total Maximum Annual Savings Potential</b>	<b>71%</b>	<b>of Total Baseline Production</b>



## 4 - Drought Response Actions - Stage 2 City of Lathrop

Drought Response Actions						
<p><i>Select the Drought Response Actions you would like to include in your estimated savings calculations. For each selected action, use the default end use savings estimates and implementation rates or input your own values. The "End Use Savings" estimates the percent water use reduction that could occur at a particular end use as a result of a specific action. The "Implementation Rate" refers to the estimated percentage of accounts that will implement a specific action. The water savings potential at each end use is capped based on the assumed distribution of end use water demands shown in the pie charts above. A dash (-) indicates that professional judgement was used to establish the default value, or that savings are expected to be accounted for as part of a Public Information Program; additional basis for the default values are included in the User Manual.</i></p>						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Possible Mandatory Prohibitions</b>	All Outdoor	<input checked="" type="checkbox"/>	14%	<b>75%</b>	--	--
Prohibit Irrigation with Potable Water Outside of Newly Constructed Homes and Buildings that is not Delivered by Drip or Microspray Systems	Irrigation	<input type="checkbox"/>			--	--
Require Shut-Off Nozzles on Hoses for Vehicle Washing	Misc. Outdoor	<input type="checkbox"/>	17%	50%	See Appendix D of the DRP	--
Prohibit Use of Potable Water to Wash Sidewalks and Driveways	Misc. Outdoor	<input type="checkbox"/>	17%	50%		--
Prohibit the Use of Potable Water for Street Washing	Misc. Outdoor	<input type="checkbox"/>	17%	50%		--
Prohibit Irrigation with Potable Water in a Manner that causes Runoff	Irrigation	<input type="checkbox"/>	3%	50%	DeOreo et al., 2011	--
Prohibit Irrigation with Potable Water within 48 Hours following Measurable Rainfall	Irrigation	<input type="checkbox"/>			--	--
Prohibit Irrigation of Ornamental Turf with Potable Water on Street Medians	Irrigation	<input type="checkbox"/>			--	--
Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water	Misc. Outdoor	<input type="checkbox"/>	50%	50%	EBMUD, 2008	--
Provide Linen Service Opt Out Options	Fixtures & Appliances	<input type="checkbox"/>	0.5%	50%	EBMUD, 2011	--
Prohibit Serving Drinking Water other than upon Request in Eating or Drinking Establishments	Fixtures & Appliances	<input type="checkbox"/>	0.5%	50%	EBMUD, 2011	--

## 4 - Drought Response Actions - Stage 2 City of Lathrop

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Agency Drought Actions / Restrictions</b>						
<b>► Agency Actions</b>						
Media Campaign, Newspaper Articles, Website	All	<input checked="" type="checkbox"/>	1.0%	50%	EBMUD, 2011	--
Promote Water Conservation / Rebate Programs	All	<input checked="" type="checkbox"/>		50%	--	--
Water Efficiency Workshops, Public Events	All	<input checked="" type="checkbox"/>	1.0%	25%	EBMUD, 2011	--
Water Bill Inserts	All	<input checked="" type="checkbox"/>	1.0%	100%	EBMUD, 2011	--
Promote / Expand Use of Recycled Water	Irrigation	<input type="checkbox"/>	100%		--	--
Home or Mobile Water Use Reports	All	<input type="checkbox"/>	5%	10%	WaterSmart Software, 2015	--
Decrease Frequency and Length of Line Flushing	Non Revenue Water	<input type="checkbox"/>	25%	50%	See Appendix D of the DRP	Reduced flushing by 50%.
Audit and Reduce System Water Loss	Non Revenue Water	<input checked="" type="checkbox"/>	45%	50%	DWR, 2015	Target 50% of leakage.
Implement Drought Rate Structure / Water Budgets	All	<input type="checkbox"/>	5%	100%	CUWCC, 2015	--
Establish Retrofit on Resale Ordinance	All Residential Indoor	<input type="checkbox"/>	21%	6%	SFPUC, 2004	First Tuesday, 2015
Require Net Zero Demand Increase on New Connections	All	<input type="checkbox"/>			--	--
Moratorium on New Connections	All	<input type="checkbox"/>			--	--
Move to Monthly Metering / Billing	All	<input type="checkbox"/>	5%	10%	See Appendix D of the DRP	--
Increase Water Waste Patrols / Enforcement	All	<input type="checkbox"/>			--	--
Establish Drought Hotline	All	<input type="checkbox"/>			--	--
Reduce Distribution System Pressures	Non Revenue Water	<input type="checkbox"/>	4.5%	100%	CUWCC, 2010; DWR, 2015	--
<b>► Dedicated Irrigation</b>						
Conduct Irrigation Account Surveys	Irrigation	<input checked="" type="checkbox"/>	30%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 7PM and 10AM	Irrigation	<input checked="" type="checkbox"/>	38%	75%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	79%	50%		
Prohibit use of Potable Water for Irrigation	Irrigation	<input type="checkbox"/>	100%	50%		
Require Repair of all Leaks within 24 hours	External Leaks	<input checked="" type="checkbox"/>	100%	5%	--	--
Customer Water Budgets						
Establish Water Budget - 20% Reduction	Irrigation	<input type="checkbox"/>	20%	90%	--	--
Establish Water Budget - 50% Reduction	Irrigation	<input type="checkbox"/>	50%	50%	--	--
Establish Water Budget - 75% Reduction	Irrigation	<input type="checkbox"/>	75%	50%	--	--

## 4 - Drought Response Actions - Stage 2 City of Lathrop

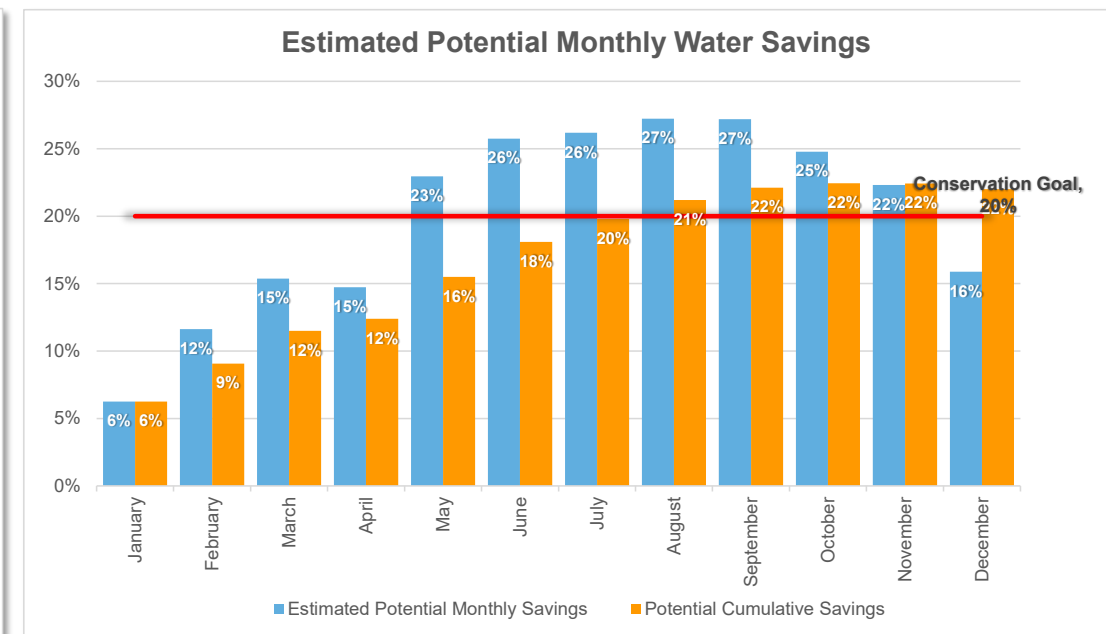
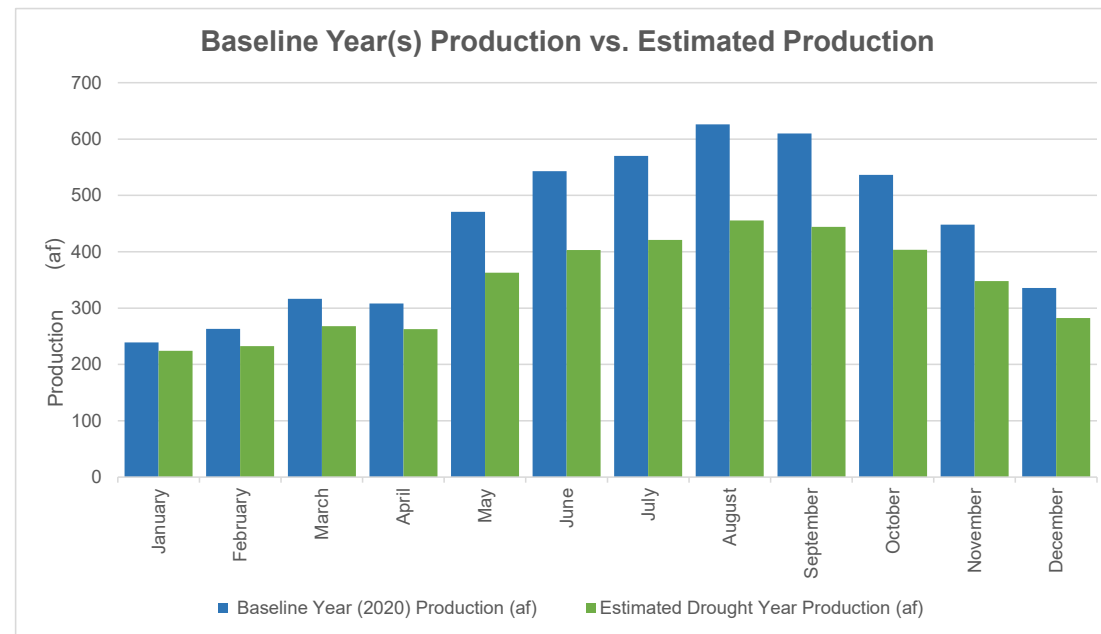
Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Agency Drought Actions / Restrictions</b>						
<b>► Residential</b>						
Conduct Water Use Surveys Targeting High Water Users	All Residential Uses	<input checked="" type="checkbox"/>	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 7PM and 10AM	Irrigation	<input checked="" type="checkbox"/>	38%	<b>75%</b>	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	79%	50%		
Prohibit use of Potable Water for Irrigation	Irrigation	<input type="checkbox"/>	100%	50%		
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	<input type="checkbox"/>	50%	50%	EBMUD, 2008	--
Require Repair of all Leaks within 24 hours	Leaks	<input checked="" type="checkbox"/>	100%	5%	--	--
Require Pool Covers	Misc. Outdoor	<input type="checkbox"/>	28%	25%	Maddaus & Mayer, 2001	--
Prohibit Filling of Pools	Misc. Outdoor	<input type="checkbox"/>	55%	25%	DeOreo et al., 2011	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All Residential Uses	<input type="checkbox"/>	10%	50%	--	--
Establish Water Budget - 20% Reduction	All Residential Uses	<input type="checkbox"/>	20%	50%	--	--
<b>► CII</b>						
Conduct CII Surveys Targeting High Water Users	All CII uses	<input checked="" type="checkbox"/>	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 7PM and 10AM	Irrigation	<input checked="" type="checkbox"/>	38%	<b>75%</b>	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	79%	50%		
Prohibit Use of Potable Water for Construction and Dust Control	Misc. Outdoor	<input type="checkbox"/>		100%	--	--
Prohibit Single-Pass Cooling Systems	Cooling	<input type="checkbox"/>	80%	1%	Vickers, 2001	--
Require Repair of all Leaks within 24 hours	Leaks	<input checked="" type="checkbox"/>	100%	5%	--	--
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	<input type="checkbox"/>	50%	50%	EBMUD, 2008	--
Require Water-Efficient Pre-Rinse Spray Valves	Fixtures & Appliances	<input type="checkbox"/>	0.8%	50%	EPA, 2015; Pacific Institute, 2003	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All CII uses	<input type="checkbox"/>	10%	50%	--	--
Establish Water Budget - 20% Reduction	All CII uses	<input type="checkbox"/>	20%	50%	--	--
Establish Water Budget - 30% Reduction	All CII uses	<input type="checkbox"/>	30%	50%	--	--

**4 - Drought Response Actions - Stage 2**  
City of Lathrop

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Residential Customer Actions to Encourage</b>						
Install Bathroom Faucet Aerators	Faucets and Dishwashers	<input type="checkbox"/>			--	--
Install a Water-Efficient Showerhead	Showers/Baths	<input type="checkbox"/>			--	--
Turn Off Water when Brushing Teeth, Shaving, Washing Dishes, or Cooking	Faucets and Dishwashers	<input type="checkbox"/>			--	--
Fill the Bathtub Halfway	Showers/Baths	<input type="checkbox"/>			--	--
Wash Only Full Loads of Clothes	Clothes Washers	<input type="checkbox"/>			--	--
Install a High-Efficiency Toilet	Toilets	<input type="checkbox"/>			--	--
Take Shorter Showers	Showers/Baths	<input type="checkbox"/>			--	--
Run Dishwasher Only When Full	Faucets and Dishwashers	<input type="checkbox"/>			--	--
Reduce Outdoor Irrigation	Irrigation	<input type="checkbox"/>			--	--
Install Drip-Irrigation	Irrigation	<input type="checkbox"/>			--	--
Use Mulch	Irrigation	<input type="checkbox"/>			--	--
Plant Drought Resistant Trees and Plants	Irrigation	<input type="checkbox"/>			--	--
Use a Broom to Clean Outdoor Areas	Misc. Outdoor	<input type="checkbox"/>			--	--
Flush Less Frequently	Toilets	<input type="checkbox"/>			--	--
Re-Use Shower or Bath Water for Irrigation	Irrigation	<input type="checkbox"/>			--	--
Wash Car at Facility that Recycles the Water	Misc. Outdoor	<input type="checkbox"/>			--	--

## 5 - Estimated Water Savings - Stage 2 City of Lathrop

Estimated Monthly Water Use and Savings Summary						
Units: <input type="text" value="(af)"/>						
<small>i This provides a summary of the estimated production relative to Baseline Year production and potential water savings, assuming implementation of selected actions at the water savings and implementation rates indicated in the Drought Response Actions worksheet. Select the units that your production data are displayed in.</small>						
Month	Baseline Year (2020) Production (af)	Estimated Drought Year Production (af)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
January	239	224	6%	6%	20%	
February	263	232	12%	9%	20%	
March	316	268	15%	12%	20%	
April	308	263	15%	12%	20%	
May	471	363	23%	16%	20%	
June	543	403	26%	18%	20%	
July	570	421	26%	20%	20%	
August	626	455	27%	21%	20%	
September	610	444	27%	22%	20%	
October	537	404	25%	22%	20%	
November	448	348	22%	22%	20%	
December	336	282	16%	22%	20%	



**1 - Home**  
City of Lathrop

Enter Agency Information	
Agency Name	City of Lathrop
Total Population Served	26,833
Conservation Goal (%)	30%
Drought Stage	Stage 3
Number of Residential Accounts	7,473
Number of Commercial, Industrial, and Institutional (CII) Accounts	232
Number of Dedicated Irrigation Accounts	196
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	100%
Percentage of CII Indoor Use During Minimum Month (%)	100%
Comments	

Navigation	
<b>USER'S GUIDE</b>	Download and read the guide before using this Tool
<b>1 - HOME</b>	Enter agency information
<b>2 - INPUT BASELINE YEAR WATER USE</b>	Enter Baseline Year production and use
<b>3 - BASELINE YEAR WATER USE</b>	Review and confirm entered information
<b>4 - DROUGHT RESPONSE ACTIONS</b>	Select Drought Response Actions and input estimated water savings and implementation rates.
<b>5 - ESTIMATED WATER SAVINGS</b>	Review estimated water production and compare estimated savings to conservation target.
<b>6 - DROUGHT RESPONSE TRACKING</b>	Track production and water savings against the conservation target.

## 1 - Home

### City of Lathrop

For questions about this tool or for additional information, contact:

**Anona Dutton, P.G., C.Hg.**  
[adutton@ekiconsult.com](mailto:adutton@ekiconsult.com)  
(650) 292-9100



**Disclaimer:** This electronic file is being provided by EKI Environment & Water Inc. (EKI; formerly Erler & Kalinowski, Inc.) at the request of (CLIENT). The Drought Response Tool was transmitted to CLIENT in electronic format, on a CD dated [DATE] (Original Document). Only the Original Document, provided to, and for the sole benefit of, CLIENT constitutes EKI's professional work product. An electronic copy of the Drought Response Tool is provided to CLIENT's Customer Agencies, for use only by CLIENT-designated Customer Agencies. The Drought Response Tool is copyrighted by EKI. All rights are reserved by EKI, and content may not be reproduced, downloaded, disseminated, published, or transferred in any form or by any means, except with the prior written permission of EKI. Customer Agencies may use the Drought Response Tool for reviewing potential drought response alternatives. The delivery to, or use by, Customer Agencies of the Drought Response Tool does not provide rights of reliance by Client Agencies or other third parties without the express written consent of EKI and subject to the execution of an agreement between such Customer Agency or other third party and EKI. EKI makes no warranties, either express or implied, of the electronic media or regarding its merchantability, applicability, compatibility with the recipients' computer equipment or software; of the fitness for any particular purpose; or that the electronic media contains no defect or is virus free. Use of EKI's Drought Response Tool, other electronic media, or other work product by Client Agency or others shall be at the party's sole risk. Further, by use of this electronic media, the user agrees, to the fullest extent permitted by law, to defend, indemnify and hold harmless EKI, CLIENT, and their officers, directors, employees, and subconsultants against all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, arising from any use, modification or changes made to the electronic files by anyone other than EKI or from any unauthorized distribution or reuse of the electronic files without the prior written consent of EKI.

© 2015 Erler & Kalinowski, Inc.

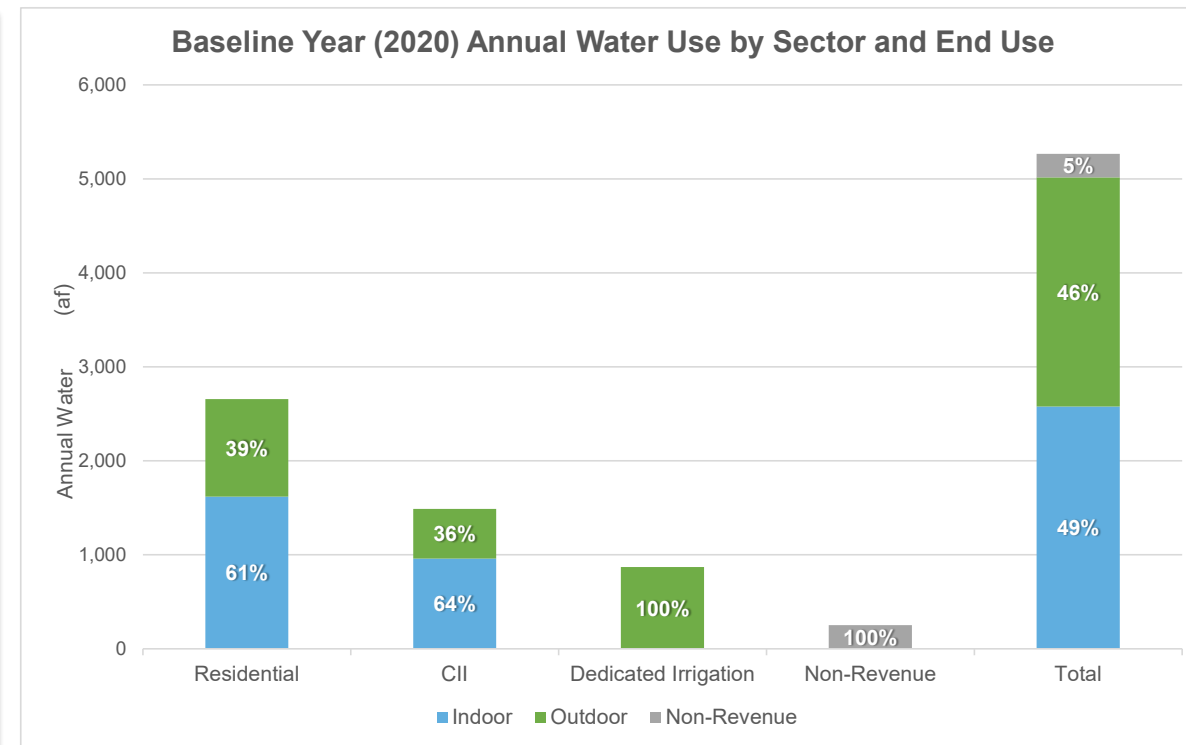
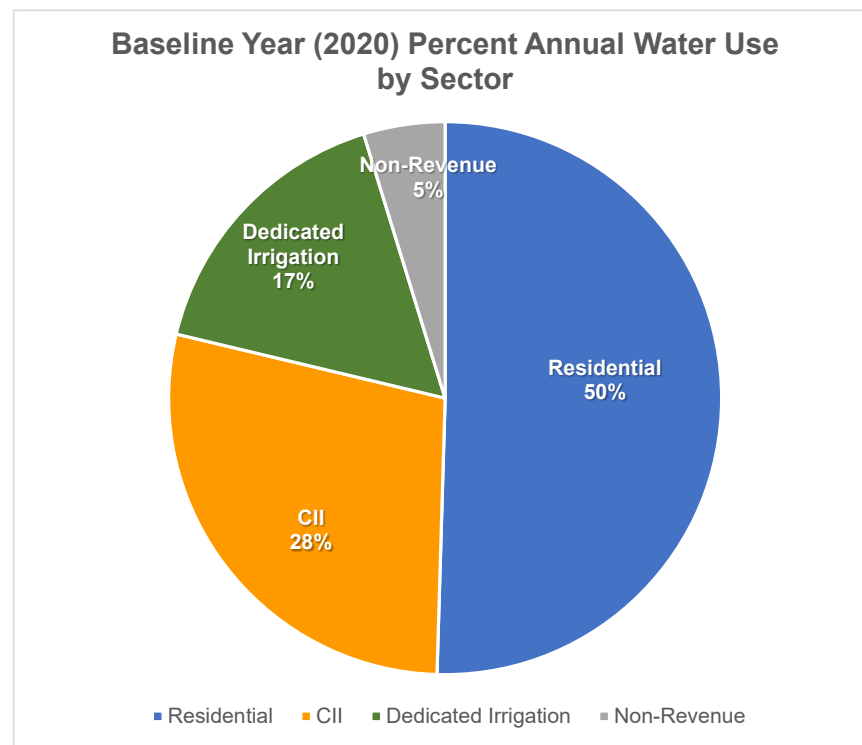


