City of Lindsay

# Urban Water Management Plan 2020 Plan

**October 2023**

**Adopted: [Date]**

## Report Prepared for:

**City of Lindsay**

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# Abbreviations

AB ..... California State Assembly Bill
AF ..... acre-feet
AFY ..... acre-feet per year
AWWA ..... American Water Works Association
CIMIS ..... California Irrigation Management Information System
Cr6 ..... Hexavalent Chromium/chromium-6
CVP ..... Central Valley Project
CWC ..... California Water Code

DBCP ..... 1,2-dibromo-3-chloropropane
DBP ..... Disinfection byproducts
DDW ..... Division of Drinking Water
DMM ..... Demand Management Measures
DOF ..... Department of Finance
DRA ..... Drought Risk Assessment
DWR ..... California Department of Water Resources
eAR ..... electronic Annual Report, as submitted to SWRCB
EKGSA ..... East Kaweah Groundwater Sustainability Agency
EKGSP ..... East Kaweah Groundwater Sustainability Plan
ENSO ..... El Niño Southern Oscillation
ETo ..... evapotranspiration
GSA ..... Groundwater Sustainability Agency
gpcd ..... gallons per capita per day
gpd ..... gallons per day
gpm ..... gallons per minute
GSP ..... Groundwater Sustainability Plan
HAA5 ..... Haloacetic acids
HE ..... High Efficiency
ILRP ..... Irrigated Lands Regulatory Program
kWh ..... kilowatt hours
MCL ..... Maximum Contaminant Level
mgd ..... million gallons per day
mg/L ..... milligrams per liter
µg/L ..... micrograms per liter
MJLHMP ..... Tulare County Multi-Jurisdictional Hazard Mitigation Plan
MWELO ..... Model Water Efficient Landscape Ordinance
PCATE ..... polychlorinated terphenyl
PHG ..... Public Health Goal
ppb ..... parts per billion
Provost & Pritchard ..... Provost & Pritchard Consulting Group
RUWMP ..... Regional Urban Water Management Plan
SB ..... California State Senate Bill

SBx7-7 ..... California Senate Bill- Water Conservation Act of 2009
SGMA ..... Sustainable Groundwater Management Act of 2014
SWTP ..... surface water treatment plant
SWRCB ..... State Water Resources Control Board
TCP ..... 1,2,3 Trichloropropane
TDS ..... Total Dissolved Solids
TTHM ..... total trihalomethanes
USBR ..... United States Bureau of Reclamation
UWMP ..... Urban Water Management Plan
UWMP Guidebook ..... 2020 Urban Water Management Plan Guidebook for Urban Water Suppliers
UWMPA ..... Urban Water Management Plan Act
WFS ..... Water Feasibility Study
WSCP ..... Water Shortage Contingency Plan
WUE ..... Water Use Efficiency
WWTF ..... Wastewater Treatment Facility
WWTP ..... Wastewater Treatment Plant

# Lay Description

Legal Requirements:

***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.*

The City of Lindsay (City) has prepared this 2020 Urban Water Management Plan (UWMP), encompassing its entire service area. The UWMP discusses the water system, supplies, demands, and compliance with legislation. The UWMP spans the years 2020 through 2040 and serves as the first UWMP adopted by the City since it became an urban water user in 2017.

The City's service area covers all users within the City limits as well as four unincorporated communities outside the City limits that receive City water service, known locally as Page-Moore Tract, the Sierra Shadows Mobile Home Park, El Rancho, and an area west of the City near the intersection of Road 188 and Avenue 242 ("Avenue 240 and 242 Connection"). The combined service area had an estimated population of 13,901 in 2020 with a projection to 16,067 individuals by 2040 (assumed 0.8 percent annual growth rate for the City and no growth for the unincorporated communities).

The City provides water supplies to the customer base through two groundwater wells and surface water, when available. In recent years, drought and environmental needs have frequently prevented the City from receiving its contracted amount of surface water from the United States Bureau of Reclamation's (USBR) Central Valley Project (CVP).

In 2009, the State of California set a goal for all cities to reduce their water use by 20 percent and to achieve this goal by the year 2020. To reach this goal and comply with the corresponding legislation, the City needed to limit water use to 151 gallons per capita per day (gpcd). In 2020, the City met this goal with a water use of 150 gpcd, and will continue water conservation programs into the future.

The City has prepared water conservation actions that can be implemented in the event of drought or other water supply issues. However, given the variability of recent surface water supplies and a growing population, the City needs additional groundwater wells to meet its demand needs over the next 20 years. Current measures to address water shortages are documented in the Water Shortage Contingency Plan, which is included in this document as an appendix, but is a separate plan from the UWMP.

# Executive Summary

The California Water Code (CWC) requires urban water suppliers within the state to prepare and adopt UWMPs for submission to the California Department of Water Resources (DWR). The UWMPs, which must be filed every five years, must satisfy the requirements of the Urban Water Management Planning Act (UWMPA) of 1983, including amendments that have been made to the Act, and other applicable regulations. The UWMPA requires urban water suppliers servicing 3,000 or more connections, or supplying more than 3,000 acre-feet (AF) of water annually, to prepare an UWMP.

The purpose of the UWMP is to maintain efficient use of urban water supplies, continue to promote conservation programs and policies, ensure sufficient water supplies are available for future beneficial use, and provide a mechanism for response during water drought conditions. This report, prepared in compliance with the CWC as set forth in the 2020 Urban Water Management Plan Guidebook for Urban Water Suppliers established by DWR (DWR, 2021), constitutes the City's 2020 UWMP.

The UWMP is organized into ten sections, including: Section 1 – Introduction; Section 2 – Plan Preparation; Section 3 – System Description; Section 4 – System Demands; Section 5 – SBx7-7 Baselines, Targets, and Compliance; Section 6 – System Supplies; Section 7 – Water Supply Reliability; Section 8 – Water Shortage Contingency Planning; Section 9 – Demand Management Measures; and Section 10 – Plan Adoption, Submittal, and Implementation.

## System Description

The City is the only municipal water purveyor within City limits and in 2020 provided service to over 3,000 connections. The City became an urban water user in 2017, when it passed the 3,000 connections threshold, as seen in **Table ES-1**. The graphic in **Figure ES-1** shows the anticipated growth within the service area, including a 0.8% growth rate for the City.

The existing land uses within the city limits include 762 acres of residential, 147 acres of commercial and office space, 266 acres of industrial and mixed use, 204 acres of Open Space and Resource Conservation, and 217 acres of right-of-way land use (roads).