## 2 - Input Baseline Year (2020) Water Use City of Lathrop

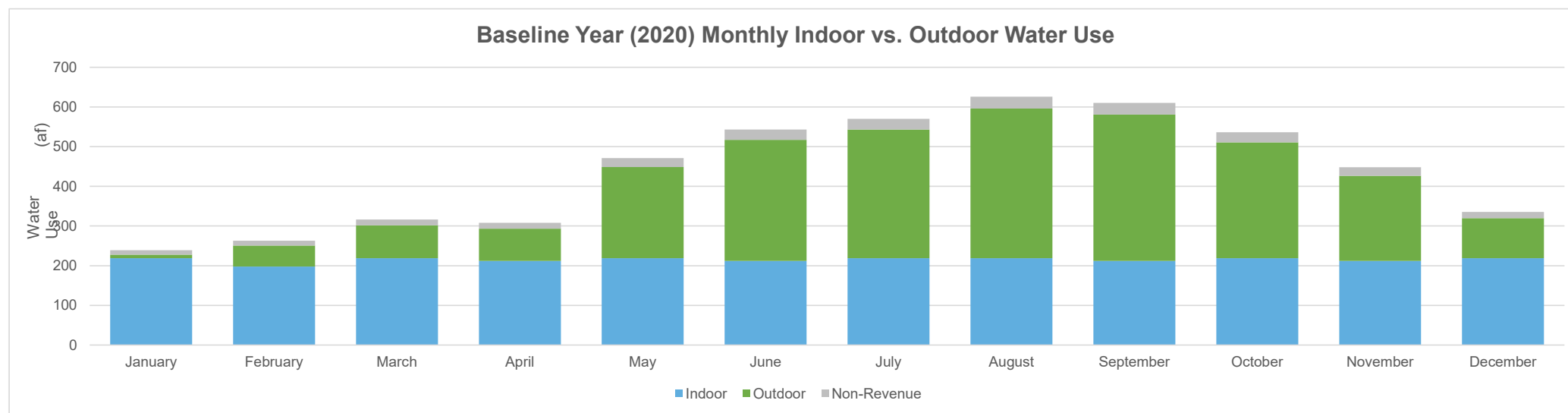
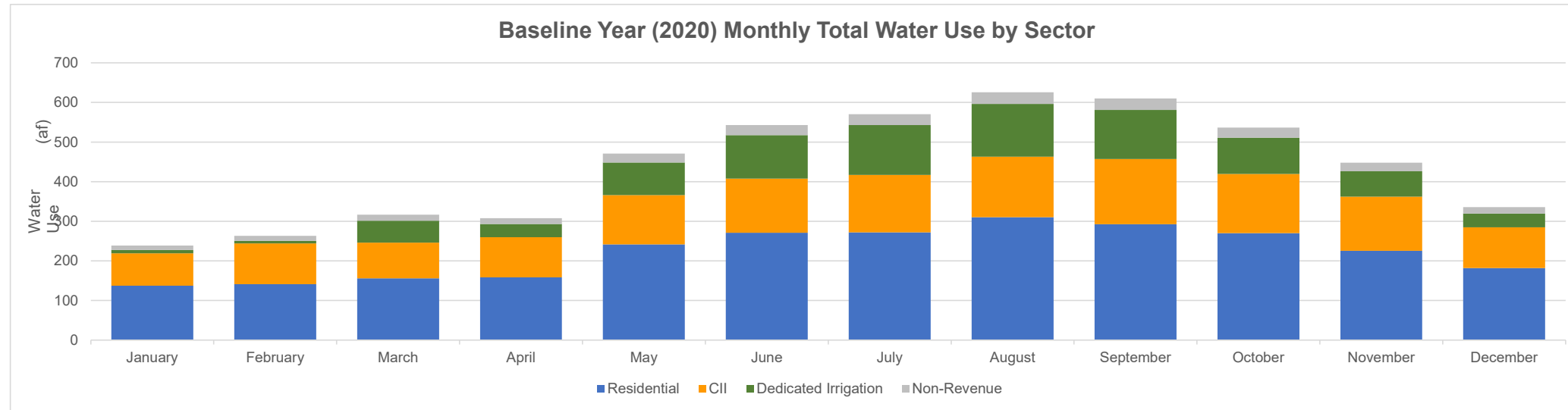
Input Baseline Year (2020) Production and Water Use							
Units: <input type="text" value="(af)"/>							
Select the units to input monthly production and use data. Enter the total monthly potable water production for the Baseline Year. Next, enter monthly water use data by sector for the Baseline Year. If you bill on a bi-monthly basis, divide your billing data between the months that the billing cycle includes. If your single-family and multi-family accounts are tracked separately, enter the combined water use for both sectors in the Residential Water Use column. If your commercial, industrial, and institutional (CII) accounts are tracked separately, enter the combined water use for each sector in the CII Water Use column. Your non-revenue water use is calculated by subtracting your monthly residential, CII, and dedicated irrigation water uses from your monthly production. Your monthly residential gallons per capita per day (R-GPCD) is calculated by dividing your monthly residential water use by your population entered in Worksheet 1 - Home.							
Date	Total Production (af)	Residential Water Use (af)	CII Water Use (af)	Dedicated Irrigation Water Use (af)	Non-Revenue Water Use (af)	Total R-GPCD	Comments
January	239	137	81	9	11	54	water loss is assumed to be 5% of the consumpti
February	263	141	103	6	13	61	production by month does not align with consump
March	316	156	90	55	15	61	
April	308	159	101	34	15	64	
May	471	242	124	83	22	95	
June	543	271	137	109	26	110	
July	570	272	145	126	27	107	
August	626	310	153	133	30	121	
September	610	293	165	124	29	118	
October	537	270	150	91	26	106	
November	448	226	136	65	21	91	
December	336	182	103	35	16	71	

## 3 - Baseline Year (2020) Water Use Profile City of Lathrop

Baseline Year (2020) Annual Water Use Summary						
Units: <input type="text" value="(af)"/>						
A summary of your Baseline Year water use by sector and major end use category is shown below. Select the units in which your production and use data are displayed.						
Water Use	Total Production (af)	Water Use (af)				Comments
		Residential	CII	Dedicated Irrigation	Non-Revenue	
<b>Total</b>	5,267	2,658	1,488	870	251	
<b>Total Indoor</b>	2,578	1,619	959	--	--	
<b>Total Outdoor</b>	2,438	1,039	529	870	--	
<b>Total Non-Revenue</b>	251	--	--	--	251	
<b>Total Indoor %</b>	49%	61%	64%	0%	--	
<b>Total Outdoor %</b>	46%	39%	36%	100%	--	
<b>Total Non-Revenue %</b>	5%	--	--	--	100%	

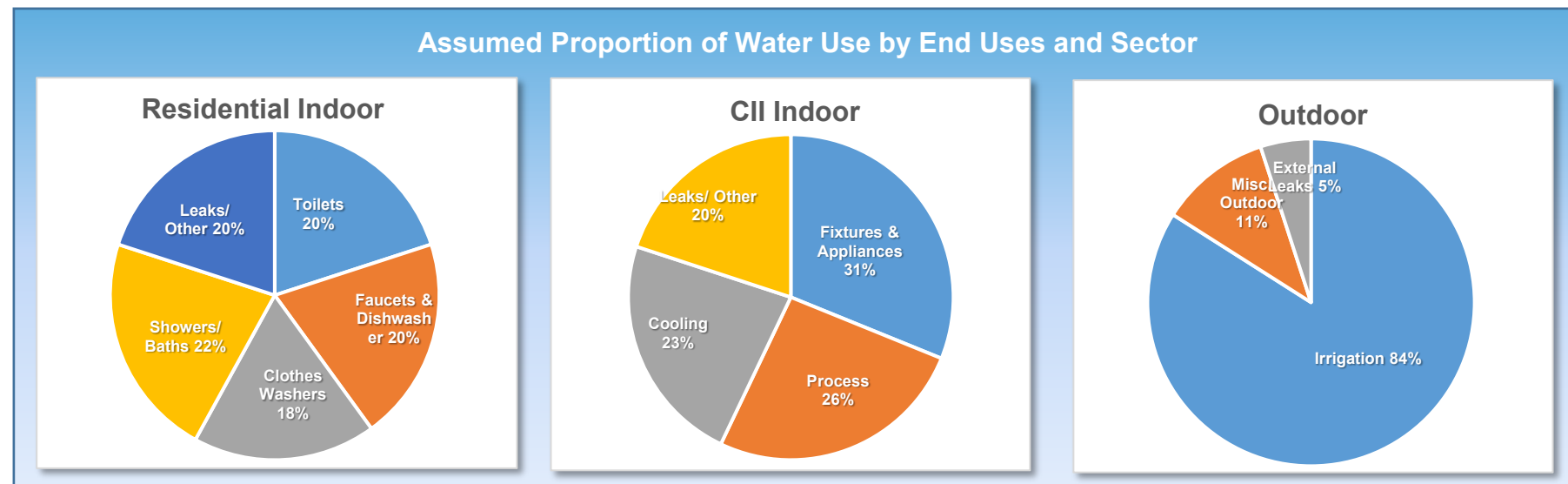


### 3 - Baseline Year (2020) Water Use Profile City of Lathrop



## 4 - Drought Response Actions - Stage 3 City of Lathrop

Maximum Savings Potential		
<i>Use the default values or enter your own criteria for the maximum savings potential. Estimated water savings within each sector will not exceed the maximum savings criteria.</i>		
Minimum Residential Indoor GPCD	25	R-GPCD
Maximum Residential Outdoor Savings	100%	of Baseline Residential Outdoor Water Use
Maximum CII Indoor Savings	30%	of Baseline CII Indoor Water Use
Maximum CII Outdoor Savings	100%	of Baseline CII Outdoor Water Use
Maximum Dedicated Irrigation Account Savings	100%	of Baseline Dedicated Irrigation Water Use
Maximum Non-Revenue Water Savings	50%	of Baseline Non-Revenue Water Use
<b>Resulting Total Maximum Annual Savings Potential</b>	<b>71%</b>	<b>of Total Baseline Production</b>



## 4 - Drought Response Actions - Stage 3 City of Lathrop

Drought Response Actions						
<p><i>Select the Drought Response Actions you would like to include in your estimated savings calculations. For each selected action, use the default end use savings estimates and implementation rates or input your own values. The "End Use Savings" estimates the percent water use reduction that could occur at a particular end use as a result of a specific action. The "Implementation Rate" refers to the estimated percentage of accounts that will implement a specific action. The water savings potential at each end use is capped based on the assumed distribution of end use water demands shown in the pie charts above. A dash (-) indicates that professional judgement was used to establish the default value, or that savings are expected to be accounted for as part of a Public Information Program; additional basis for the default values are included in the User Manual.</i></p>						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Possible Mandatory Prohibitions</b>	All Outdoor	<input checked="" type="checkbox"/>	14%	<b>85%</b>	--	--
Prohibit Irrigation with Potable Water Outside of Newly Constructed Homes and Buildings that is not Delivered by Drip or Microspray Systems	Irrigation	<input type="checkbox"/>			--	--
Require Shut-Off Nozzles on Hoses for Vehicle Washing	Misc. Outdoor	<input type="checkbox"/>	17%	50%	See Appendix D of the DRP	--
Prohibit Use of Potable Water to Wash Sidewalks and Driveways	Misc. Outdoor	<input type="checkbox"/>	17%	50%		--
Prohibit the Use of Potable Water for Street Washing	Misc. Outdoor	<input type="checkbox"/>	17%	50%		--
Prohibit Irrigation with Potable Water in a Manner that causes Runoff	Irrigation	<input type="checkbox"/>	3%	50%	DeOreo et al., 2011	--
Prohibit Irrigation with Potable Water within 48 Hours following Measurable Rainfall	Irrigation	<input type="checkbox"/>			--	--
Prohibit Irrigation of Ornamental Turf with Potable Water on Street Medians	Irrigation	<input type="checkbox"/>			--	--
Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water	Misc. Outdoor	<input type="checkbox"/>	50%	50%	EBMUD, 2008	--
Provide Linen Service Opt Out Options	Fixtures & Appliances	<input type="checkbox"/>	0.5%	50%	EBMUD, 2011	--
Prohibit Serving Drinking Water other than upon Request in Eating or Drinking Establishments	Fixtures & Appliances	<input type="checkbox"/>	0.5%	50%	EBMUD, 2011	--

## 4 - Drought Response Actions - Stage 3 City of Lathrop

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Agency Drought Actions / Restrictions</b>						
<b>► Agency Actions</b>						
Media Campaign, Newspaper Articles, Website	All	<input checked="" type="checkbox"/>	1.0%	85%	EBMUD, 2011	--
Promote Water Conservation / Rebate Programs	All	<input checked="" type="checkbox"/>		50%	--	--
Water Efficiency Workshops, Public Events	All	<input checked="" type="checkbox"/>	1.0%	25%	EBMUD, 2011	--
Water Bill Inserts	All	<input checked="" type="checkbox"/>	1.0%	100%	EBMUD, 2011	--
Promote / Expand Use of Recycled Water	Irrigation	<input type="checkbox"/>	100%		--	--
Home or Mobile Water Use Reports	All	<input type="checkbox"/>	5%	10%	WaterSmart Software, 2015	--
Decrease Frequency and Length of Line Flushing	Non Revenue Water	<input checked="" type="checkbox"/>	25%	50%	See Appendix D of the DRP	Reduced flushing by 50%.
Audit and Reduce System Water Loss	Non Revenue Water	<input checked="" type="checkbox"/>	45%	50%	DWR, 2015	Target 50% of leakage.
Implement Drought Rate Structure / Water Budgets	All	<input type="checkbox"/>	5%	100%	CUWCC, 2015	--
Establish Retrofit on Resale Ordinance	All Residential Indoor	<input type="checkbox"/>	21%	6%	SFPUC, 2004	First Tuesday, 2015
Require Net Zero Demand Increase on New Connections	All	<input type="checkbox"/>			--	--
Moratorium on New Connections	All	<input type="checkbox"/>			--	--
Move to Monthly Metering / Billing	All	<input type="checkbox"/>	5%	10%	See Appendix D of the DRP	--
Increase Water Waste Patrols / Enforcement	All	<input type="checkbox"/>			--	--
Establish Drought Hotline	All	<input type="checkbox"/>			--	--
Reduce Distribution System Pressures	Non Revenue Water	<input type="checkbox"/>	4.5%	100%	CUWCC, 2010; DWR, 2015	--
<b>► Dedicated Irrigation</b>						
Conduct Irrigation Account Surveys	Irrigation	<input checked="" type="checkbox"/>	30%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	38%	50%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	79%	50%		
Prohibit use of Potable Water for Irrigation	Irrigation	<input type="checkbox"/>	100%	50%		
Require Repair of all Leaks within 24 hours	External Leaks	<input checked="" type="checkbox"/>	100%	5%	--	--
Customer Water Budgets						
Establish Water Budget - 25% Reduction	Irrigation	<input type="checkbox"/>	25%	50%	--	--
Establish Water Budget - 60% Reduction	Irrigation	<input checked="" type="checkbox"/>	60%	85%	--	--
Establish Water Budget - 75% Reduction	Irrigation	<input type="checkbox"/>	75%	50%	--	--

## 4 - Drought Response Actions - Stage 3 City of Lathrop

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Agency Drought Actions / Restrictions</b>						
<b>► Residential</b>						
Conduct Water Use Surveys Targeting High Water Users	All Residential Uses	<input checked="" type="checkbox"/>	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	<input checked="" type="checkbox"/>	38%	<b>85%</b>	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	79%	50%		
Prohibit use of Potable Water for Irrigation	Irrigation	<input type="checkbox"/>	100%	50%		
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	<input checked="" type="checkbox"/>	50%	50%	EBMUD, 2008	--
Require Repair of all Leaks within 24 hours	Leaks	<input checked="" type="checkbox"/>	100%	5%	--	--
Require Pool Covers	Misc. Outdoor	<input type="checkbox"/>	28%	25%	Maddaus & Mayer, 2001	--
Prohibit Filling of Pools	Misc. Outdoor	<input type="checkbox"/>	55%	25%	DeOreo et al., 2011	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All Residential Uses	<input type="checkbox"/>	10%	50%	--	--
Establish Water Budget - 20% Reduction	All Residential Uses	<input type="checkbox"/>	20%	50%	--	--
<b>► CII</b>						
Conduct CII Surveys Targeting High Water Users	All CII uses	<input checked="" type="checkbox"/>	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	<input checked="" type="checkbox"/>	38%	<b>85%</b>	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	79%	50%		
Prohibit Use of Potable Water for Construction and Dust Control	Misc. Outdoor	<input type="checkbox"/>		100%	--	--
Prohibit Single-Pass Cooling Systems	Cooling	<input type="checkbox"/>	80%	1%	Vickers, 2001	--
Require Repair of all Leaks within 24 hours	Leaks	<input checked="" type="checkbox"/>	100%	5%	--	--
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	<input checked="" type="checkbox"/>	50%	50%	EBMUD, 2008	--
Require Water-Efficient Pre-Rinse Spray Valves	Fixtures & Appliances	<input type="checkbox"/>	0.8%	50%	EPA, 2015; Pacific Institute, 2003	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All CII uses	<input type="checkbox"/>	10%	50%	--	--
Establish Water Budget - 20% Reduction	All CII uses	<input type="checkbox"/>	20%	50%	--	--
Establish Water Budget - 30% Reduction	All CII uses	<input type="checkbox"/>	30%	50%	--	--

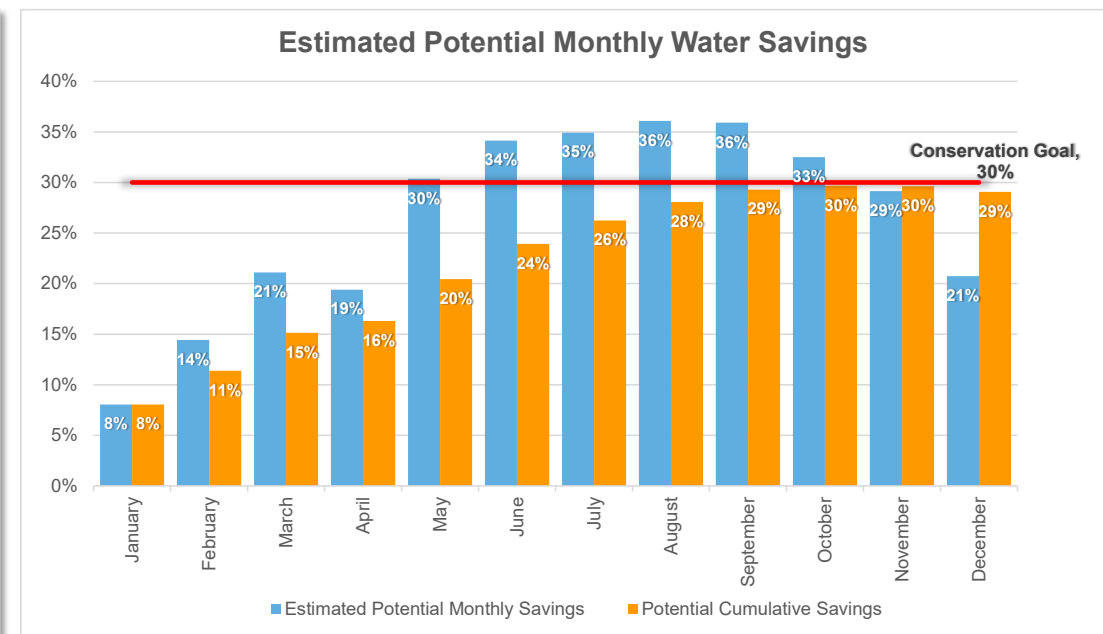
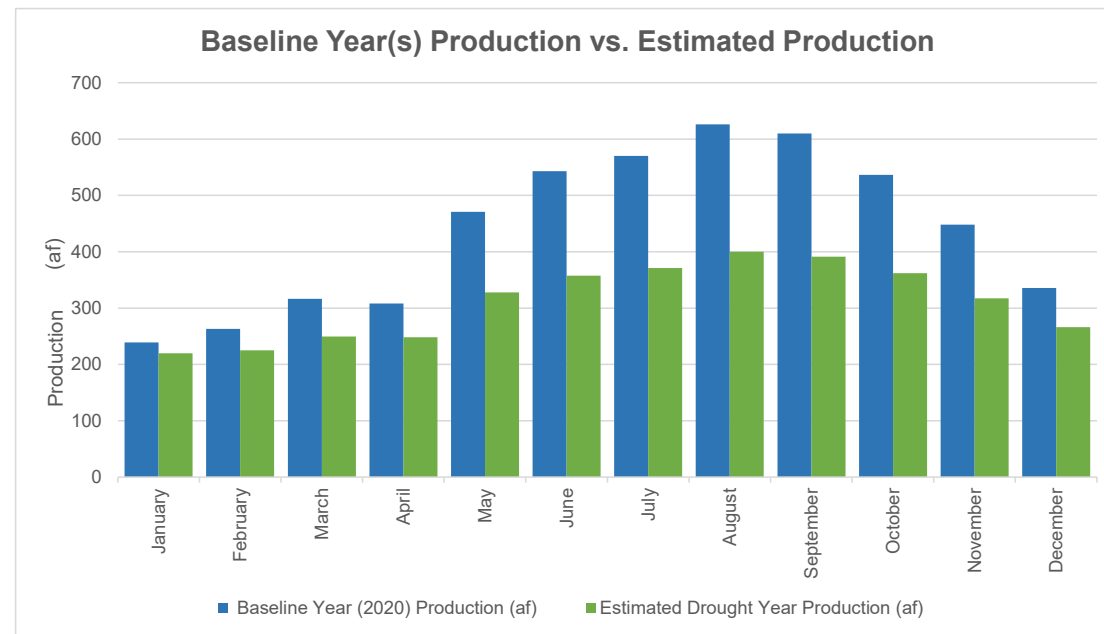
**4 - Drought Response Actions - Stage 3**  
City of Lathrop