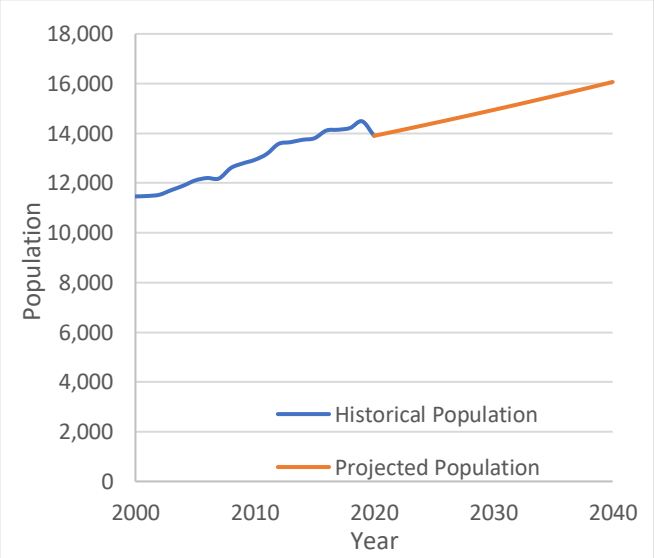



**Figure ES-1: Historical and Projected Population**

**Table ES-1: Historical Water Production**

| Year | Total Connections | Total Annual Water Production (AF) | Total Annual Water Production (MG) | Population[1] | Per Capita Consumption (gpcd) |
|---|---|---|---|---|---|
| 2000 | -- | 2,270 | 740 | 11,463 | 177 |
| 2001 | -- | 2,196 | 715 | 11,481 | 171 |
| 2002 | -- | 2,385 | 777 | 11,530 | 185 |
| 2003 | -- | 2,702 | 880 | 11,715 | 206 |
| 2004 | -- | 2,490 | 811 | 11,894 | 187 |
| 2005 | -- | 2,746 | 895 | 12,106 | 203 |
| 2006 | -- | 2,581 | 841 | 12,203 | 189 |
| 2007 | -- | 2,442 | 796 | 12,185 | 179 |
| 2008 | -- | 2,717 | 885 | 12,608 | 192 |
| 2009 | -- | 2,883 | 939 | 12,792 | 201 |
| 2010 | 2,679 | 2,825 | 920 | 12,934 | 195 |
| 2011 | 2,733 | 2,629 | 857 | 13,170 | 178 |
| 2012 | 2,542 | 2,481 | 808 | 13,577 | 163 |
| 2013 | 2,542 | 2,889 | 941 | 13,645 | 189 |
| 2014 | 2,902 | 2,511 | 818 | 13,742 | 163 |
| 2015 | 2,914 | 2,242 | 730 | 13,803 | 145 |
| 2016 | 2,959 | 2,434 | 793 | 14,113 | 154 |
| 2017 | 3,021 | 2,473 | 806 | 14,146 | 156 |
| 2018 | 3,040 | 2,468 | 804 | 14,217 | 155 |
| 2019 | 3,090 | 2,428 | 791 | 14,485 | 150 |
| 2020 | 3,090 | 2,329 | 759 | 13,901 | 150 |

[1]Service Area Population (Department of Finance Population Estimates & 2020 Census Data; additional connections within the service area are included).

## System Demands

The City's water supply can be divided into six customer classes, including single-family, multi-family, commercial/institutional, industrial, landscape, and other. Particularly in the last decade, a decreasing trend in per capita demand has been observed as seen in **Table ES-1**. The City's per capita demand is substantially lower than the regional average for the Tulare Lake Region. Data from the State Water Resources Control Board indicate the average per capita use for the Tulare Lake Region was 199, 207, and 207 gpcd for the years 2019, 2020, and 2021, respectively; this yields an average of 205 gpcd for that time period. The total demands for 2020 and the projected demands for the next twenty years can be seen in **Table ES-2**.

**Table ES-2: Current and Projected Water Use**

| Use Type | Current Water Use | Projected Water Use (AF)[1] | | | |
|---|---|---|---|---|---|
| | 2020 | 2025 | 2030 | 2035 | 2040 |
| Single-Family | 2,148 | 2,167 | 2,161 | 2,240 | 2,323 |
| Multifamily | 43 | 43 | 43 | 45 | 46 |
| Commercial/Institutional | 13 | 13 | 14 | 14 | 15 |
| Industrial | 4 | 5 | 5 | 5 | 5 |
| Landscape | 14 | 14 | 15 | 15 | 16 |
| Other | 9 | 9 | 10 | 10 | 11 |
| Losses[2] | 99 | 103 | 107 | 111 | 115 |
| **Total** | **2,329** | **2,355** | **2,354** | **2,441** | **2,532** |

[1]Projected water use is based on the 2020 Water Use Target, as discussed below, and using the population projections discussed in Section 3.

[2]Water loss includes non-metered connections and is estimated as the other categories, based on 2020 usage percentages.

The projected water use is based on the 2020 Water Use target (151 gpcd) for all non-residential uses and an incrementally reduced residential target until it reaches 42 gpcd in 2030. This reduced residential target reflects the anticipated indoor residential water use standards discussed in Assembly Bill 1668, Senate Bill 606, and Senate Bill 1157.

## SB X7-7 Compliance

The City's 2020 per capita water use goal was calculated to be 151 gpcd. With a water use of 150 gpcd, the City has met the target and achieved compliance with SBx7-7.