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Residential Customer Actions to Encourage</b>						
Install Bathroom Faucet Aerators	Faucets and Dishwashers	<input type="checkbox"/>			--	--
Install a Water-Efficient Showerhead	Showers/Baths	<input type="checkbox"/>			--	--
Turn Off Water when Brushing Teeth, Shaving, Washing Dishes, or Cooking	Faucets and Dishwashers	<input type="checkbox"/>			--	--
Fill the Bathtub Halfway	Showers/Baths	<input type="checkbox"/>			--	--
Wash Only Full Loads of Clothes	Clothes Washers	<input type="checkbox"/>			--	--
Install a High-Efficiency Toilet	Toilets	<input type="checkbox"/>			--	--
Take Shorter Showers	Showers/Baths	<input type="checkbox"/>			--	--
Run Dishwasher Only When Full	Faucets and Dishwashers	<input type="checkbox"/>			--	--
Reduce Outdoor Irrigation	Irrigation	<input type="checkbox"/>			--	--
Install Drip-Irrigation	Irrigation	<input type="checkbox"/>			--	--
Use Mulch	Irrigation	<input type="checkbox"/>			--	--
Plant Drought Resistant Trees and Plants	Irrigation	<input type="checkbox"/>			--	--
Use a Broom to Clean Outdoor Areas	Misc. Outdoor	<input type="checkbox"/>			--	--
Flush Less Frequently	Toilets	<input type="checkbox"/>			--	--
Re-Use Shower or Bath Water for Irrigation	Irrigation	<input type="checkbox"/>			--	--
Wash Car at Facility that Recycles the Water	Misc. Outdoor	<input type="checkbox"/>			--	--



## 5 - Estimated Water Savings - Stage 3 City of Lathrop

Estimated Monthly Water Use and Savings Summary						
Units: <input type="text" value="(af)"/>						
<small>This provides a summary of the estimated production relative to Baseline Year production and potential water savings, assuming implementation of selected actions at the water savings and implementation rates indicated in the Drought Response Actions worksheet. Select the units that your production data are displayed in.</small>						
Month	Baseline Year (2020) Production (af)	Estimated Drought Year Production (af)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
January	239	220	8%	8%	30%	
February	263	225	14%	11%	30%	
March	316	250	21%	15%	30%	
April	308	248	19%	16%	30%	
May	471	328	30%	20%	30%	
June	543	358	34%	24%	30%	
July	570	371	35%	26%	30%	
August	626	400	36%	28%	30%	
September	610	391	36%	29%	30%	
October	537	362	33%	30%	30%	
November	448	317	29%	30%	30%	
December	336	266	21%	29%	30%	



**1 - Home**  
City of Lathrop

Enter Agency Information	
Agency Name	City of Lathrop
Total Population Served	26,833
Conservation Goal (%)	40%
Drought Stage	Stage 4
Number of Residential Accounts	7,473
Number of Commercial, Industrial, and Institutional (CII) Accounts	232
Number of Dedicated Irrigation Accounts	196
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	100%
Percentage of CII Indoor Use During Minimum Month (%)	100%
Comments	

Navigation	
<b>USER'S GUIDE</b>	Download and read the guide before using this Tool
<b>1 - HOME</b>	Enter agency information
<b>2 - INPUT BASELINE YEAR WATER USE</b>	Enter Baseline Year production and use
<b>3 - BASELINE YEAR WATER USE</b>	Review and confirm entered information
<b>4 - DROUGHT RESPONSE ACTIONS</b>	Select Drought Response Actions and input estimated water savings and implementation rates.
<b>5 - ESTIMATED WATER SAVINGS</b>	Review estimated water production and compare estimated savings to conservation target.
<b>6 - DROUGHT RESPONSE TRACKING</b>	Track production and water savings against the conservation target.

## 1 - Home

### City of Lathrop

For questions about this tool or for additional information, contact:

**Anona Dutton, P.G., C.Hg.**  
[adutton@ekiconsult.com](mailto:adutton@ekiconsult.com)  
 (650) 292-9100



**Disclaimer:** This electronic file is being provided by EKI Environment & Water Inc. (EKI; formerly Erler & Kalinowski, Inc.) at the request of (CLIENT). The Drought Response Tool was transmitted to CLIENT in electronic format, on a CD dated [DATE] (Original Document). Only the Original Document, provided to, and for the sole benefit of, CLIENT constitutes EKI's professional work product. An electronic copy of the Drought Response Tool is provided to CLIENT's Customer Agencies, for use only by CLIENT-designated Customer Agencies. The Drought Response Tool is copyrighted by EKI. All rights are reserved by EKI, and content may not be reproduced, downloaded, disseminated, published, or transferred in any form or by any means, except with the prior written permission of EKI. Customer Agencies may use the Drought Response Tool for reviewing potential drought response alternatives. The delivery to, or use by, Customer Agencies of the Drought Response Tool does not provide rights of reliance by Client Agencies or other third parties without the express written consent of EKI and subject to the execution of an agreement between such Customer Agency or other third party and EKI. EKI makes no warranties, either express or implied, of the electronic media or regarding its merchantability, applicability, compatibility with the recipients' computer equipment or software; of the fitness for any particular purpose; or that the electronic media contains no defect or is virus free. Use of EKI's Drought Response Tool, other electronic media, or other work product by Client Agency or others shall be at the party's sole risk. Further, by use of this electronic media, the user agrees, to the fullest extent permitted by law, to defend, indemnify and hold harmless EKI, CLIENT, and their officers, directors, employees, and subconsultants against all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, arising from any use, modification or changes made to the electronic files by anyone other than EKI or from any unauthorized distribution or reuse of the electronic files without the prior written consent of EKI.

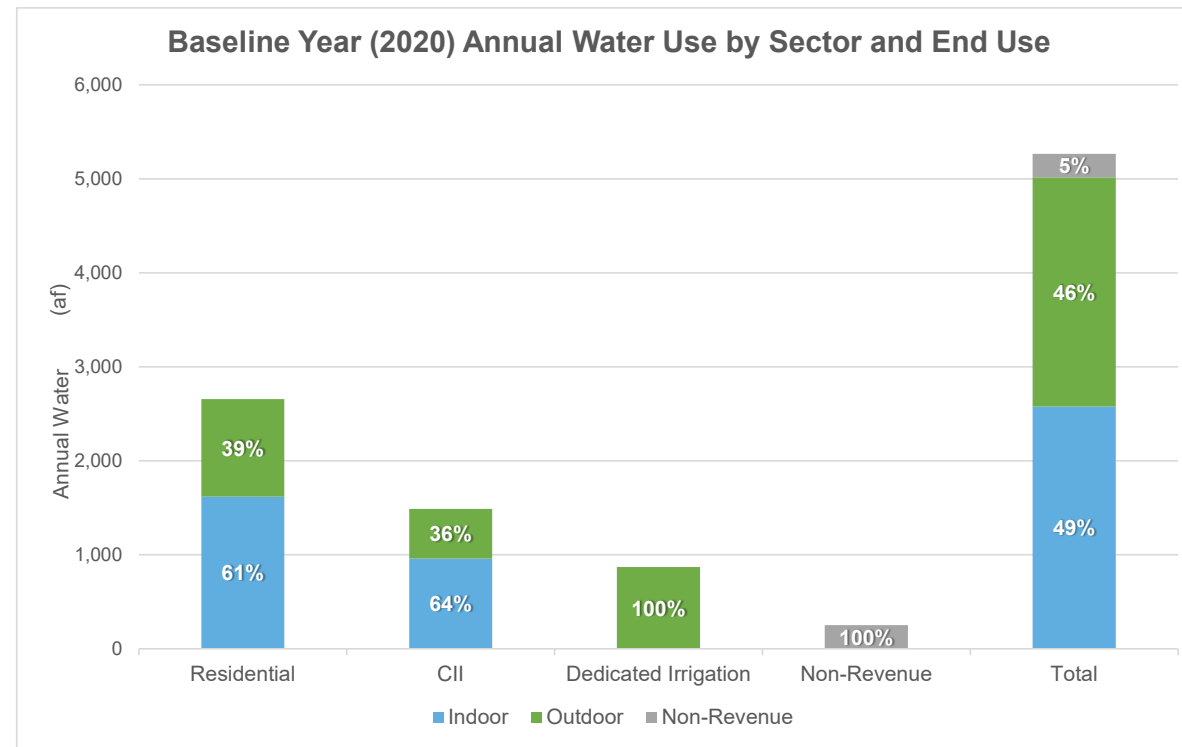
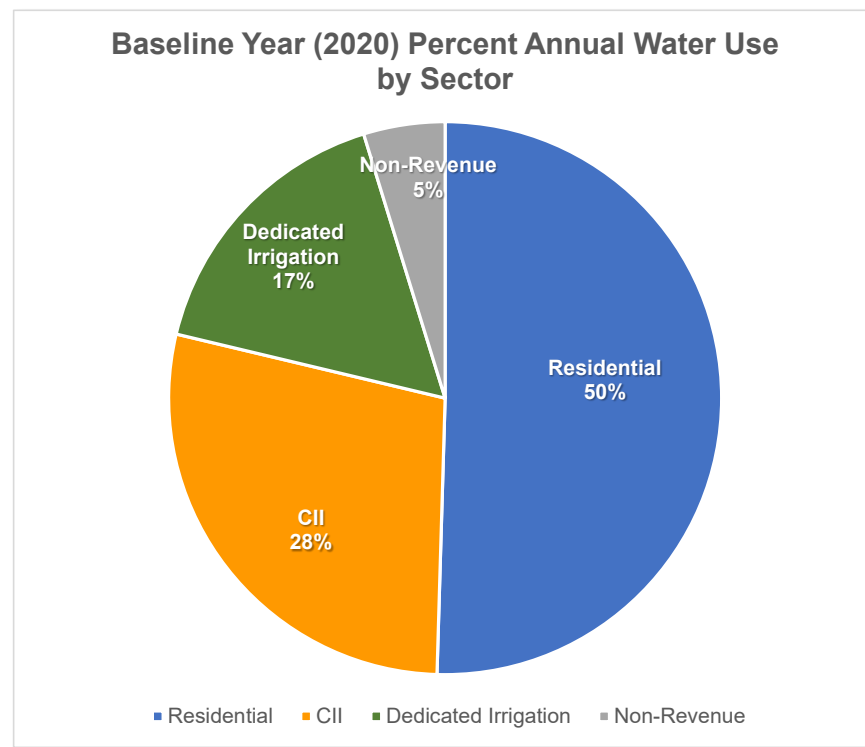
© 2015 Erler & Kalinowski, Inc.

## 2 - Input Baseline Year (2020) Water Use City of Lathrop

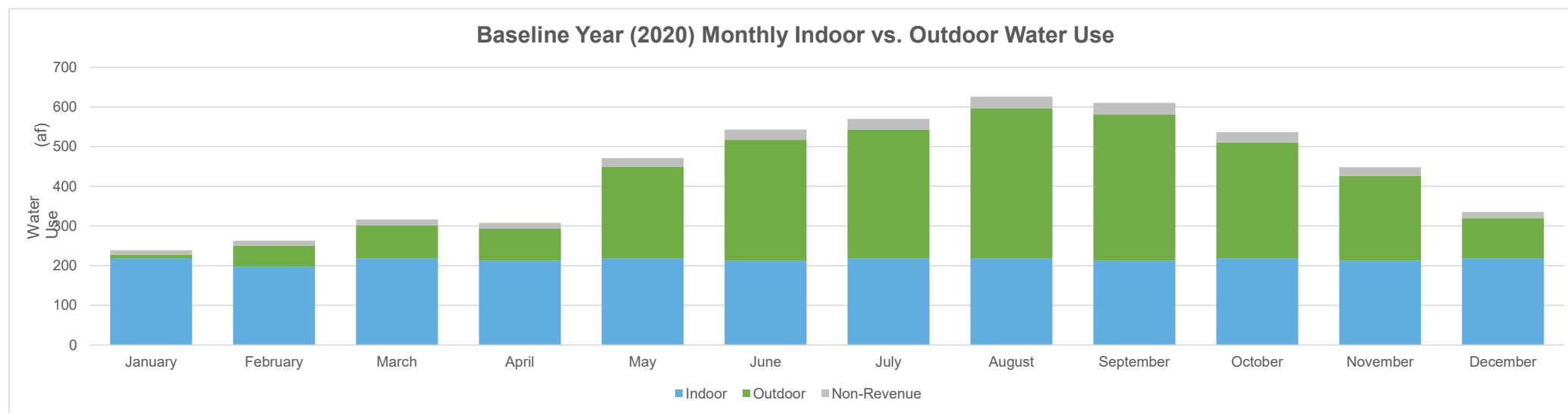
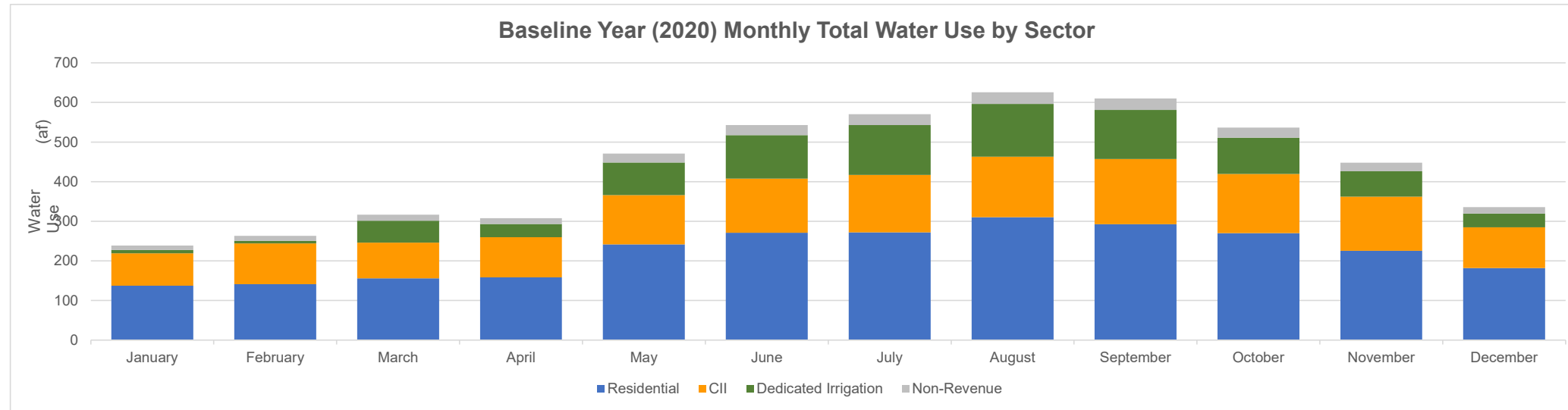
Input Baseline Year (2020) Production and Water Use							
Units: <input type="text" value="(af)"/>							
Select the units to input monthly production and use data. Enter the total monthly potable water production for the Baseline Year. Next, enter monthly water use data by sector for the Baseline Year. If you bill on a bi-monthly basis, divide your billing data between the months that the billing cycle includes. If your single-family and multi-family accounts are tracked separately, enter the combined water use for both sectors in the Residential Water Use column. If your commercial, industrial, and institutional (CII) accounts are tracked separately, enter the combined water use for each sector in the CII Water Use column. Your non-revenue water use is calculated by subtracting your monthly residential, CII, and dedicated irrigation water uses from your monthly production. Your monthly residential gallons per capita per day (R-GPCD) is calculated by dividing your monthly residential water use by your population entered in Worksheet 1 - Home.							
Date	Total Production (af)	Residential Water Use (af)	CII Water Use (af)	Dedicated Irrigation Water Use (af)	Non-Revenue Water Use (af)	Total R-GPCD	Comments
January	239	137	81	9	11	54	water loss is assumed to be 5% of the consumption
February	263	141	103	6	13	61	production by month does not align with consumption
March	316	156	90	55	15	61	
April	308	159	101	34	15	64	
May	471	242	124	83	22	95	
June	543	271	137	109	26	110	
July	570	272	145	126	27	107	
August	626	310	153	133	30	121	
September	610	293	165	124	29	118	
October	537	270	150	91	26	106	
November	448	226	136	65	21	91	
December	336	182	103	35	16	71	

## 3 - Baseline Year (2020) Water Use Profile City of Lathrop

Baseline Year (2020) Annual Water Use Summary						
Units: <input type="text" value="(af)"/>						
A summary of your Baseline Year water use by sector and major end use category is shown below. Select the units in which your production and use data are displayed.						
Water Use	Total Production (af)	Water Use (af)				Comments
		Residential	CII	Dedicated Irrigation	Non-Revenue	
<b>Total</b>	5,267	2,658	1,488	870	251	
<b>Total Indoor</b>	2,578	1,619	959	--	--	
<b>Total Outdoor</b>	2,438	1,039	529	870	--	
<b>Total Non-Revenue</b>	251	--	--	--	251	
<b>Total Indoor %</b>	49%	61%	64%	0%	--	
<b>Total Outdoor %</b>	46%	39%	36%	100%	--	
<b>Total Non-Revenue %</b>	5%	--	--	--	100%	

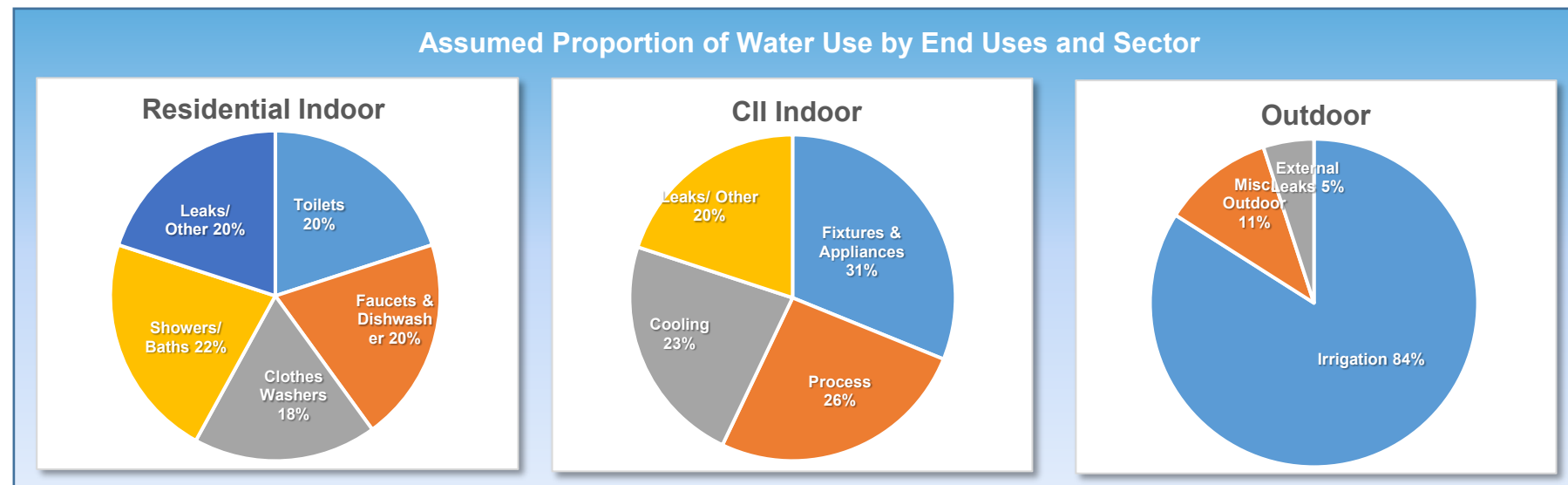


### 3 - Baseline Year (2020) Water Use Profile City of Lathrop



## 4 - Drought Response Actions - Stage 4 City of Lathrop

Maximum Savings Potential		
<i>Use the default values or enter your own criteria for the maximum savings potential. Estimated water savings within each sector will not exceed the maximum savings criteria.</i>		
Minimum Residential Indoor GPCD	25	R-GPCD
Maximum Residential Outdoor Savings	100%	of Baseline Residential Outdoor Water Use
Maximum CII Indoor Savings	30%	of Baseline CII Indoor Water Use
Maximum CII Outdoor Savings	100%	of Baseline CII Outdoor Water Use
Maximum Dedicated Irrigation Account Savings	100%	of Baseline Dedicated Irrigation Water Use
Maximum Non-Revenue Water Savings	50%	of Baseline Non-Revenue Water Use
<b>Resulting Total Maximum Annual Savings Potential</b>	<b>71%</b>	<b>of Total Baseline Production</b>



## 4 - Drought Response Actions - Stage 4 City of Lathrop

Drought Response Actions						
<p><i>Select the Drought Response Actions you would like to include in your estimated savings calculations. For each selected action, use the default end use savings estimates and implementation rates or input your own values. The "End Use Savings" estimates the percent water use reduction that could occur at a particular end use as a result of a specific action. The "Implementation Rate" refers to the estimated percentage of accounts that will implement a specific action. The water savings potential at each end use is capped based on the assumed distribution of end use water demands shown in the pie charts above. A dash (-) indicates that professional judgement was used to establish the default value, or that savings are expected to be accounted for as part of a Public Information Program; additional basis for the default values are included in the User Manual.</i></p>						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Possible Mandatory Prohibitions</b>	All Outdoor	<input checked="" type="checkbox"/>	14%	<b>85%</b>	--	--
Prohibit Irrigation with Potable Water Outside of Newly Constructed Homes and Buildings that is not Delivered by Drip or Microspray Systems	Irrigation	<input type="checkbox"/>			--	--
Require Shut-Off Nozzles on Hoses for Vehicle Washing	Misc. Outdoor	<input type="checkbox"/>	17%	50%	See Appendix D of the DRP	--
Prohibit Use of Potable Water to Wash Sidewalks and Driveways	Misc. Outdoor	<input type="checkbox"/>	17%	50%		--
Prohibit the Use of Potable Water for Street Washing	Misc. Outdoor	<input type="checkbox"/>	17%	50%		--
Prohibit Irrigation with Potable Water in a Manner that causes Runoff	Irrigation	<input type="checkbox"/>	3%	50%	DeOreo et al., 2011	--
Prohibit Irrigation with Potable Water within 48 Hours following Measurable Rainfall	Irrigation	<input type="checkbox"/>			--	--
Prohibit Irrigation of Ornamental Turf with Potable Water on Street Medians	Irrigation	<input type="checkbox"/>			--	--
Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water	Misc. Outdoor	<input type="checkbox"/>	50%	50%	EBMUD, 2008	--
Provide Linen Service Opt Out Options	Fixtures & Appliances	<input type="checkbox"/>	0.5%	50%	EBMUD, 2011	--
Prohibit Serving Drinking Water other than upon Request in Eating or Drinking Establishments	Fixtures & Appliances	<input type="checkbox"/>	0.5%	50%	EBMUD, 2011	--



## 4 - Drought Response Actions - Stage 4 City of Lathrop

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Agency Drought Actions / Restrictions</b>						
<b>► Agency Actions</b>						
Media Campaign, Newspaper Articles, Website	All	<input checked="" type="checkbox"/>	1.5%	85%	EBMUD, 2011	--
Promote Water Conservation / Rebate Programs	All	<input checked="" type="checkbox"/>		50%	--	--
Water Efficiency Workshops, Public Events	All	<input checked="" type="checkbox"/>	1.5%	25%	EBMUD, 2011	--
Water Bill Inserts	All	<input checked="" type="checkbox"/>	1.5%	100%	EBMUD, 2011	--
Promote / Expand Use of Recycled Water	Irrigation	<input type="checkbox"/>	100%		--	--
Home or Mobile Water Use Reports	All	<input type="checkbox"/>	5%	10%	WaterSmart Software, 2015	--
Decrease Frequency and Length of Line Flushing	Non Revenue Water	<input checked="" type="checkbox"/>	25%	50%	See Appendix D of the DRP	Reduced flushing by 50%.
Audit and Reduce System Water Loss	Non Revenue Water	<input checked="" type="checkbox"/>	45%	50%	DWR, 2015	Target 50% of leakage.
Implement Drought Rate Structure / Water Budgets	All	<input type="checkbox"/>	5%	100%	CUWCC, 2015	--
Establish Retrofit on Resale Ordinance	All Residential Indoor	<input type="checkbox"/>	21%	6%	SFPUC, 2004	First Tuesday, 2015
Require Net Zero Demand Increase on New Connections	All	<input type="checkbox"/>			--	--
Moratorium on New Connections	All	<input type="checkbox"/>			--	--
Move to Monthly Metering / Billing	All	<input type="checkbox"/>	5%	10%	See Appendix D of the DRP	--
Increase Water Waste Patrols / Enforcement	All	<input checked="" type="checkbox"/>			--	--
Establish Drought Hotline	All	<input type="checkbox"/>			--	--
Reduce Distribution System Pressures	Non Revenue Water	<input type="checkbox"/>	4.5%	100%	CUWCC, 2010; DWR, 2015	--
<b>► Dedicated Irrigation</b>						
Conduct Irrigation Account Surveys	Irrigation	<input checked="" type="checkbox"/>	30%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	38%	50%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	<input checked="" type="checkbox"/>	79%	75%		
Prohibit use of Potable Water for Irrigation	Irrigation	<input type="checkbox"/>	100%	50%		
Require Repair of all Leaks within 24 hours	External Leaks	<input checked="" type="checkbox"/>	100%	5%	--	--
Customer Water Budgets						
Establish Water Budget - 25% Reduction	Irrigation	<input type="checkbox"/>	25%	50%	--	--
Establish Water Budget - 60% Reduction	Irrigation	<input type="checkbox"/>	60%	85%	--	--
Establish Water Budget - 75% Reduction	Irrigation	<input type="checkbox"/>	75%	50%	--	--

## 4 - Drought Response Actions - Stage 4 City of Lathrop

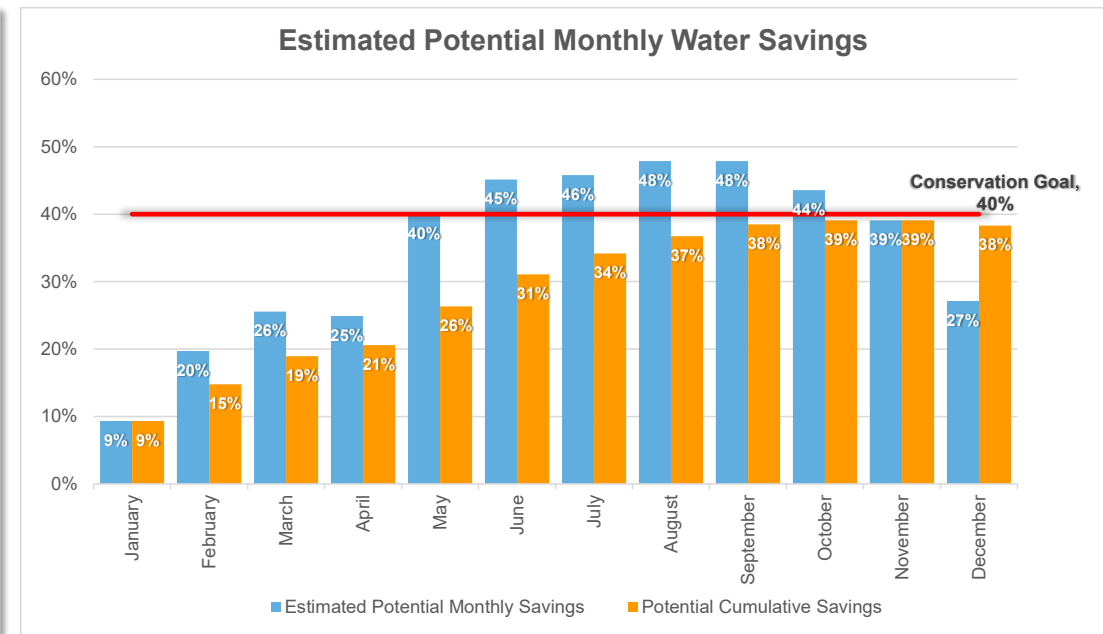
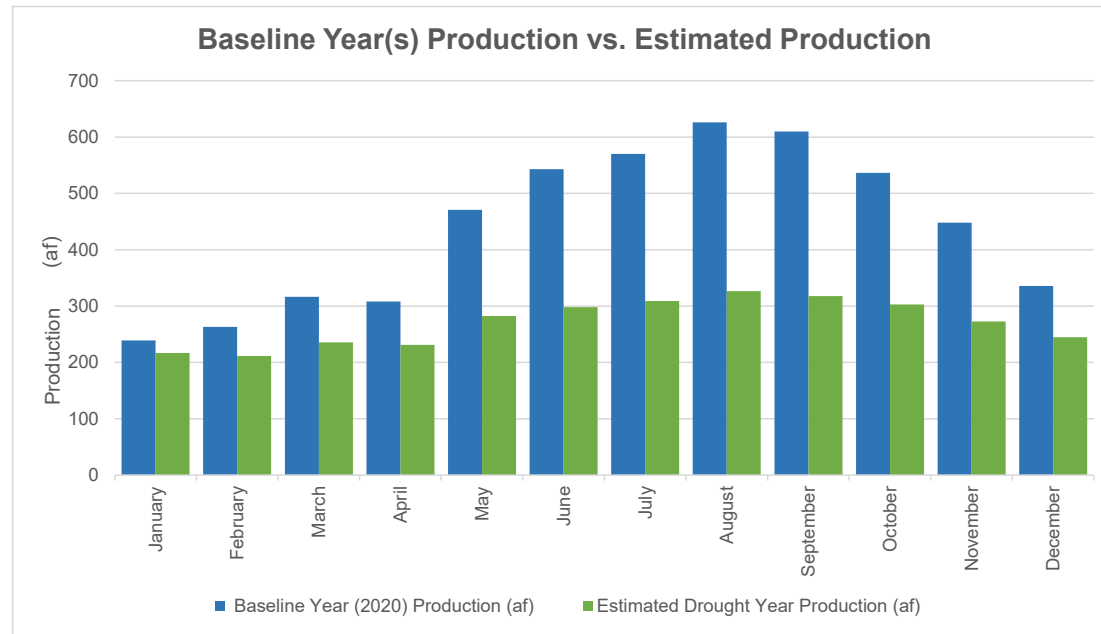
Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Agency Drought Actions / Restrictions</b>						
<b>► Residential</b>						
Conduct Water Use Surveys Targeting High Water Users	All Residential Uses	<input checked="" type="checkbox"/>	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	38%	50%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	<input checked="" type="checkbox"/>	79%	<b>75%</b>		
Prohibit use of Potable Water for Irrigation	Irrigation	<input type="checkbox"/>	100%	50%		
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	<input checked="" type="checkbox"/>	50%	50%	EBMUD, 2008	--
Require Repair of all Leaks within 24 hours	Leaks	<input checked="" type="checkbox"/>	100%	5%	--	--
Require Pool Covers	Misc. Outdoor	<input type="checkbox"/>	28%	25%	Maddaus & Mayer, 2001	--
Prohibit Filling of Pools	Misc. Outdoor	<input type="checkbox"/>	55%	25%	DeOreo et al., 2011	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All Residential Uses	<input type="checkbox"/>	10%	50%	--	--
Establish Water Budget - 30% Reduction	All Residential Uses	<input type="checkbox"/>	20%	<b>75%</b>	--	--
<b>► CII</b>						
Conduct CII Surveys Targeting High Water Users	All CII uses	<input checked="" type="checkbox"/>	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	38%	50%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	<input checked="" type="checkbox"/>	79%	<b>75%</b>		
Prohibit Use of Potable Water for Construction and Dust Control	Misc. Outdoor	<input type="checkbox"/>		100%	--	--
Prohibit Single-Pass Cooling Systems	Cooling	<input type="checkbox"/>	80%	1%	Vickers, 2001	--
Require Repair of all Leaks within 24 hours	Leaks	<input checked="" type="checkbox"/>	100%	5%	--	--
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	<input checked="" type="checkbox"/>	50%	50%	EBMUD, 2008	--
Require Water-Efficient Pre-Rinse Spray Valves	Fixtures & Appliances	<input type="checkbox"/>	0.8%	50%	EPA, 2015; Pacific Institute, 2003	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All CII uses	<input type="checkbox"/>	10%	50%	--	--
Establish Water Budget - 20% Reduction	All CII uses	<input type="checkbox"/>	20%	<b>75%</b>	--	--
Establish Water Budget - 30% Reduction	All CII uses	<input type="checkbox"/>	30%	<b>75%</b>	--	--

## 4 - Drought Response Actions - Stage 4 City of Lathrop

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Residential Customer Actions to Encourage</b>						
Install Bathroom Faucet Aerators	Faucets and Dishwashers	<input type="checkbox"/>			--	--
Install a Water-Efficient Showerhead	Showers/Baths	<input type="checkbox"/>			--	--
Turn Off Water when Brushing Teeth, Shaving, Washing Dishes, or Cooking	Faucets and Dishwashers	<input type="checkbox"/>			--	--
Fill the Bathtub Halfway	Showers/Baths	<input type="checkbox"/>			--	--
Wash Only Full Loads of Clothes	Clothes Washers	<input type="checkbox"/>			--	--
Install a High-Efficiency Toilet	Toilets	<input type="checkbox"/>			--	--
Take Shorter Showers	Showers/Baths	<input type="checkbox"/>			--	--
Run Dishwasher Only When Full	Faucets and Dishwashers	<input type="checkbox"/>			--	--
Reduce Outdoor Irrigation	Irrigation	<input type="checkbox"/>			--	--
Install Drip-Irrigation	Irrigation	<input type="checkbox"/>			--	--
Use Mulch	Irrigation	<input type="checkbox"/>			--	--
Plant Drought Resistant Trees and Plants	Irrigation	<input type="checkbox"/>			--	--
Use a Broom to Clean Outdoor Areas	Misc. Outdoor	<input type="checkbox"/>			--	--
Flush Less Frequently	Toilets	<input type="checkbox"/>			--	--
Re-Use Shower or Bath Water for Irrigation	Irrigation	<input type="checkbox"/>			--	--
Wash Car at Facility that Recycles the Water	Misc. Outdoor	<input type="checkbox"/>			--	--

## 5 - Estimated Water Savings - Stage 4 City of Lathrop

Estimated Monthly Water Use and Savings Summary						
Units: <input type="text" value="(af)"/>						
<small>i This provides a summary of the estimated production relative to Baseline Year production and potential water savings, assuming implementation of selected actions at the water savings and implementation rates indicated in the Drought Response Actions worksheet. Select the units that your production data are displayed in.</small>						
Month	Baseline Year (2020) Production (af)	Estimated Drought Year Production (af)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
January	239	217	9%	9%	40%	
February	263	211	20%	15%	40%	
March	316	236	26%	19%	40%	
April	308	231	25%	21%	40%	
May	471	282	40%	26%	40%	
June	543	298	45%	31%	40%	
July	570	309	46%	34%	40%	
August	626	326	48%	37%	40%	
September	610	318	48%	38%	40%	
October	537	303	44%	39%	40%	
November	448	273	39%	39%	40%	
December	336	245	27%	38%	40%	



**1 - Home**  
City of Lathrop

Enter Agency Information	
Agency Name	City of Lathrop
Total Population Served	26,833
Conservation Goal (%)	50%
Drought Stage	Stage 5
Number of Residential Accounts	7,473
Number of Commercial, Industrial, and Institutional (CII) Accounts	232
Number of Dedicated Irrigation Accounts	196
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	100%
Percentage of CII Indoor Use During Minimum Month (%)	100%
Comments	

Navigation	
<b>USER'S GUIDE</b>	Download and read the guide before using this Tool
<b>1 - HOME</b>	Enter agency information
<b>2 - INPUT BASELINE YEAR WATER USE</b>	Enter Baseline Year production and use
<b>3 - BASELINE YEAR WATER USE</b>	Review and confirm entered information
<b>4 - DROUGHT RESPONSE ACTIONS</b>	Select Drought Response Actions and input estimated water savings and implementation rates.
<b>5 - ESTIMATED WATER SAVINGS</b>	Review estimated water production and compare estimated savings to conservation target.
<b>6 - DROUGHT RESPONSE TRACKING</b>	Track production and water savings against the conservation target.

## 1 - Home

### City of Lathrop

For questions about this tool or for additional information, contact:

**Anona Dutton, P.G., C.Hg.**  
[adutton@ekiconsult.com](mailto:adutton@ekiconsult.com)  
(650) 292-9100



**Disclaimer:** This electronic file is being provided by EKI Environment & Water Inc. (EKI; formerly Erler & Kalinowski, Inc.) at the request of (CLIENT). The Drought Response Tool was transmitted to CLIENT in electronic format, on a CD dated [DATE] (Original Document). Only the Original Document, provided to, and for the sole benefit of, CLIENT constitutes EKI's professional work product. An electronic copy of the Drought Response Tool is provided to CLIENT's Customer Agencies, for use only by CLIENT-designated Customer Agencies. The Drought Response Tool is copyrighted by EKI. All rights are reserved by EKI, and content may not be reproduced, downloaded, disseminated, published, or transferred in any form or by any means, except with the prior written permission of EKI. Customer Agencies may use the Drought Response Tool for reviewing potential drought response alternatives. The delivery to, or use by, Customer Agencies of the Drought Response Tool does not provide rights of reliance by Client Agencies or other third parties without the express written consent of EKI and subject to the execution of an agreement between such Customer Agency or other third party and EKI. EKI makes no warranties, either express or implied, of the electronic media or regarding its merchantability, applicability, compatibility with the recipients' computer equipment or software; of the fitness for any particular purpose; or that the electronic media contains no defect or is virus free. Use of EKI's Drought Response Tool, other electronic media, or other work product by Client Agency or others shall be at the party's sole risk. Further, by use of this electronic media, the user agrees, to the fullest extent permitted by law, to defend, indemnify and hold harmless EKI, CLIENT, and their officers, directors, employees, and subconsultants against all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, arising from any use, modification or changes made to the electronic files by anyone other than EKI or from any unauthorized distribution or reuse of the electronic files without the prior written consent of EKI.

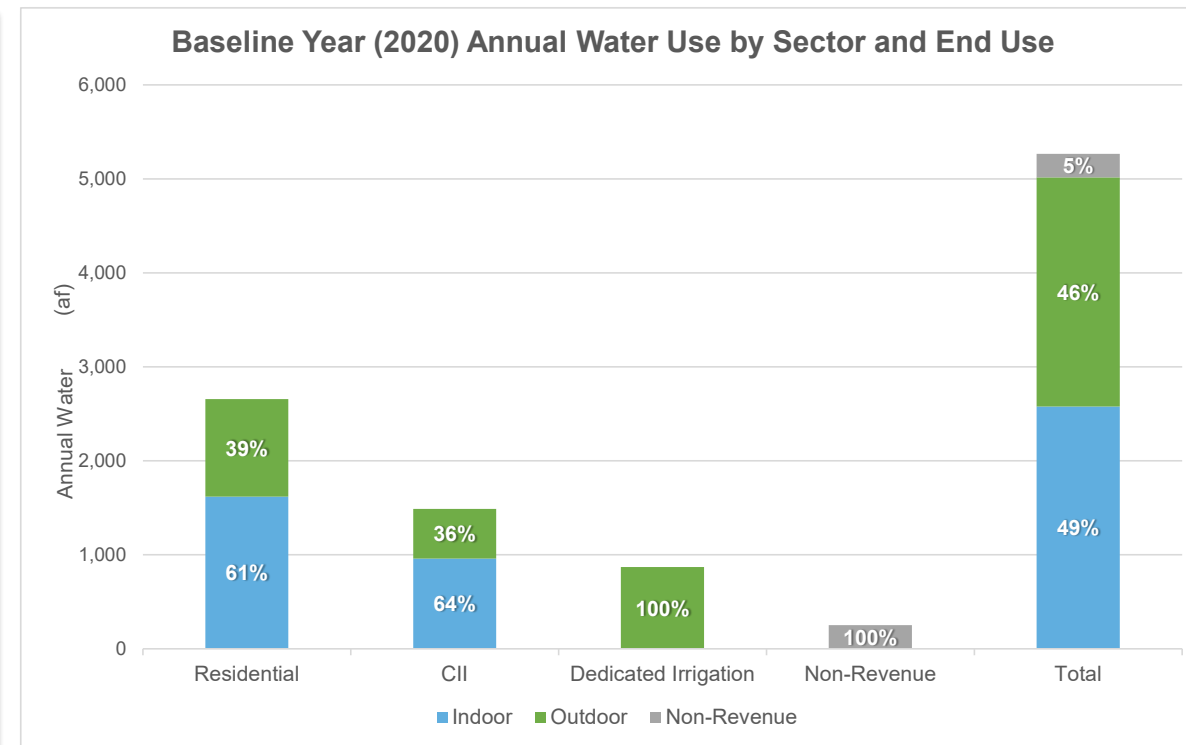
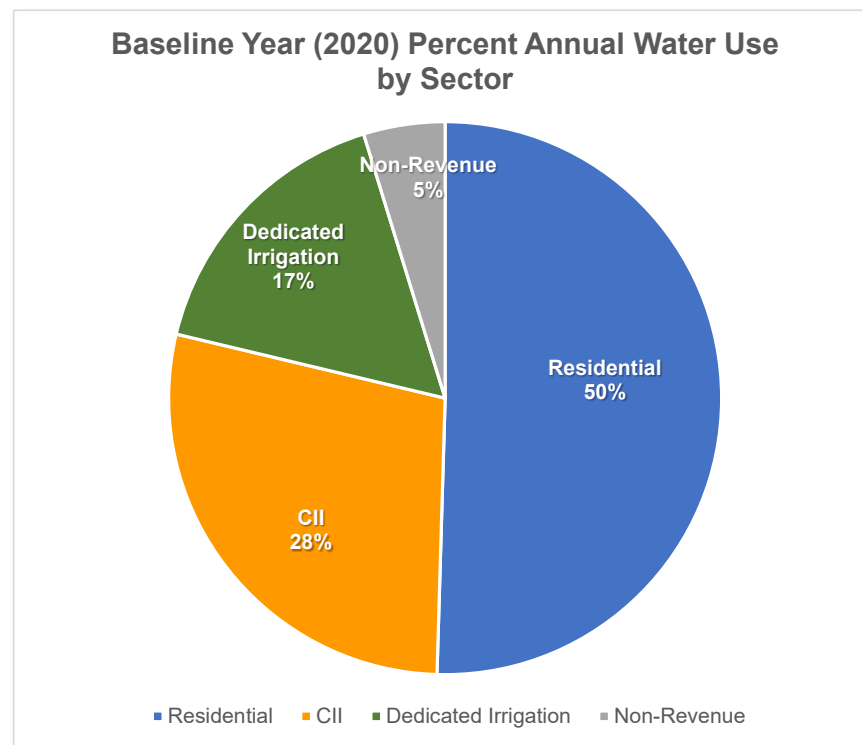
© 2015 Erler & Kalinowski, Inc.