## System Supplies

The City's groundwater supplies are extracted from the Kaweah Subbasin, an unadjudicated basin underlying the area with no current legal limitations on groundwater pumping. The City is a participant in the East Kaweah Groundwater Sustainability Agency (EKGSA) and a party to the East Kaweah Groundwater Sustainability Plan (EKGSP) (EKGSA, 2023). The EKGSA is working cooperatively with the other GSAs in the Kaweah Subbasin to manage the groundwater aquifer and reach sustainability by 2040. As part of those efforts, the agencies have agreed to manage groundwater extraction in a way that does not cause undesirable results.

Historically, the City's water supply has been both from groundwater and surface water. However, because of the unreliability of surface water supplies in recent years, the City is moving toward greater groundwater reliance.

# Water Supply Reliability

A comparison of the City's supplies and projected demands is used to evaluate the water supply reliability. The supply shown in the following tables is based on both groundwater and surface water supplies.

The City's groundwater supply has historically been very consistent, due in large part to the reliability of the groundwater aquifer, and it is anticipated this will continue into the future. As the Sustainable Groundwater Management Act of 2014 (SGMA) is further implemented, it is possible that there will be further restrictions on groundwater pumping especially in critically dry and multiple dry years. The groundwater supplies shown are limited by the working capacity of the existing wells and does not represent the total supply available in the aquifer. The surface water available to the City is CVP Class I, but because of drought in recent years, has not been very reliable. Over the last 10 years, the average delivery of Class I supplies was 67% of the allocation.

The single normal year scenario (**Table ES-3**) illustrates that when the City receives a 67% surface water allocation, its groundwater supply is able to adequately meet the projected population's demand.

**Table ES-3: Normal Year Supply and Demand Comparison**

| Condition | 2025 | 2030 | 2035 | 2040 |
|---|---|---|---|---|
| Supply Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| Demand Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| **Difference** | **0** | **0** | **0** | **0** |

Units: AF

The single dry year scenario (**Table ES-4**) illustrates that when the City receives a 0% surface water allocation, it is unable to meet the projected population's demand. However, the City already has plans, with anticipated completion by 2030, to augment groundwater supply.

**Table ES-4: Single-Dry Year Supply and Demand Comparison (DWR Submittal Table 7-3)**

| Condition | 2025 | 2030 | 2035 | 2040 |
|---|---|---|---|---|
| Supply Totals | 2,129 | 2,354 | 2,441 | 2,532 |
| Demand Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| **Difference** | **(226)** | **0** | **0** | **0** |

Units: AF

It is anticipated that State-wide conservation mandates could be required during a prolonged drought; however, the magnitude of those mandates is unknown. It is expected that supplies will be available from the aquifer to meet the demands, especially if demands are reduced based on mandated conservation requirements. The multiple dry year scenario (**Table ES-5**) illustrates that when the City experiences a dry period like that experienced during the 2012-2016 drought, its supply is unable to meet the projected population's demand in some of those years. Specifically, the City is unable to meet its projected demand in years when no surface water is available.

**Table ES-5: Multiple-Dry Year Supply and Demand Comparison (DWR Submittal Table 7-4)**

| Condition | | 2025 | 2030 | 2035 | 2040 |
|---|---|---|---|---|---|
| First Year | Supply Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| | Demand Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| | **Difference** | **0** | **0** | **0** | **0** |
| Second Year | Supply Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| | Demand Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| | **Difference** | **0** | **0** | **0** | **0** |
| Third Year | Supply Totals | 2,129 | 2,354 | 2,441 | 2,532 |
| | Demand Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| | **Difference** | **(226)** | **0** | **0** | **0** |
| Fourth Year | Supply Totals | 2,129 | 2,354 | 2,441 | 2,532 |
| | Demand Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| | **Difference** | **(226)** | **0** | **0** | **0** |
| Fifth Year | Supply Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| | Demand Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| | **Difference** | **0** | **0** | **0** | **0** |

Units: AF

As the final portion of Section 7, the City prepared a Drought Risk Assessment, evaluating the preparedness of the City to contend with a drought immediately within the next five years (**Table ES-6**). Using the 2012-2016 drought as a model, the supplies were assumed to be reduced and conservation measures implemented to meet the reduction in usable supplies.