## 2 - Input Baseline Year (2020) Water Use City of Lathrop

Input Baseline Year (2020) Production and Water Use							
Units: <input type="text" value="(af)"/>							
<i>Select the units to input monthly production and use data. Enter the total monthly potable water production for the Baseline Year. Next, enter monthly water use data by sector for the Baseline Year. If you bill on a bi-monthly basis, divide your billing data between the months that the billing cycle includes. If your single-family and multi-family accounts are tracked separately, enter the combined water use for both sectors in the Residential Water Use column. If your commercial, industrial, and institutional (CII) accounts are tracked separately, enter the combined water use for each sector in the CII Water Use column. Your non-revenue water use is calculated by subtracting your monthly residential, CII, and dedicated irrigation water uses from your monthly production. Your monthly residential gallons per capita per day (R-GPCD) is calculated by dividing your monthly residential water use by your population entered in Worksheet 1 - Home.</i>							
Date	Total Production (af)	Residential Water Use (af)	CII Water Use (af)	Dedicated Irrigation Water Use (af)	Non-Revenue Water Use (af)	Total R-GPCD	Comments
January	239	137	81	9	11	54	water loss is assumed to be 5% of the consumption
February	263	141	103	6	13	61	production by month does not align with consumption
March	316	156	90	55	15	61	
April	308	159	101	34	15	64	
May	471	242	124	83	22	95	
June	543	271	137	109	26	110	
July	570	272	145	126	27	107	
August	626	310	153	133	30	121	
September	610	293	165	124	29	118	
October	537	270	150	91	26	106	
November	448	226	136	65	21	91	
December	336	182	103	35	16	71	

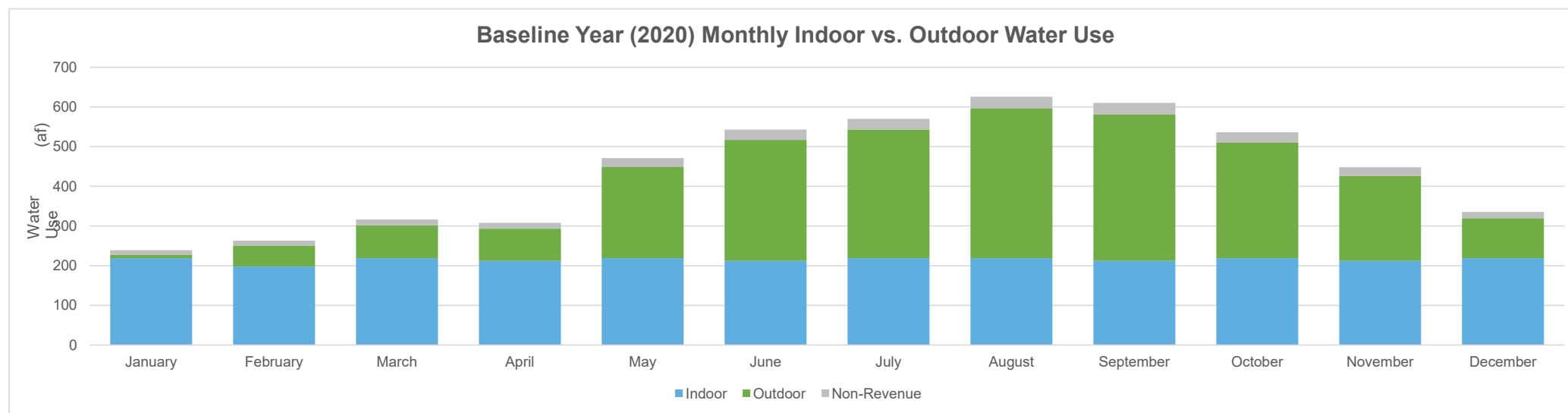
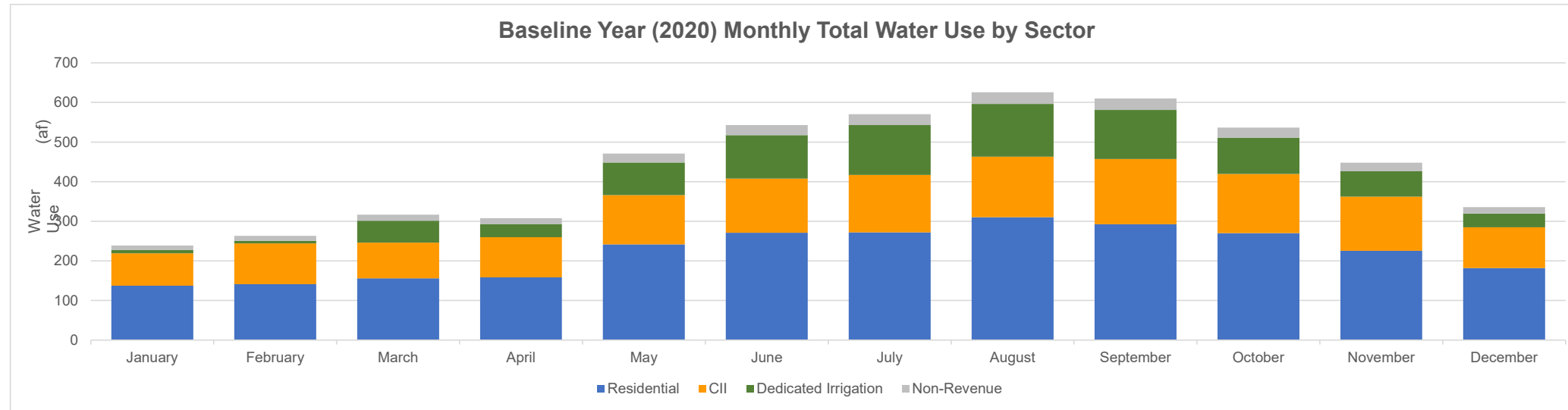
## 3 - Baseline Year (2020) Water Use Profile City of Lathrop

Baseline Year (2020) Annual Water Use Summary						
Units: <input type="text" value="(af)"/>						
<i>A summary of your Baseline Year water use by sector and major end use category is shown below. Select the units in which your production and use data are displayed.</i>						
Water Use	Total Production (af)	Water Use (af)				Comments
		Residential	CII	Dedicated Irrigation	Non-Revenue	
<b>Total</b>	5,267	2,658	1,488	870	251	
<b>Total Indoor</b>	2,578	1,619	959	--	--	
<b>Total Outdoor</b>	2,438	1,039	529	870	--	
<b>Total Non-Revenue</b>	251	--	--	--	251	
<b>Total Indoor %</b>	49%	61%	64%	0%	--	
<b>Total Outdoor %</b>	46%	39%	36%	100%	--	
<b>Total Non-Revenue %</b>	5%	--	--	--	100%	



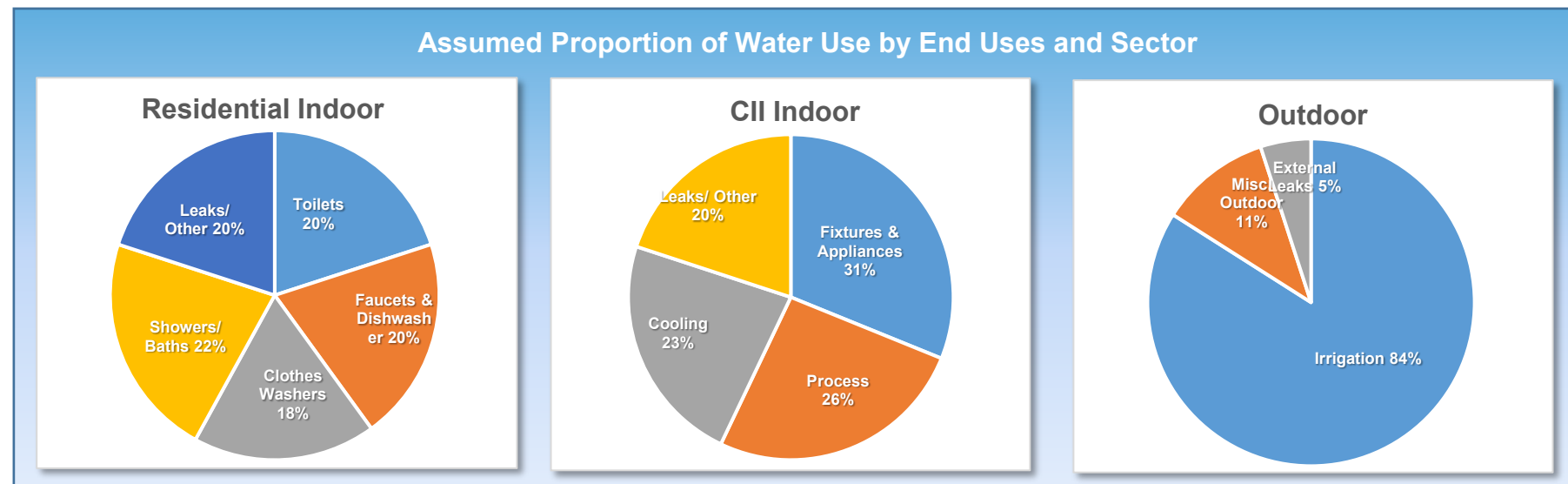


### 3 - Baseline Year (2020) Water Use Profile City of Lathrop



## 4 - Drought Response Actions - Stage 5 City of Lathrop

Maximum Savings Potential		
<i>Use the default values or enter your own criteria for the maximum savings potential. Estimated water savings within each sector will not exceed the maximum savings criteria.</i>		
Minimum Residential Indoor GPCD	25	R-GPCD
Maximum Residential Outdoor Savings	100%	of Baseline Residential Outdoor Water Use
Maximum CII Indoor Savings	30%	of Baseline CII Indoor Water Use
Maximum CII Outdoor Savings	100%	of Baseline CII Outdoor Water Use
Maximum Dedicated Irrigation Account Savings	100%	of Baseline Dedicated Irrigation Water Use
Maximum Non-Revenue Water Savings	50%	of Baseline Non-Revenue Water Use
<b>Resulting Total Maximum Annual Savings Potential</b>	<b>71%</b>	<b>of Total Baseline Production</b>



## 4 - Drought Response Actions - Stage 5 City of Lathrop

Drought Response Actions						
<p><i>Select the Drought Response Actions you would like to include in your estimated savings calculations. For each selected action, use the default end use savings estimates and implementation rates or input your own values. The "End Use Savings" estimates the percent water use reduction that could occur at a particular end use as a result of a specific action. The "Implementation Rate" refers to the estimated percentage of accounts that will implement a specific action. The water savings potential at each end use is capped based on the assumed distribution of end use water demands shown in the pie charts above. A dash (-) indicates that professional judgement was used to establish the default value, or that savings are expected to be accounted for as part of a Public Information Program; additional basis for the default values are included in the User Manual.</i></p>						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Possible Mandatory Prohibitions</b>	All Outdoor	<input checked="" type="checkbox"/>	14%	<b>100%</b>	--	--
Prohibit Irrigation with Potable Water Outside of Newly Constructed Homes and Buildings that is not Delivered by Drip or Microspray Systems	Irrigation	<input type="checkbox"/>			--	--
Require Shut-Off Nozzles on Hoses for Vehicle Washing	Misc. Outdoor	<input type="checkbox"/>	17%	50%	See Appendix D of the DRP	--
Prohibit Use of Potable Water to Wash Sidewalks and Driveways	Misc. Outdoor	<input type="checkbox"/>	17%	50%		--
Prohibit the Use of Potable Water for Street Washing	Misc. Outdoor	<input type="checkbox"/>	17%	50%		--
Prohibit Irrigation with Potable Water in a Manner that causes Runoff	Irrigation	<input type="checkbox"/>	3%	50%	DeOreo et al., 2011	--
Prohibit Irrigation with Potable Water within 48 Hours following Measurable Rainfall	Irrigation	<input type="checkbox"/>			--	--
Prohibit Irrigation of Ornamental Turf with Potable Water on Street Medians	Irrigation	<input type="checkbox"/>			--	--
Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water	Misc. Outdoor	<input type="checkbox"/>	50%	50%	EBMUD, 2008	--
Provide Linen Service Opt Out Options	Fixtures & Appliances	<input type="checkbox"/>	0.5%	50%	EBMUD, 2011	--
Prohibit Serving Drinking Water other than upon Request in Eating or Drinking Establishments	Fixtures & Appliances	<input type="checkbox"/>	0.5%	50%	EBMUD, 2011	--

## 4 - Drought Response Actions - Stage 5 City of Lathrop

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Agency Drought Actions / Restrictions</b>						
<b>► Agency Actions</b>						
Media Campaign, Newspaper Articles, Website	All	<input checked="" type="checkbox"/>	1.5%	85%	EBMUD, 2011	--
Promote Water Conservation / Rebate Programs	All	<input checked="" type="checkbox"/>		50%	--	--
Water Efficiency Workshops, Public Events	All	<input checked="" type="checkbox"/>	1.5%	25%	EBMUD, 2011	--
Water Bill Inserts	All	<input checked="" type="checkbox"/>	1.5%	100%	EBMUD, 2011	--
Promote / Expand Use of Recycled Water	Irrigation	<input type="checkbox"/>	100%		--	--
Home or Mobile Water Use Reports	All	<input type="checkbox"/>	5%	10%	WaterSmart Software, 2015	--
Decrease Frequency and Length of Line Flushing	Non Revenue Water	<input checked="" type="checkbox"/>	25%	50%	See Appendix D of the DRP	Reduced flushing by 50%.
Audit and Reduce System Water Loss	Non Revenue Water	<input checked="" type="checkbox"/>	45%	50%	DWR, 2015	Target 50% of leakage.
Implement Drought Rate Structure / Water Budgets	All	<input type="checkbox"/>	5%	100%	CUWCC, 2015	--
Establish Retrofit on Resale Ordinance	All Residential Indoor	<input type="checkbox"/>	21%	6%	SFPUC, 2004	First Tuesday, 2015
Require Net Zero Demand Increase on New Connections	All	<input type="checkbox"/>			--	--
Moratorium on New Connections	All	<input type="checkbox"/>			--	--
Move to Monthly Metering / Billing	All	<input type="checkbox"/>	5%	10%	See Appendix D of the DRP	--
Increase Water Waste Patrols / Enforcement	All	<input checked="" type="checkbox"/>			--	--
Establish Drought Hotline	All	<input type="checkbox"/>			--	--
Reduce Distribution System Pressures	Non Revenue Water	<input checked="" type="checkbox"/>	4.5%	100%	CUWCC, 2010; DWR, 2015	--
<b>► Dedicated Irrigation</b>						
Conduct Irrigation Account Surveys	Irrigation	<input checked="" type="checkbox"/>	30%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	38%	75%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	79%	75%		
Prohibit use of Potable Water for Irrigation	Irrigation	<input checked="" type="checkbox"/>	100%	75%		
Require Repair of all Leaks within 24 hours	External Leaks	<input checked="" type="checkbox"/>	100%	5%	--	--
Customer Water Budgets						
Establish Water Budget - 25% Reduction	Irrigation	<input type="checkbox"/>	25%	50%	--	--
Establish Water Budget - 50% Reduction	Irrigation	<input type="checkbox"/>	50%	50%	--	--
Establish Water Budget - 75% Reduction	Irrigation	<input type="checkbox"/>	75%	50%	--	--

## 4 - Drought Response Actions - Stage 5 City of Lathrop

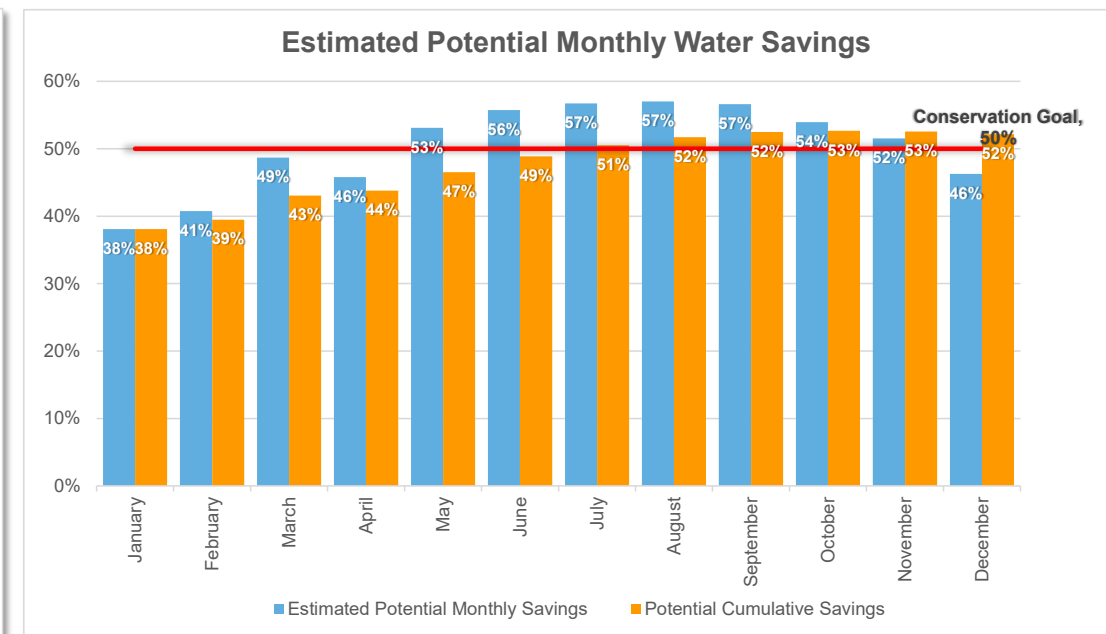
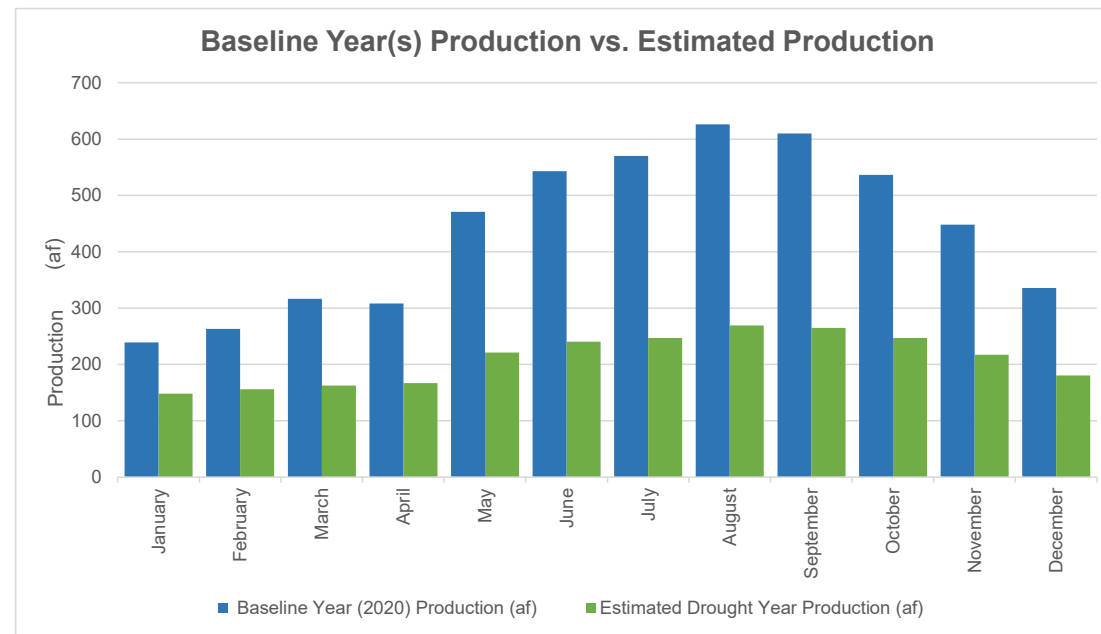
Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Agency Drought Actions / Restrictions</b>						
<b>► Residential</b>						
Conduct Water Use Surveys Targeting High Water Users	All Residential Uses	<input checked="" type="checkbox"/>	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	38%	50%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	79%	50%		
Prohibit use of Potable Water for Irrigation	Irrigation	<input type="checkbox"/>	100%	50%		
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	<input checked="" type="checkbox"/>	50%	50%	EBMUD, 2008	--
Require Repair of all Leaks within 24 hours	Leaks	<input checked="" type="checkbox"/>	100%	5%	--	--
Require Pool Covers	Misc. Outdoor	<input type="checkbox"/>	28%	25%	Maddaus & Mayer, 2001	--
Prohibit Filling of Pools	Misc. Outdoor	<input type="checkbox"/>	55%	25%	DeOreo et al., 2011	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All Residential Uses	<input type="checkbox"/>	10%	50%	--	--
Establish Water Budget - 45% Reduction	All Residential Uses	<input checked="" type="checkbox"/>	<b>45%</b>	<b>75%</b>	--	--
<b>► CII</b>						
Conduct CII Surveys Targeting High Water Users	All CII uses	<input checked="" type="checkbox"/>	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	38%	<b>80%</b>	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	79%	<b>75%</b>		
Prohibit Use of Potable Water for Construction and Dust Control	Misc. Outdoor	<input type="checkbox"/>		100%	--	--
Prohibit Single-Pass Cooling Systems	Cooling	<input type="checkbox"/>	80%	1%	Vickers, 2001	--
Require Repair of all Leaks within 24 hours	Leaks	<input checked="" type="checkbox"/>	100%	5%	--	--
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	<input checked="" type="checkbox"/>	50%	50%	EBMUD, 2008	--
Require Water-Efficient Pre-Rinse Spray Valves	Fixtures & Appliances	<input type="checkbox"/>	0.8%	50%	EPA, 2015; Pacific Institute, 2003	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All CII uses	<input type="checkbox"/>	10%	50%	--	--
Establish Water Budget - 20% Reduction	All CII uses	<input type="checkbox"/>	20%	50%	--	--
Establish Water Budget - 50% Reduction	All CII uses	<input checked="" type="checkbox"/>	<b>45%</b>	<b>75%</b>	--	--

**4 - Drought Response Actions - Stage 5**  
City of Lathrop

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Residential Customer Actions to Encourage</b>						
Install Bathroom Faucet Aerators	Faucets and Dishwashers	<input type="checkbox"/>			--	--
Install a Water-Efficient Showerhead	Showers/Baths	<input type="checkbox"/>			--	--
Turn Off Water when Brushing Teeth, Shaving, Washing Dishes, or Cooking	Faucets and Dishwashers	<input type="checkbox"/>			--	--
Fill the Bathtub Halfway	Showers/Baths	<input type="checkbox"/>			--	--
Wash Only Full Loads of Clothes	Clothes Washers	<input type="checkbox"/>			--	--
Install a High-Efficiency Toilet	Toilets	<input type="checkbox"/>			--	--
Take Shorter Showers	Showers/Baths	<input type="checkbox"/>			--	--
Run Dishwasher Only When Full	Faucets and Dishwashers	<input type="checkbox"/>			--	--
Reduce Outdoor Irrigation	Irrigation	<input type="checkbox"/>			--	--
Install Drip-Irrigation	Irrigation	<input type="checkbox"/>			--	--
Use Mulch	Irrigation	<input type="checkbox"/>			--	--
Plant Drought Resistant Trees and Plants	Irrigation	<input type="checkbox"/>			--	--
Use a Broom to Clean Outdoor Areas	Misc. Outdoor	<input type="checkbox"/>			--	--
Flush Less Frequently	Toilets	<input type="checkbox"/>			--	--
Re-Use Shower or Bath Water for Irrigation	Irrigation	<input type="checkbox"/>			--	--
Wash Car at Facility that Recycles the Water	Misc. Outdoor	<input type="checkbox"/>			--	--

## 5 - Estimated Water Savings - Stage 5 City of Lathrop

Estimated Monthly Water Use and Savings Summary						
Units: <input type="text" value="(af)"/>						
<small>i This provides a summary of the estimated production relative to Baseline Year production and potential water savings, assuming implementation of selected actions at the water savings and implementation rates indicated in the Drought Response Actions worksheet. Select the units that your production data are displayed in.</small>						
Month	Baseline Year (2020) Production (af)	Estimated Drought Year Production (af)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
January	239	148	38%	38%	50%	
February	263	156	41%	39%	50%	
March	316	162	49%	43%	50%	
April	308	167	46%	44%	50%	
May	471	221	53%	47%	50%	
June	543	240	56%	49%	50%	
July	570	247	57%	51%	50%	
August	626	269	57%	52%	50%	
September	610	265	57%	52%	50%	
October	537	247	54%	53%	50%	
November	448	217	52%	53%	50%	
December	336	180	46%	52%	50%	



**1 - Home**  
City of Lathrop

Enter Agency Information	
Agency Name	City of Lathrop
Total Population Served	26,833
Conservation Goal (%)	55%
Drought Stage	Stage 6
Number of Residential Accounts	7,473
Number of Commercial, Industrial, and Institutional (CII) Accounts	232
Number of Dedicated Irrigation Accounts	196
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	100%
Percentage of CII Indoor Use During Minimum Month (%)	100%
Comments	

Navigation	
<b>USER'S GUIDE</b>	Download and read the guide before using this Tool
<b>1 - HOME</b>	Enter agency information
<b>2 - INPUT BASELINE YEAR WATER USE</b>	Enter Baseline Year production and use
<b>3 - BASELINE YEAR WATER USE</b>	Review and confirm entered information
<b>4 - DROUGHT RESPONSE ACTIONS</b>	Select Drought Response Actions and input estimated water savings and implementation rates.
<b>5 - ESTIMATED WATER SAVINGS</b>	Review estimated water production and compare estimated savings to conservation target.
<b>6 - DROUGHT RESPONSE TRACKING</b>	Track production and water savings against the conservation target.



## 1 - Home

### City of Lathrop

For questions about this tool or for additional information, contact:

**Anona Dutton, P.G., C.Hg.**  
[adutton@ekiconsult.com](mailto:adutton@ekiconsult.com)  
 (650) 292-9100



**Disclaimer:** This electronic file is being provided by EKI Environment & Water Inc. (EKI; formerly Erler & Kalinowski, Inc.) at the request of (CLIENT). The Drought Response Tool was transmitted to CLIENT in electronic format, on a CD dated [DATE] (Original Document). Only the Original Document, provided to, and for the sole benefit of, CLIENT constitutes EKI's professional work product. An electronic copy of the Drought Response Tool is provided to CLIENT's Customer Agencies, for use only by CLIENT-designated Customer Agencies. The Drought Response Tool is copyrighted by EKI. All rights are reserved by EKI, and content may not be reproduced, downloaded, disseminated, published, or transferred in any form or by any means, except with the prior written permission of EKI. Customer Agencies may use the Drought Response Tool for reviewing potential drought response alternatives. The delivery to, or use by, Customer Agencies of the Drought Response Tool does not provide rights of reliance by Client Agencies or other third parties without the express written consent of EKI and subject to the execution of an agreement between such Customer Agency or other third party and EKI. EKI makes no warranties, either express or implied, of the electronic media or regarding its merchantability, applicability, compatibility with the recipients' computer equipment or software; of the fitness for any particular purpose; or that the electronic media contains no defect or is virus free. Use of EKI's Drought Response Tool, other electronic media, or other work product by Client Agency or others shall be at the party's sole risk. Further, by use of this electronic media, the user agrees, to the fullest extent permitted by law, to defend, indemnify and hold harmless EKI, CLIENT, and their officers, directors, employees, and subconsultants against all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, arising from any use, modification or changes made to the electronic files by anyone other than EKI or from any unauthorized distribution or reuse of the electronic files without the prior written consent of EKI.

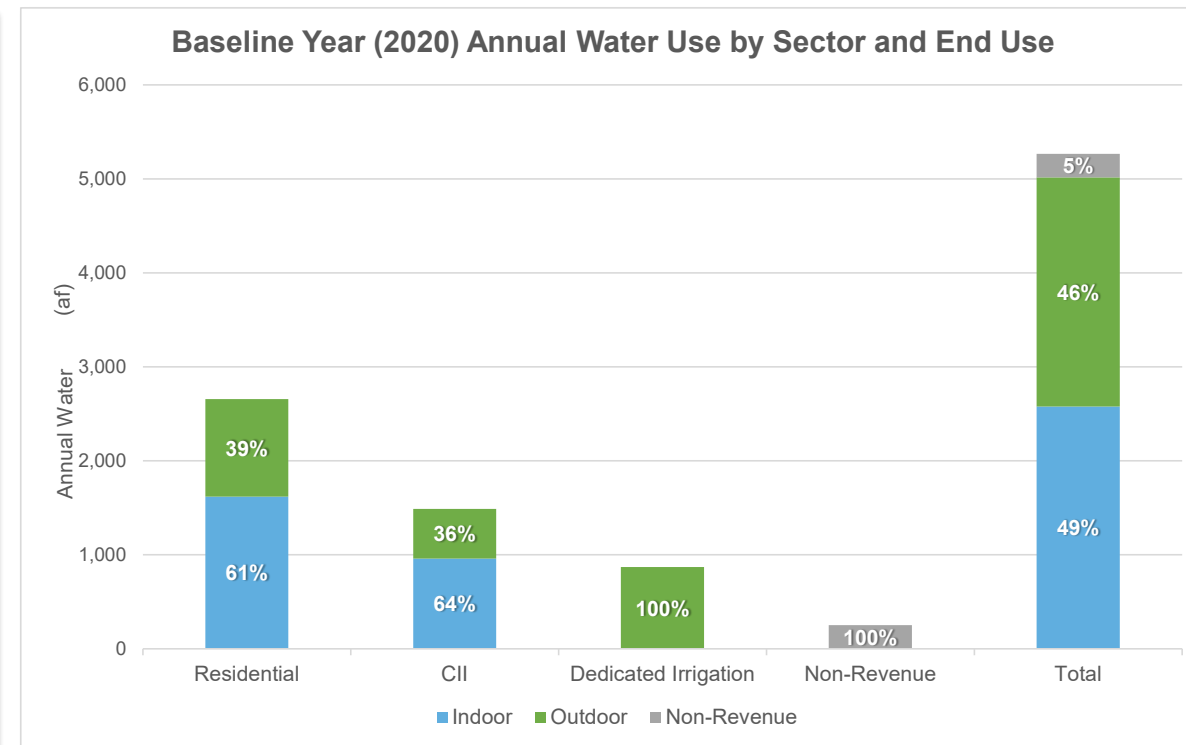
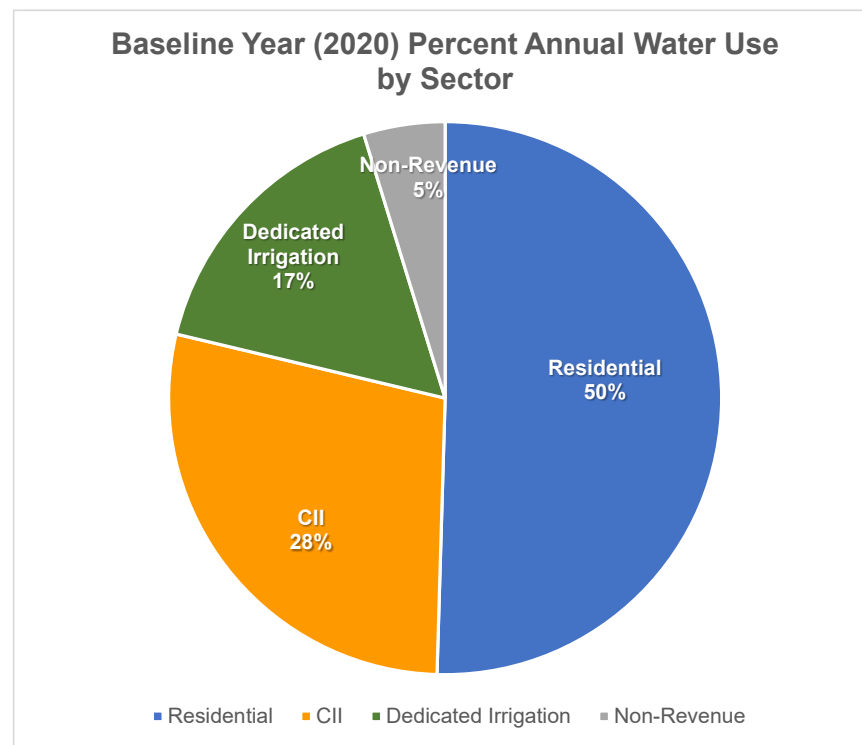
© 2015 Erler & Kalinowski, Inc.

## 2 - Input Baseline Year (2020) Water Use City of Lathrop

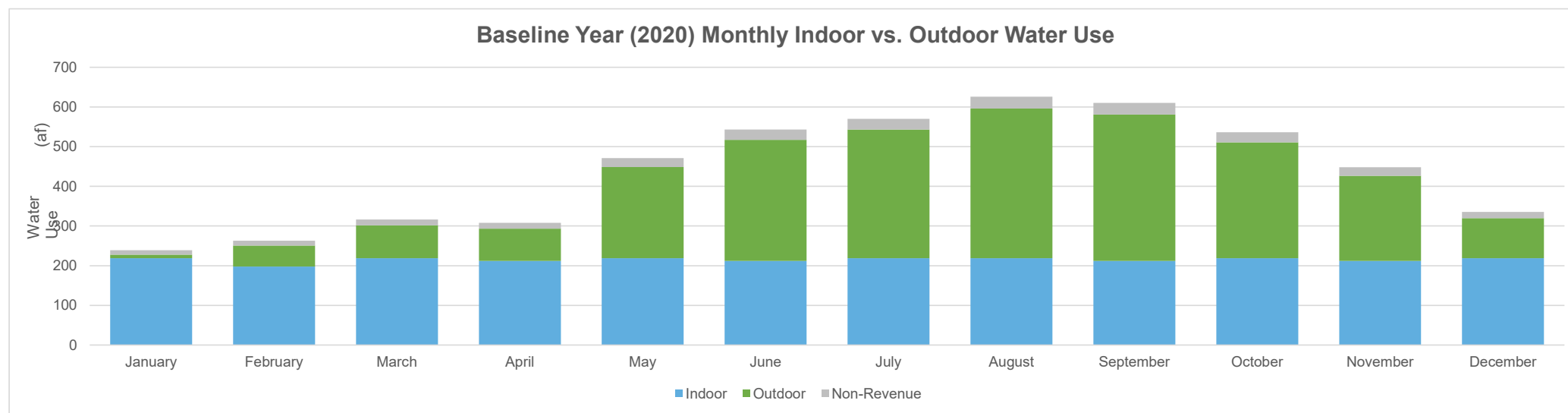
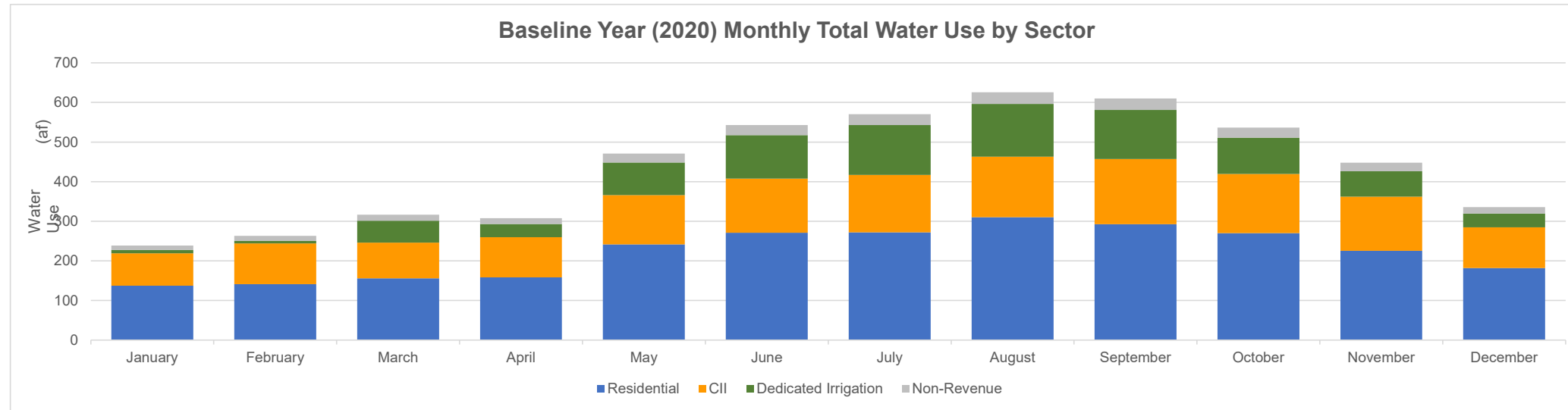
Input Baseline Year (2020) Production and Water Use							
Units: <input type="text" value="(af)"/>							
Select the units to input monthly production and use data. Enter the total monthly potable water production for the Baseline Year. Next, enter monthly water use data by sector for the Baseline Year. If you bill on a bi-monthly basis, divide your billing data between the months that the billing cycle includes. If your single-family and multi-family accounts are tracked separately, enter the combined water use for both sectors in the Residential Water Use column. If your commercial, industrial, and institutional (CII) accounts are tracked separately, enter the combined water use for each sector in the CII Water Use column. Your non-revenue water use is calculated by subtracting your monthly residential, CII, and dedicated irrigation water uses from your monthly production. Your monthly residential gallons per capita per day (R-GPCD) is calculated by dividing your monthly residential water use by your population entered in Worksheet 1 - Home.							
Date	Total Production (af)	Residential Water Use (af)	CII Water Use (af)	Dedicated Irrigation Water Use (af)	Non-Revenue Water Use (af)	Total R-GPCD	Comments
January	239	137	81	9	11	54	water loss is assumed to be 5% of the consumpti
February	263	141	103	6	13	61	production by month does not align with consump
March	316	156	90	55	15	61	
April	308	159	101	34	15	64	
May	471	242	124	83	22	95	
June	543	271	137	109	26	110	
July	570	272	145	126	27	107	
August	626	310	153	133	30	121	
September	610	293	165	124	29	118	
October	537	270	150	91	26	106	
November	448	226	136	65	21	91	
December	336	182	103	35	16	71	

## 3 - Baseline Year (2020) Water Use Profile City of Lathrop

Baseline Year (2020) Annual Water Use Summary						
Units: <input type="text" value="(af)"/>						
A summary of your Baseline Year water use by sector and major end use category is shown below. Select the units in which your production and use data are displayed.						
Water Use	Total Production (af)	Water Use (af)				Comments
		Residential	CII	Dedicated Irrigation	Non-Revenue	
<b>Total</b>	5,267	2,658	1,488	870	251	
<b>Total Indoor</b>	2,578	1,619	959	--	--	
<b>Total Outdoor</b>	2,438	1,039	529	870	--	
<b>Total Non-Revenue</b>	251	--	--	--	251	
<b>Total Indoor %</b>	49%	61%	64%	0%	--	
<b>Total Outdoor %</b>	46%	39%	36%	100%	--	
<b>Total Non-Revenue %</b>	5%	--	--	--	100%	

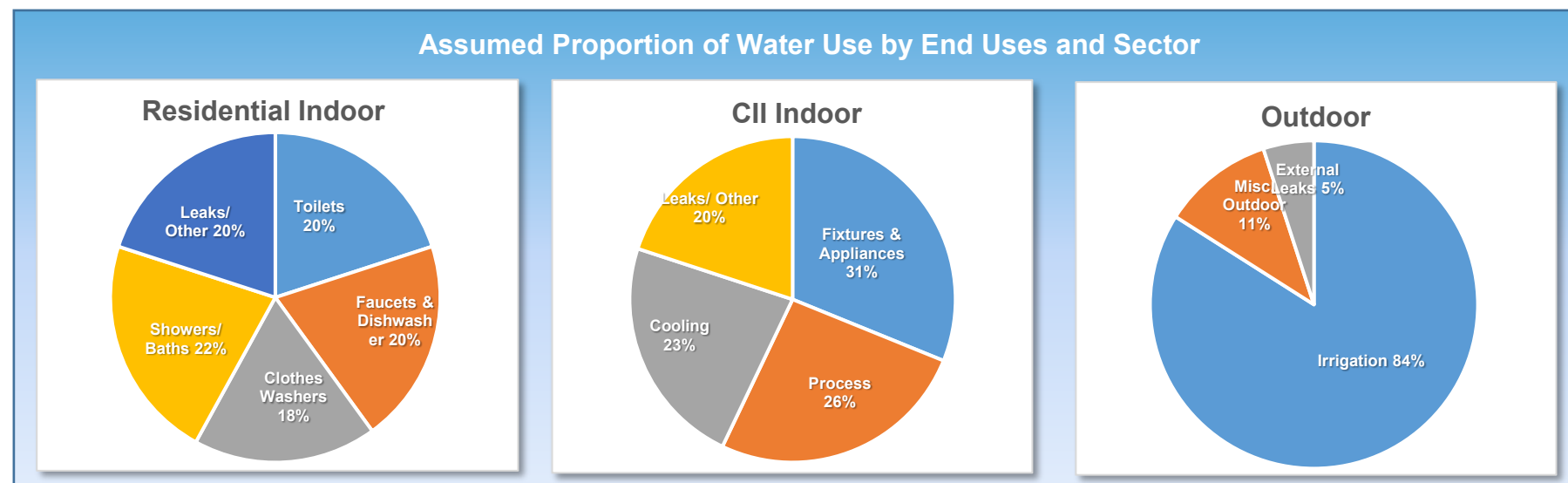


### 3 - Baseline Year (2020) Water Use Profile City of Lathrop



## 4 - Drought Response Actions - Stage 6 City of Lathrop

Maximum Savings Potential		
<i>Use the default values or enter your own criteria for the maximum savings potential. Estimated water savings within each sector will not exceed the maximum savings criteria.</i>		
Minimum Residential Indoor GPCD	25	R-GPCD
Maximum Residential Outdoor Savings	100%	of Baseline Residential Outdoor Water Use
Maximum CII Indoor Savings	30%	of Baseline CII Indoor Water Use
Maximum CII Outdoor Savings	100%	of Baseline CII Outdoor Water Use
Maximum Dedicated Irrigation Account Savings	100%	of Baseline Dedicated Irrigation Water Use
Maximum Non-Revenue Water Savings	50%	of Baseline Non-Revenue Water Use
<b>Resulting Total Maximum Annual Savings Potential</b>	<b>71%</b>	<b>of Total Baseline Production</b>