**Table ES-6: Five-Year Drought Risk Assessment**

| Year | Without WSCP Actions | | | Planned WSCP Actions | | | |
|---|---|---|---|---|---|---|---|
| | Total Water Use | Total Supplies | Surplus/Shortfall w/o WSCP Action | Supply augmentation benefit | Use reduction savings benefit | Revised Surplus/ (shortfall) | Resulting % Use Reduction from WSCP action |
| 2021 | 2,334 | 2,334 | 0 | 0 | 0 | 0 | 0% |
| 2022 | 2,340 | 2,340 | 0 | 0 | 0 | 0 | 0% |
| 2023 | 2,345 | 2,129 | (216) | 0 | 422 | 206 | 18% |
| 2024 | 2,350 | 2,129 | (221) | 0 | 423 | 202 | 18% |
| 2025 | 2,355 | 2,500 | 145 | 0 | 0 | 145 | 0% |

Units: AF

## Demand Management Measures

The final substantive component of the UWMP addresses the City's efforts to implement Demand Management Measures (DMM), including water waste prevention, water metering program implementation, conservation pricing, public education, system losses assessment and management, and other measures. The City has implemented recommended DMMs and continues to monitor their effectiveness. Implementation of the DMMs helps the City respond to water conservation needs.

# 1 Introduction

## 1.1 Background and Purpose

The CWC requires urban water suppliers within the state to prepare and adopt UWMPs for submission to DWR. The UWMPs, which must be filed every five years, must satisfy the requirements of the UWMPA of 1983 including amendments that have been made to the Act and other applicable regulations. The UWMPA requires urban water suppliers servicing 3,000 or more connections or supplying more than 3,000 AF of water annually, to prepare an UWMP.

The purpose of the UWMP is to maintain efficient use of urban water supplies, continue to promote conservation programs and policies, ensure that sufficient water supplies are available for future beneficial use, and provide a mechanism for response during water drought conditions. This report, which was prepared in compliance with the CWC, and as set forth in the 2020 Urban Water Management Plan Guidebook for Urban Water Suppliers (UWMP Guidebook) established by the DWR (DWR, 2021), constitutes the City's 2020 UWMP.

This 2020 UWMP was prepared in compliance with the UWMPA and SBx7-7 by Provost & Pritchard Consulting Group (Provost & Pritchard) and the City. Contact information for the City and Provost & Pritchard is included at the beginning of this document.

## 1.2 UWMPs in Relation to Other Efforts

The City became an urban water user in 2017 when it provided water to more than 3,000 connections for the first time. The City became aware of the need for the UWMP while updating its Water Feasibility Study (WFS) in 2022 and contracted immediately for its preparation. Thus, this document draws upon the City's WFS, and has been developed in coordination with local planning and water agencies. Because of the timeline of development of this UWMP, there are some sections in the UWMP which refer to 2021 or 2022 instead of 2020 data, as it constituted the best information available to the City at the time of writing this Plan. When 2021 or 2022 data is used or referenced, it is stated explicitly. This is the City's first UWMP. It was approved and adopted by the City Council on [Date]. Following adoption, the 2020 UWMP was submitted to DWR.

This 2020 UWMP complies with 2020 UWMP requirements and regulations. It provides data for the calendar year 2020 and projects through 2040, unless otherwise specified.

## 1.3 Urban Water Management Planning and the CWC

This section summarizes the CWC sections that are applicable to UWMPs.

### 1.3.1 Urban Water Management Planning Act of 1983

In 1983, State Assembly Bill (AB) 797 modified the California Water Code Division 6, by creating the UWMPA. Several amendments to the original UWMPA, which were introduced since 1983, have increased the data requirements and planning elements to be included in UWMPs.

Initial amendments to the UWMPA required that total projected water use be compared to water supply sources over the next 20 years, in 5-year increments. Recent DWR guidelines also suggest projecting through a 25-year planning horizon to maintain a 20-year timeframe until the next UWMP update has been completed. This is merely a guideline and not a requirement of the UWMPA. Therefore, the use of a 25-year planning horizon as opposed to a 20-year planning horizon is left up to the discretion of the agency. The City has opted to use a 20-year planning horizon for the purposes of this UWMP.

Other amendments require that UWMPs include provisions for recycled water use, demand management measures, and a water shortage contingency plan. The UWMPA requires inclusion of a water shortage contingency plan, which meets the specifications set forth therein. Recycled water was added into the reporting requirements for water usage and figures prominently in the requirements for evaluation of alternative water supplies when future projections predict the need for additional water supplies. Each urban water purveyor must coordinate the preparation of the water shortage contingency plan with other urban water purveyors in the area, to the extent practicable. Each water supplier must also describe their water demand management measures that are being implemented or are scheduled for implementation.

In addition to the UWMPA and its amendments, there are several other regulations that are related to the content of the UWMP. In summary, the key relevant regulations are:

- ***Assembly Bill (AB) 1668 (Friedman, 2018), and Senate Bill (SB) 606 (Hertzberg, 2018)****: These two bills amended existing law to provide expanded and new authorities and requirements to enable permanent changes and actions for those purposes, improving the state's water future for generations to come. SB 606 and AB 1668 provides complementary authorities and requirements that affect water conservation and drought planning for urban water suppliers, agricultural water suppliers, and small water suppliers and rural communities.*
- ***AB 1465 (Hill, 2009):*** *Requires water suppliers to describe opportunities related to recycled water use and stormwater recapture to offset potable water use.*
- ***AB 1420 (Laird, 2007):*** *Requires implementation of demand management measures (DMMs)/best management practices (BMPs) and meeting the 20x2020 targets to qualify for water management grants or loans.*
- ***SB 1087 (Florez, 2005):*** *Requires water suppliers to report single-family residential and multifamily residential projected water use for lower income areas separately.*
- ***Amendment SB 318 (Alpert, 2004):*** *Requires the UWMP to describe the opportunities for development of desalinated water, including but not limited to, ocean water, brackish water, and groundwater, as long-term supply.*
- ***AB 105 (Wiggins, 2004):*** *Requires urban water suppliers to submit their UWMPs to the California State Library.*

- ***Amendments SB 610 (Costa, 2001), and AB 901 (Daucher, 2001):*** *Effective beginning January 1, 2002, require counties and cities to consider information relating to the availability of water to supply new large developments by mandating the preparation of further water supply planning (Daucher) and Water Supply Assessments (Costa).*

### 1.3.2 Water Conservation Act of 2009 (SBx7-7)

This bill requires the State to achieve a 20-percent reduction in per capita water use by 2020. Retail water suppliers are required to comply with the water conservation requirements in SBx7-7 in order to be eligible for State water grants or loans. Each retail water agency shall establish water use targets and track progress towards decreasing daily per capita water use.

### 1.3.3 Applicable Changes to the Water Code since 2015

The applicable changes to the CWC since 2015 are summarized in **Table 1-1**.

**Table 1-1: Applicable Water Code Sections**

| Topic | CWC Section | Legislative Bill | Summary |
|---|---|---|---|
| Water Shortage Contingency Plan | 10620(d)(2)<br>10632<br>10640(b) | SB 606 | Requires each urban water supplier to prepare a water shortage contingency plan. A water shortage contingency plan must include six levels, including 10, 20, 30, 40, 50 and greater than 50 percent supply shortages. The water shortage contingency plan must be provided to the supplier's customers within 30 days of adoption. |
| Submittal Date | 10621(f) | SB 606 | Requires each urban water supplier to submit its 2020 plan to the Department of Water Resources by July 1, 2021. |
| UWMP Contents | 10630.5 | SB 606 | Requires each plan include a simple lay description of its water supply availability, projected needs, and reliability. |
| UWMP Contents | 10631(a) | SB 606 | Requires each plan to include the following new or revised items discussing:<br>• Current and projected land uses within the service area;<br>• Supply availability during normal and single dry years, and a five-year drought;<br>• Conjunctive use, if applicable, and how new supplies will be developed; and<br>• The current groundwater sustainability plan for the groundwater basin if groundwater is a source supply. |
| Energy Usage Reporting | 16031.2(a) | SB 606 | Changes requirements for reporting energy usage for extracting and delivering water from optional to required. |
| Seismic Risk Assessment and Mitigation Plan | 10632.5 | SB 664 | Requires urban water suppliers to provide a seismic risk assessment and mitigation plan as part of their UWMP update or approved equal plan. |
| Drought Risk Assessment | 10635.5(b) | SB 606 | Requires urban water suppliers to provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects. |