## 4 - Drought Response Actions - Stage 6 City of Lathrop

Drought Response Actions						
<p><i>Select the Drought Response Actions you would like to include in your estimated savings calculations. For each selected action, use the default end use savings estimates and implementation rates or input your own values. The "End Use Savings" estimates the percent water use reduction that could occur at a particular end use as a result of a specific action. The "Implementation Rate" refers to the estimated percentage of accounts that will implement a specific action. The water savings potential at each end use is capped based on the assumed distribution of end use water demands shown in the pie charts above. A dash (-) indicates that professional judgement was used to establish the default value, or that savings are expected to be accounted for as part of a Public Information Program; additional basis for the default values are included in the User Manual.</i></p>						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Possible Mandatory Prohibitions</b>	All Outdoor	<input checked="" type="checkbox"/>	14%	<b>100%</b>	--	--
Prohibit Irrigation with Potable Water Outside of Newly Constructed Homes and Buildings that is not Delivered by Drip or Microspray Systems	Irrigation	<input type="checkbox"/>			--	--
Require Shut-Off Nozzles on Hoses for Vehicle Washing	Misc. Outdoor	<input type="checkbox"/>	17%	50%	See Appendix D of the DRP	--
Prohibit Use of Potable Water to Wash Sidewalks and Driveways	Misc. Outdoor	<input type="checkbox"/>	17%	50%		--
Prohibit the Use of Potable Water for Street Washing	Misc. Outdoor	<input type="checkbox"/>	17%	50%		--
Prohibit Irrigation with Potable Water in a Manner that causes Runoff	Irrigation	<input type="checkbox"/>	3%	50%	DeOreo et al., 2011	--
Prohibit Irrigation with Potable Water within 48 Hours following Measurable Rainfall	Irrigation	<input type="checkbox"/>			--	--
Prohibit Irrigation of Ornamental Turf with Potable Water on Street Medians	Irrigation	<input type="checkbox"/>			--	--
Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water	Misc. Outdoor	<input type="checkbox"/>	50%	50%	EBMUD, 2008	--
Provide Linen Service Opt Out Options	Fixtures & Appliances	<input type="checkbox"/>	0.5%	50%	EBMUD, 2011	--
Prohibit Serving Drinking Water other than upon Request in Eating or Drinking Establishments	Fixtures & Appliances	<input type="checkbox"/>	0.5%	50%	EBMUD, 2011	--

## 4 - Drought Response Actions - Stage 6 City of Lathrop

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Agency Drought Actions / Restrictions</b>						
<b>► Agency Actions</b>						
Media Campaign, Newspaper Articles, Website	All	<input checked="" type="checkbox"/>	2.0%	75%	EBMUD, 2011	--
Promote Water Conservation / Rebate Programs	All	<input checked="" type="checkbox"/>		50%	--	--
Water Efficiency Workshops, Public Events	All	<input checked="" type="checkbox"/>	2.0%	25%	EBMUD, 2011	--
Water Bill Inserts	All	<input checked="" type="checkbox"/>	2.0%	100%	EBMUD, 2011	--
Promote / Expand Use of Recycled Water	Irrigation	<input type="checkbox"/>	100%		--	--
Home or Mobile Water Use Reports	All	<input type="checkbox"/>	5%	10%	WaterSmart Software, 2015	--
Decrease Frequency and Length of Line Flushing	Non Revenue Water	<input checked="" type="checkbox"/>	25%	50%	See Appendix D of the DRP	Reduced flushing by 50%.
Audit and Reduce System Water Loss	Non Revenue Water	<input checked="" type="checkbox"/>	45%	50%	DWR, 2015	Target 50% of leakage.
Implement Drought Rate Structure / Water Budgets	All	<input type="checkbox"/>	5%	100%	CUWCC, 2015	--
Establish Retrofit on Resale Ordinance	All Residential Indoor	<input type="checkbox"/>	21%	6%	SFPUC, 2004	First Tuesday, 2015
Require Net Zero Demand Increase on New Connections	All	<input type="checkbox"/>			--	--
Moratorium on New Connections	All	<input type="checkbox"/>			--	--
Move to Monthly Metering / Billing	All	<input type="checkbox"/>	5%	10%	See Appendix D of the DRP	--
Increase Water Waste Patrols / Enforcement	All	<input checked="" type="checkbox"/>			--	--
Establish Drought Hotline	All	<input type="checkbox"/>			--	--
Reduce Distribution System Pressures	Non Revenue Water	<input checked="" type="checkbox"/>	4.5%	100%	CUWCC, 2010; DWR, 2015	--
<b>► Dedicated Irrigation</b>						
Conduct Irrigation Account Surveys	Irrigation	<input type="checkbox"/>	30%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	38%	75%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	79%	75%		
Prohibit use of Potable Water for Irrigation	Irrigation	<input checked="" type="checkbox"/>	100%	90%		
Require Repair of all Leaks within 24 hours	External Leaks	<input checked="" type="checkbox"/>	100%	5%	--	--
Customer Water Budgets						
Establish Water Budget - 25% Reduction	Irrigation	<input type="checkbox"/>	25%	50%	--	--
Establish Water Budget - 50% Reduction	Irrigation	<input type="checkbox"/>	50%	50%	--	--
Establish Water Budget - 80% Reduction	Irrigation	<input type="checkbox"/>	80%	75%	--	--

## 4 - Drought Response Actions - Stage 6 City of Lathrop

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Agency Drought Actions / Restrictions</b>						
<b>► Residential</b>						
Conduct Water Use Surveys Targeting High Water Users	All Residential Uses	<input checked="" type="checkbox"/>	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	38%	50%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	79%	50%		
Prohibit use of Potable Water for Irrigation	Irrigation	<input type="checkbox"/>	100%	50%		
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	<input checked="" type="checkbox"/>	50%	50%	EBMUD, 2008	--
Require Repair of all Leaks within 24 hours	Leaks	<input checked="" type="checkbox"/>	100%	5%	--	--
Require Pool Covers	Misc. Outdoor	<input type="checkbox"/>	28%	25%	Maddaus & Mayer, 2001	--
Prohibit Filling of Pools	Misc. Outdoor	<input type="checkbox"/>	55%	25%	DeOreo et al., 2011	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All Residential Uses	<input type="checkbox"/>	10%	50%	--	--
Establish Water Budget - 60% Reduction	All Residential Uses	<input checked="" type="checkbox"/>	<b>55%</b>	<b>75%</b>	--	--
<b>► CII</b>						
Conduct CII Surveys Targeting High Water Users	All CII uses	<input checked="" type="checkbox"/>	10%	10%	EBMUD, 2011	--
Limit Irrigation Days, Time and Duration (Select One)						
Limit Irrigation to 2 Days/Week, 15 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	38%	50%	UC IPM, 2014	--
Limit Irrigation to 1 Day/Week, 10 Minutes/Day, Between 9PM and 6AM	Irrigation	<input type="checkbox"/>	79%	50%		
Prohibit Use of Potable Water for Construction and Dust Control	Misc. Outdoor	<input type="checkbox"/>		100%	--	--
Prohibit Single-Pass Cooling Systems	Cooling	<input type="checkbox"/>	80%	1%	Vickers, 2001	--
Require Repair of all Leaks within 24 hours	Leaks	<input checked="" type="checkbox"/>	100%	5%	--	--
Prohibit Vehicle Washing Except with Recycled Water	Misc. Outdoor	<input type="checkbox"/>	50%	50%	EBMUD, 2008	--
Require Water-Efficient Pre-Rinse Spray Valves	Fixtures & Appliances	<input type="checkbox"/>	0.8%	50%	EPA, 2015; Pacific Institute, 2003	--
Customer Water Budgets						
Establish Water Budget - 10% Reduction	All CII uses	<input type="checkbox"/>	10%	50%	--	--
Establish Water Budget - 20% Reduction	All CII uses	<input type="checkbox"/>	20%	50%	--	--
Establish Water Budget - 60% Reduction	All CII uses	<input checked="" type="checkbox"/>	<b>55%</b>	<b>75%</b>	--	--

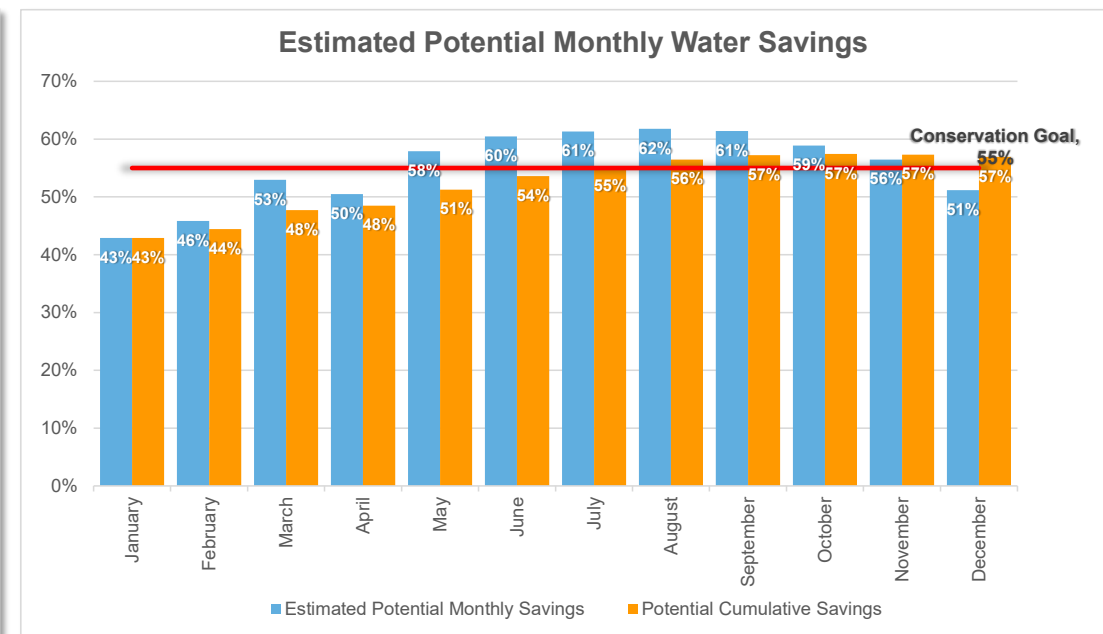
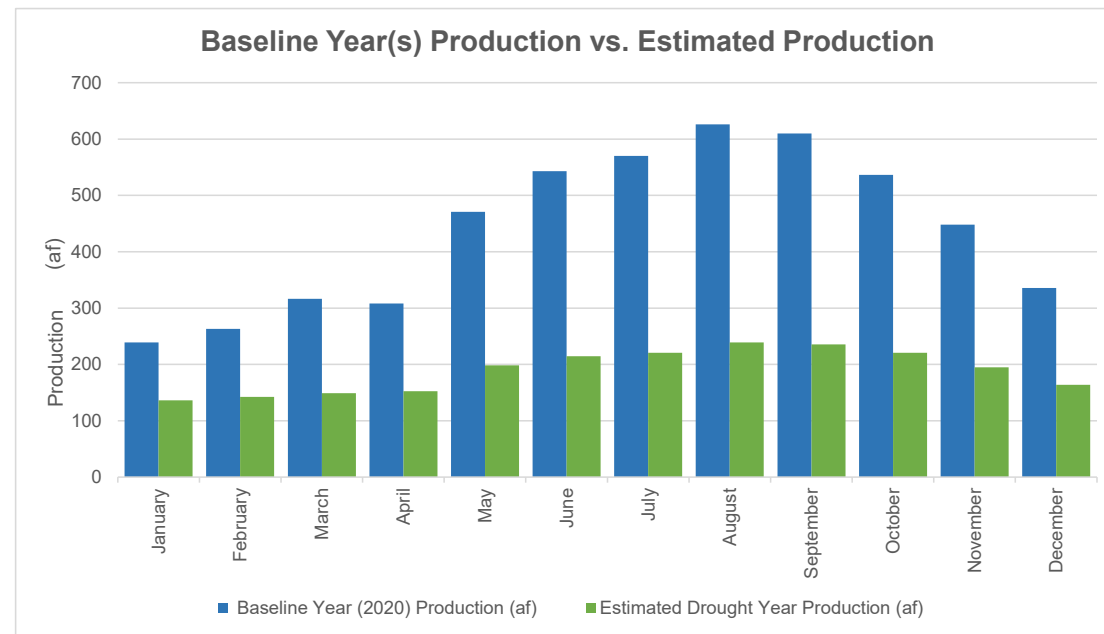


**4 - Drought Response Actions - Stage 6**  
City of Lathrop

Drought Response Actions						
Action Description	End Use(s)	Implement Program	End Use Savings (%)	Implementation Rate	Source of Default Savings Estimate	Source of Default Implementation Rate
<b>► Residential Customer Actions to Encourage</b>						
Install Bathroom Faucet Aerators	Faucets and Dishwashers	<input type="checkbox"/>			--	--
Install a Water-Efficient Showerhead	Showers/Baths	<input type="checkbox"/>			--	--
Turn Off Water when Brushing Teeth, Shaving, Washing Dishes, or Cooking	Faucets and Dishwashers	<input type="checkbox"/>			--	--
Fill the Bathtub Halfway	Showers/Baths	<input type="checkbox"/>			--	--
Wash Only Full Loads of Clothes	Clothes Washers	<input type="checkbox"/>			--	--
Install a High-Efficiency Toilet	Toilets	<input type="checkbox"/>			--	--
Take Shorter Showers	Showers/Baths	<input type="checkbox"/>			--	--
Run Dishwasher Only When Full	Faucets and Dishwashers	<input type="checkbox"/>			--	--
Reduce Outdoor Irrigation	Irrigation	<input type="checkbox"/>			--	--
Install Drip-Irrigation	Irrigation	<input type="checkbox"/>			--	--
Use Mulch	Irrigation	<input type="checkbox"/>			--	--
Plant Drought Resistant Trees and Plants	Irrigation	<input type="checkbox"/>			--	--
Use a Broom to Clean Outdoor Areas	Misc. Outdoor	<input type="checkbox"/>			--	--
Flush Less Frequently	Toilets	<input type="checkbox"/>			--	--
Re-Use Shower or Bath Water for Irrigation	Irrigation	<input type="checkbox"/>			--	--
Wash Car at Facility that Recycles the Water	Misc. Outdoor	<input type="checkbox"/>			--	--

## 5 - Estimated Water Savings - Stage 6 City of Lathrop

Estimated Monthly Water Use and Savings Summary						
Units: <input type="text" value="(af)"/>						
<i>This provides a summary of the estimated production relative to Baseline Year production and potential water savings, assuming implementation of selected actions at the water savings and implementation rates indicated in the Drought Response Actions worksheet. Select the units that your production data are displayed in.</i>						
Month	Baseline Year (2020) Production (af)	Estimated Drought Year Production (af)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
January	239	136	43%	43%	55%	
February	263	142	46%	44%	55%	
March	316	149	53%	48%	55%	
April	308	152	50%	48%	55%	
May	471	198	58%	51%	55%	
June	543	215	60%	54%	55%	
July	570	221	61%	55%	55%	
August	626	239	62%	56%	55%	
September	610	236	61%	57%	55%	
October	537	221	59%	57%	55%	
November	448	195	56%	57%	55%	
December	336	164	51%	57%	55%	





## **ATTACHMENT 2**

### **RESOLUTION 21-4909 ON UWMP AND WSCP 2020 UPDATE**

**RESOLUTION NO. 21-4909**

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LATHROP CERTIFYING AND ADOPTING THE CITY OF LATHROP URBAN WATER MANAGEMENT PLAN 2020 AND WATER SHORTAGE CONTINGENCY PLAN**

**WHEREAS**, the State of California Urban Water Management Planning Act requires all urban water suppliers serving over 3,000 connections or over 3,000 acre-feet of water annually to prepare an Urban Water Management Plan (UWMP) every five years and submit the report to the Department of Water Resources (DWR); and

**WHEREAS**, the City's Water Shortage Contingency Plan (WSCP) also needs to be updated and adopted as a stand-alone document and included with the UWMP 2020 due to changes in regulatory requirements; and

**WHEREAS**, the draft UWMP 2020 and WSCP has been posted on the City's website and a copy of the document and notifications have been sent to stakeholders advising that the documents are available to review; and

**WHEREAS**, public notification soliciting public review and comment, and a public hearing on the UWMP 2020 and WSCP has been done in accordance with the requirements of Government Code 6066.

**NOW, THEREFORE, BE IT RESOLVED**, that the City Council of the City of Lathrop hereby certifies and adopts the City of Lathrop UWMP 2020 in accordance with the Urban Water Management Planning Act, and authorizes Staff to submit a copy of the report to the Department of Water Resources; and

**BE IT FURTHER RESOLVED**, that the City Council of the City of Lathrop hereby certifies and adopts the City of Lathrop Water Shortage Contingency Plan as a stand-alone document, and authorizes Staff to include it with the UWMP 2020 submittal to the Department of Water Resources.

I CERTIFY THIS IS A TRUE COPY OF  
THE ORIGINAL WHICH IS IN THE  
OFFICIAL FILE OF THE CITY OF  
LATHROP. 2 NO. OF PAGES

  
TERESA VARGAS, CITY CLERK

The foregoing resolution was passed and adopted this 14<sup>th</sup> day of June 2021, by the following vote of the City Council, to wit:

AYES: Akinjo, Diallo, Lazard, Torres-O'Callaghan, and Dhaliwal  
NOES: None  
ABSENT: None  
ABSTAIN: None



\_\_\_\_\_  
Sonny Dhaliwal, Mayor

**ATTEST:**

  
\_\_\_\_\_  
Teresa Vargas, City Clerk

**APPROVED AS TO FORM:**

  
\_\_\_\_\_  
Salvador Navarrete, City Attorney



## **ATTACHMENT 3**

### **DRAFT ORDINANCE AMENDING LMC 13.08**

**ORDINANCE NO. \_\_\_\_\_**

**AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF LATHROP AMENDING LATHROP MUNICIPAL CODE TITLE 13, CHAPTER 13.08 WATER CONSERVATION AND RATIONING IN ACCORDANCE WITH THE CITY OF LATHROP URBAN WATER MANAGEMENT PLAN 2020 AND WATER SHORTAGE CONTINGENCY PLAN**

**WHEREAS**, during the severe drought conditions of 2012-2016, and in response to an emergency drought declaration, a series of executive orders and emergency mandatory water conservation regulations issued by the State, the City adopted urgency ordinances in August 2014 and in June 2015 that amended LMC 13.08 water conservation and established Phase III Mandatory Water Conservation Measures; and

**WHEREAS**, in April 2017, Governor Edmund G. Brown Jr. issued an executive order that lifted the emergency order and drought declaration, but also directed the State Water Resources Control Board (SWRCB) to continue the development of permanent prohibitions on wasteful water use; and

**WHEREAS**, in October 2017, the City amended LMC 13.08 to be consistent with the 2015 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP); and

**WHEREAS**, the 2018 State Water Conservation legislation created a WSCP mandate replacing the water shortage contingency analysis under the former law, which lists certain prescriptive elements that must be included with the plan, including six standard water shortage levels corresponding to progressive ranges of up to 10-, 20-, 30-, 40-, and 50-percent shortages and greater than 50-percent shortage; and

**WHEREAS**, the WSCP must also include locally appropriate "shortage response actions" for each shortage level, with a corresponding estimate of the extent the action to address the gap between supplies and demands; and

**WHEREAS**, ordinance amendments to LMC 13.08 Water Conservation and Rationing are necessary to update the water conservation measures to be consistent with the 2018 Water Conservation legislation and the City of Lathrop's UWMP 2020 and WSCP; and

**WHEREAS**, the WSCP is to be a stand-alone document, meaning that it should be created separately from the UWMP and amended, as needed, without amending the corresponding City Municipal Code.

**NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF LATHROP  
DOES HEREBY ORDAIN AS FOLLOWS:**

Note: additions are shown below in underline font, deletions are shown in strikeout font.

13.08.030.1 Definition of water waste.

Any of the following acts or omissions, whether willful or negligent, shall constitute the waste of water:

- A. Causing or permitting water to leak, discharge, flow or run to waste into any gutter, sanitary sewer, watercourse or public or private storm drain, or to any adjacent property, from any tap, hose, faucet, pipe, sprinkler, pond, pool, waterway, fountain or nozzle. In the case of irrigation, "discharge," "flow" or "run to waste" means that the earth intended to be irrigated has been saturated with water to the point that excess water flows over or through the earth to waste. In the case of washing, "discharge," "flow" or "run to waste" means that water in excess of that necessary to wash, wet or clean the dirty or dusty object, such as an automobile, sidewalk, or parking area, flows to waste.
- B. Allowing water fixtures (including, but not limited to, toilets, faucets, shower heads) or heating or cooling devices to leak or run to waste.
- C. Maintaining ponds, waterways, decorative basins or swimming pools without water recirculation devices.
- D. Backwashing so as to discharge to waste swimming pools, decorative basins or ponds in excess of the frequency necessary to ensure the healthful condition of the water or in excess of that required by standards for professionally administered maintenance or to address structural considerations, as determined by the city manager, or designee.
- E. Operation of an irrigation system that applies water to an impervious surface or that is in disrepair.
- F. Use of a water hose not equipped with a control nozzle capable of completely shutting off the flow of water except when positive pressure is applied.
- G. Irrigation of landscaping during rainfall or 48 hours after a measurable rain event.
- H. Overfilling of any pond, pool or fountain which results in water discharging to waste.

13.08.030.2 Definition of Water Shortage Contingency Plan.

- A. The City is required to prepare a Water Shortage Contingency Plan (WSCP) pursuant to CWC § 10632 et seq. that includes the following prescriptive elements:



1. Key attributes of its Water Supply Reliability Analysis;
2. Six standard water shortage levels corresponding to progressive ranges of up to 10-, 20-, 30-, 40-, and 50-percent shortages and greater than 50-percent shortage;
3. Locally appropriate "shortage response actions" for each shortage level, with a corresponding estimate of the extent the action will address the gap between supplies and demands;
4. Procedures for conducting an annual water supply and demand assessment with prescribed elements; following adoption of the UWMP 2020, the City is required to submit, by July 1st of each year an annual water shortage assessment report to DWR;
5. Communication protocols and procedures to inform customers, the public and government entities of any current or predicted water shortages and associated response actions;
6. Monitoring and reporting procedures to assure appropriate data is collected to monitor customer compliance and to respond to any state reporting requirements;
7. A reevaluation and improvement process to assess the functionality of its WSCP and to make appropriate adjustments as may be warranted.

LMC 13.08.120 Mandatory Requirements in Promotion of Water Conservation

A. Water shall be used for beneficial purposes only; all unnecessary and wasteful uses (as defined in Section 13.08.030.1) of water are prohibited.

~~A. To prevent the waste and unreasonable use of water and to promote water conservation, each of the following actions is prohibited, except where necessary to address an immediate health and safety need or to comply with a term or condition in a permit issued by a state or federal agency:~~

- ~~1. The application of potable water to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures;~~
- ~~2. The use of a hose that dispenses potable water to wash a motor vehicle, except where the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use;~~
- ~~3. The application of potable water to driveways and sidewalks;~~
- ~~4. The use of potable water in a fountain or other decorative water feature, except where the water is part of a recirculating system;~~
- ~~5. The application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall;~~

- ~~6. The serving of drinking water other than upon request in eating or drinking establishments, including but not limited to restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served and/or purchased;~~
- ~~7. The irrigation with potable water of ornamental turf on public street medians;~~
- B. ~~To promote water conservation, operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each guestroom using clear and easily understood language.~~
- C. ~~To prevent waste of water, all controllable leaks must be repaired on premises.~~
- B. Water shall be confined to the user's property and shall not be allowed to run off to adjoining properties, or to the roadside or to the gutter. Care shall be taken not to water past the point of saturation.
- C. Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached on any hose or filling apparatus in use.
- D. All leaks (including irrigation systems, pipes, fixtures, pools, ponds, fountains and waterways) shall be repaired within five calendar days or less if warranted by the severity of the problem as determined in the discretion of the city manager, or designee.
- E. All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be 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 program requirements, including, but not limited to, the urban stormwater quality management and discharge control ordinance set forth in Chapter 13.28 of Title 13 of the City of Lathrop Municipal Code.
- F. Landscaping.
- All landscaping installed in the City of Lathrop shall comply with the current Model Water Efficient Landscape Ordinance established by the State Department of Water Resources and landscape requirements adopted by resolution of the city council.
  - Irrigation of new landscaping shall be allowed on any day of the week for a period of 30 days after the new landscaping is planted, unless the city manager, or designee, provides prior written consent to extend this time period based on plant type and the season when the new landscaping is planted. After the 30 days, irrigation days and run times should be decreased to settings appropriate for an established landscape.

3. Upon city declaration of a water shortage, the city manager may impose revised and/or additional limitations on the irrigation of new landscaping, as specified in the City's WSCP set forth in Section 13.08.130, and no person shall use, or cause to be used, city water in violation of such limitations while the water shortage remains in effect. A waiver may be granted to irrigate during an established period for actively used turf areas and/or sports fields. Allowance shall also be made for irrigation testing and repairs.
- G. All site reviews shall include an evaluation of using recycled water. Recycled water shall be required if economically feasible.

#### LMC 13.08.130 Enactment of emergency water conditions.

Enactment of this chapter shall cause the immediate implementation of Mandatory Requirements as set forth in Section 13.08.120 and the City's Water Shortage Contingency Plan (WSCP). The WSCP includes six standard water shortage levels corresponding to 10-, 20-, 30-, 40-, and 50-percent shortages and greater than 50-percent shortage, and provides shortage response actions for each shortage level intended to address the gap between supplies and demands. Stages I through IV are established to achieve subsequent reductions in potable water consumption of ten percent (10%), twenty percent (20%), thirty percent (30%), and fifty percent (50%) and more as deemed necessary due to drought conditions or other prolonged water emergencies. Stage Shortage level changes shall be implemented by resolution following a duly noticed public hearing, and shall be based upon the procedures as set forth in Sections 13.08.140 and 13.08.150. Affected customers shall be notified of stage shortage level changes and the corresponding shortage response actions either by notice on the utility bill, or by actual written notification.

#### LMC 13.08.140 Drought declaration.

The city council shall declare a drought and may direct the public works director to implement all provisions of Sections 13.08.160 through 13.08.290 by resolution action when one or more of the following conditions exist:

- A. A water shortage of greater than 10% is determined to exist based on the City's Annual Demand and Supply Assessment that may be attributed to drought conditions. The ground water basin reaches ten (10) feet below normal pumping levels.
- B. A drought is declared by the Governor of California covering the water sources used by the city, and subsequent reductions of water supplied to the city will occur or are likely to occur.
- C. ~~Any unusual situation or circumstance which affects the quantity or quality of the water supply.~~

LMC 13.08.150 Water emergency declaration.

The city council shall declare a water emergency and may direct the public works director to implement appropriate water conservation and/or rationing requirements consistent with this chapter when one or more of the following conditions exist:

- A. A water shortage of greater than 10% is determined to exist based on the City's Annual Demand and Supply Assessment attributed to factors other than drought conditions.
- A.B. A decrease in the ability to draw ground water due to well contamination, well failure or other equipment or system failure, and no alternative source of water is available;
- B.C. Contamination of the water system;
- C.D. Natural disasters affecting water deliveries;
- D.E. During times of floods which would affect water quality;
- E.F. Sabotage or threats of sabotage against the water system;
- F.G. Any unusual situation or circumstance which affects the quantity or quality of the water supply.

LMC 13.08.170 Amendments to water conservation and rationing plan.

The provisions of this chapter relating to the water conservation and rationing plan and the City's Water Shortage Contingency Plan may be amended as deemed necessary by the city council.

~~LMC 13.08.180 Stage I—10% Reduction Goal.~~

~~Stage I shall have a ten percent (10%) city-wide reduction goal. All provisions of Mandatory Requirements as set forth in Section 13.08.120 shall apply with the following additions and exceptions:~~

- ~~A. Irrigating outdoor landscapes or turf is limited to no more than three (3) days per week following schedules established by resolution of city council.~~
- ~~B. Irrigating outdoor landscape or turf is only permitted after seven p.m. in the evening and before ten a.m. in the morning;~~
- ~~C. The water of landscapes at times and on days other than those specified by city council in this section or during high winds that cause water to blow away from the landscapes being watered is prohibited.~~
- ~~D. Irrigation with potable water outside of newly constructed homes and buildings that is not delivered by drip or microspray systems is prohibited.~~
- ~~E. The use of potable water for street washing is prohibited.~~
- ~~F. All leaks must be repaired within 24 hours.~~

~~G. Restaurants shall post at every table and in restrooms notice of drought conditions and water restrictions.~~

~~H. No person, firm or corporation may drill, dig or install a water well within the city service area or the city for any purpose without the consent of the city.~~

~~LMC 13.08.190 Stage II—20% Reduction Goal.~~

~~Stage II shall have a twenty percent (20%) city-wide reduction goal. All provisions of Stage I shall apply with the following additions and exceptions:~~

~~A. All schools, institutions, and dedicated irrigation customers, which do not already have one on file, shall be required to submit a copy of a water conservation plan and landscape watering schedule that meets a water reduction of twenty percent (20%) from use prior to drought declaration within thirty (30) days of the beginning of mandatory restrictions.~~

~~B. Use of potable water for dust control or construction is prohibited.~~

~~C. Irrigating outdoor landscapes or turf is limited to no more than two (2) days per week following schedules established by resolution of city council.~~

~~D. All pools must be covered when not in use.~~

~~-~~

~~LMC 13.08.200 Stage III—30% Reduction Goal.~~

~~Stage III shall have a thirty percent (30%) city-wide reduction goal. All provisions of Stage II shall apply with the following additions and exceptions:~~

~~A. The filling of a pool, hot tub, or jacuzzi, except in cases where necessary repairs must be made, is prohibited. Exceptions: public pools, hot tubs, or jacuzzis or privately owned pools, hot tubs, or jacuzzis which are open to the general public for recreational purposes. However, the owner and/or manager of the pool, hot tub, or jacuzzi must provide notice to the public works director of such filling before it occurs. Water used in excess of the allotted usage will be subject to payment under the excess use rate schedule; however, no additional surcharges or fines will be assessed.~~

~~B. Car washing shall be allowed only with the use of a bucket at facilities using recycled or recirculating water.~~

~~C. Automobile and recreational vehicle dealerships shall be allowed to continue washing vehicles with a hose and a hand-held trigger nozzle under the following conditions:~~

~~1. Automobiles and recreational vehicles may be washed only on Fridays using the method outlined above.~~

~~2. An automobile, motorcycle, boat or motor home may be washed the day before or the day of delivery to the purchaser.~~

~~D. No restrictions shall be made to existing laundromats.~~

~~E. No restrictions shall be made to car washes employing the use of water recycling equipment.~~

~~F. The owner and manager of every facility with a restroom on the premises open to the public shall post in every such public restroom a placard or decal with notice of drought condition information in a form approved by the public works director or designee.~~

~~G. Irrigating outdoor landscapes or turf is limited to no more than one (1) day per week following schedules established by resolution of city council.~~

~~LMC 13.08.210 Stage IV—50% Reduction Goal.~~

~~Stage IV shall have a fifty percent (50%) city-wide reduction goal. All provisions of Stage III shall apply with the following additions and exceptions:~~

~~A. Residential per capita consumption shall not exceed 50 gallons per capita per day. Excess water use will be subject to payment under the excess use rate schedule.~~

~~B. Use of potable water for irrigation is prohibited for all customers.~~

~~LMC 13.08.220~~180 Temporary rate increases.

When drought conditions or water emergency conditions prevail for more than two months, it may become necessary to implement a temporary rate increase to cover lost revenues due to water consumption reductions. Rates shall be increased as recommended by the public works director and at the council's discretion when it is determined that revenues are inadequate to maintain the water enterprise. Such increase will be accomplished by resolution action.

~~LMC 13.08.230~~190 Excess water use surcharge.

- A. Water use in excess of the maximum ration allowed in any billing period during ~~Stage IV~~ water rationing under this chapter or the WSCP will cause the automatic imposition of a use fee/surcharge to the customer.
- B. The water user shall be given written notice of any water use in excess of that user's water ration, and notice of an excess water use surcharge shall be collected as a fee on the user's utility bill in the event the water user again exceeds that user's water ration during the next billing cycle.
- C. If the water user again exceeds that user's water ration during the following billing period, the excess use fee shall be imposed as a surcharge upon all water use in excess of that user's water ration, dating back to the original billing period for which notice of excess use had been given and extending forward until the water user consumes no more than allowed under the ~~Stage IV~~ water rationing standard.
- D. Excess water use surcharges shall be calculated as a fee for water use, and shall be calculated as follows:

Excess Water Use	Surcharge
1 - 5 units over base	\$12.50/unit
6 - 10 units over base	\$15.00/unit
11 - 15 units over base	\$17.50/unit
16 - 25 units over base	\$30.00/unit
26 - 50 units over base	\$42.50/unit
More than 50 units over base	\$100.00/unit

- E. The fee shall apply to all water use in excess of the maximum ration applicable to that user. The public works director and designee, following the notification requirement set forth above, shall cause this surcharge to be collected directly from any water user if that user exceeds the monthly ~~Stage IV~~ water ration. Any water user may seek to have the excess water use surcharge waived or forgiven through the rationing variance process set forth in Section ~~13.08.240200~~ 13.08.240200 upon substantial evidence of the following:
1. The excess water use was beyond the user's control, and was not reasonably correctable due to special and unique circumstances.
  2. An incident or condition occurred where public health or safety would have been threatened by decreased water usage.

LMC ~~13.08.240200~~ 13.08.240200 Variances on usage restrictions or usage allotments.

- A. The public works director or designee shall document the number of full time residents for each residential water use, but shall presume each residence has only one occupant for those residences who fail to respond to any reasonable inquiry. The public works director or designee shall also document the type and character of any commercial, industrial or public authority requesting a variance in the assigned water allotment in ~~Stage IV~~ of this subchapter. The public works director or designee shall maintain a separate file of each rationing variance request, and the response to that request. This file shall be available for public inspection during regular business hours.
- B. The public works director or designee may grant variances for uses of water otherwise prohibited or adjust any consumer's usage allotment if the public works director or designee finds and determines that to fail to do so would cause an emergency condition affecting health, sanitation or fire protection of the applicant or public.

LMC ~~13.08.250210~~ 13.08.250210 Appeals.

Any water service customer who considers an action taken by the public works director under the provisions of this chapter to have been erroneously taken may appeal such action and decision to the city council in the following manner:

- A. All appeals shall be filed in writing with the ~~secretary of the city~~ clerk and shall state the nature of the appeal or request and the basis upon which the decision of the public works director is considered to be in error.
- B. Such appeals, to be effective, must be received by the ~~secretary of the city~~ clerk not later than ten (10) business days following the date that the public works director has given notice of such action from which the appeal is being taken and be accompanied by a fee of fifty dollars (\$50.00). The fee of fifty dollars (\$50.00) will be refunded if the appeal is granted.
- C. The city clerk shall schedule the appeal for consideration by the city council at the earliest next regularly scheduled council meeting.
- D. The decision of the city council on the appeals shall be final.
- E. A successful appeal by an applicant shall include reimbursement, if any, of an excess use fee by the city in a timely fashion.

LMC 13.08.~~260~~220 Temporary water service.

Notwithstanding any other provisions of this chapter, no restriction or prohibition is imposed upon applications, approvals or installations of water service facilities solely for temporary service to those construction works which are entitled to permanent water service facilities under the terms of this chapter.

LMC 13.08.~~270~~230 Repair of plumbing, sprinkler and watering systems.

No owner or manager or other person responsible for the day-to-day operation of any premises shall fail to initiate steps to repair any leaking, broken or defective water pipes, faucets, plumbing fixtures, other water service appliances, sprinklers, watering or watering systems within five working days after the owner, or manager or other responsible person knew or should have known of such leaks, breaks or defects.

LMC 13.08.~~280~~240 Use of fresh water for construction uses prohibited.

The use of fresh water for dust control or for construction purposes shall be prohibited during a declared drought or water emergency.

LMC 13.08.~~290~~250 Additional rules and regulations.

Additional rules and regulations concerning the operation of the municipal water system and water conservation and rationing plan may be established by the council from time to time.



LMC 13.08.300260 Violation—Penalty.

Citations may be issued for the following violations of the provisions of Section 13.08.120 and ~~Sections 13.08.190 through 13.08.210~~ the City's WSCP set forth in Section 13.08.130, and the corresponding fees and charges will be added to the utility bills of customers who are observed by enforcement personnel listed under Section 13.08.050 in violation of such. Refusal to pay fines as assessed shall result in the termination of service to the customer and/or the placement of a lien against the property. Fines shall be imposed as follows:

- A. Any wasteful water usage during, and as defined in this chapter or the WSCP Stages II, III or IV, shall carry fines as listed below:
1. Fifty dollars (\$50.00) upon the second notification of such offense;
  2. Seventy-five dollars (\$75.00) upon the third notification of such offense;
  3. One hundred dollars (\$100.00) upon the fourth notification of such offense, and a fourth notification shall also result in the installation of a flow restrictor by the city staff at the customer's expense, which shall remain in place for the remainder of the drought or water emergency.

Failure to pay assessed fines will result in termination of service until such time as payment in full is collected from the customer.

**Severability.** If any provision of this Ordinance or the application thereof to any person or circumstance is held invalid, the remainder of the Ordinance, including the application of such part or provision to other persons or circumstances shall not be affected thereby and shall continue in full force and effect. To this end, provisions of this Ordinance are severable. The City Council hereby declares that it would have passed each section, subsection, subdivision, paragraph, sentence, clause, or phrase hereof irrespective of the fact that any one or more sections, subsections, subdivisions, paragraphs, sentences, clauses, or phrases be held unconstitutional, invalid, or unenforceable.

The Mayor shall sign this Ordinance and the City Clerk shall cause the same to be published within fifteen (15) days after its passage at least once in a newspaper of general circulation published and circulated in the City.

The foregoing Ordinance was introduced the 14<sup>th</sup> day of June and adopted this day of 2021 by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

---

Sonny Dhaliwal, Mayor

**ATTEST:**

**APPROVED AS TO FORM:**

---

Teresa Vargas, City Clerk



---

Salvador Navarrete, City Attorney



## APPENDIX J

### RESOLUTION 21-4909 ON UWMP AND WSCP 2020 UPDATE

**RESOLUTION NO. 21-4909**

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LATHROP CERTIFYING AND ADOPTING THE CITY OF LATHROP URBAN WATER MANAGEMENT PLAN 2020 AND WATER SHORTAGE CONTINGENCY PLAN**

**WHEREAS**, the State of California Urban Water Management Planning Act requires all urban water suppliers serving over 3,000 connections or over 3,000 acre-feet of water annually to prepare an Urban Water Management Plan (UWMP) every five years and submit the report to the Department of Water Resources (DWR); and

**WHEREAS**, the City's Water Shortage Contingency Plan (WSCP) also needs to be updated and adopted as a stand-alone document and included with the UWMP 2020 due to changes in regulatory requirements; and

**WHEREAS**, the draft UWMP 2020 and WSCP has been posted on the City's website and a copy of the document and notifications have been sent to stakeholders advising that the documents are available to review; and

**WHEREAS**, public notification soliciting public review and comment, and a public hearing on the UWMP 2020 and WSCP has been done in accordance with the requirements of Government Code 6066.

**NOW, THEREFORE, BE IT RESOLVED**, that the City Council of the City of Lathrop hereby certifies and adopts the City of Lathrop UWMP 2020 in accordance with the Urban Water Management Planning Act, and authorizes Staff to submit a copy of the report to the Department of Water Resources; and

**BE IT FURTHER RESOLVED**, that the City Council of the City of Lathrop hereby certifies and adopts the City of Lathrop Water Shortage Contingency Plan as a stand-alone document, and authorizes Staff to include it with the UWMP 2020 submittal to the Department of Water Resources.

I CERTIFY THIS IS A TRUE COPY OF  
THE ORIGINAL WHICH IS IN THE  
OFFICIAL FILE OF THE CITY OF  
LATHROP. 2 NO. OF PAGES

  
TERESA VARGAS, CITY CLERK

The foregoing resolution was passed and adopted this 14<sup>th</sup> day of June 2021, by the following vote of the City Council, to wit:

AYES: Akinjo, Diallo, Lazard, Torres-O'Callaghan, and Dhaliwal  
NOES: None  
ABSENT: None  
ABSTAIN: None



\_\_\_\_\_  
Sonny Dhaliwal, Mayor

**ATTEST:**



\_\_\_\_\_  
Teresa Vargas, City Clerk

**APPROVED AS TO FORM:**



\_\_\_\_\_  
Salvador Navarrete, City Attorney



---

2001 Junipero Serra Blvd., Suite 300 | Daly City, CA 94014  
(650) 292-9100 | Fax (650) 552-9012 | [Ekiconsult.com](http://Ekiconsult.com)