| | | | |
|---|---|---|---|
| Plan Availability | 10645 | SB 606 | Requires urban water suppliers to make the UWMP and water shortage contingency plan available to the public for review within 30 days of filing the plan(s) with the State. |

## 1.4 Water Management Planning Efforts

The City is committed to providing reliable and high-quality water supply to its customers. In order to ensure that the City will be able to continue to reliably serve the residents of Lindsay in the future, the City has conducted/participated in several important planning efforts that relate to water supply planning and are related to the UWMP. Some of the most critical water planning efforts are summarized below:

- ***City of Lindsay General Plan:*** *The City prepared and updated their General Plan Map in 2021 which serves as a roadmap for improving the City. This plan focuses on different elements of land use, circulation, housing, conservation, open space, noise and safety.*
- ***Water Feasibility Study Update:*** *In 2022, Provost & Pritchard prepared a WFS for the City (Provost & Pritchard , 2022), which functions similarly to a Water Master Plan. The WFS included the following:*
    - *Summary of the City's existing domestic water system facilities*
    - *Documentation of planning growth assumptions and known future developments*
    - *Projections of future domestic water demands*
    - *Evaluation of the domestic water facilities needed to meet existing and projected demand requirements and fire flows*
    - *Recommendations for a Capital Improvement Program (CIP) including an opinion of probable cost*

  *The 2022 WFS used a different methodology for estimating current and future per capita demands than the 2020 UWMP. This UWMP uses Census and American Community Survey data for City areas, combined with estimates of population of the four unincorporated areas. As a result, the per capita demand analysis in this UWMP supersedes the analysis in the WFS.*

  *The WFS includes a proposed $40 million CIP through the year 2030. The CIP is mentioned in this UWMP and will be the blueprint for future water system improvements in the City. The WFS and UWMP overlap in several areas, and some of the information in this UWMP was obtained from the WFS.*

- ***Groundwater Sustainability Plan:*** *The City of Lindsay lies within the EKGSA. In coordination with the Mid-Kaweah and Greater Kaweah Groundwater Sustainability Agencies (GSAs), the EKGSA prepared the EKGSP. The EKGSP was prepared in response to SGMA, which is codified in CWC Section 10720 et seq. The legislation created a statutory framework for groundwater management in California that can be sustained during the planning and implementation horizon without causing undesirable results. SGMA requires governments and water agencies of critically over drafted basins to reach sustainability by 2040.*

## 1.5 UWMP Organization

This report is organized according to the recommended format provided in the 2020 Urban Water Management Plan Guidebook for Urban Water Suppliers (UWMP Guidebook). The UWMP contains ten sections, followed by appendices that provide supporting documentation for the information presented in the report. The sections are outlined below:

- ***Lay Description/Executive Summary:*** *This section includes a lay description of the fundamental determinations of the UWMP regarding water service reliability, challenges ahead, and strategies for managing reliability risks.*
- ***Section 1 – Introduction:*** *This section provides background information for the 2020 UWMP and explains why the plan is needed.*
- ***Section 2 – Plan Preparation:*** *This section includes information on the development of the UWMP and efforts in coordination and outreach.*
- ***Section 3 – System Description:*** *This section describes the service area, population, and climate affecting the supplier's water management planning. This section also presents an overview of the City's water distribution system.*
- ***Section 4 – System Demands:*** *This section describes and quantifies the current and projected water uses within the City's service area. This section will also address climate change as it relates to system water use.*
- ***Section 5 – SBx7-7 Baselines, Targets, and Compliance:*** *This section describes the methods for calculating baseline and target consumption. It also includes a description of the City's efforts to meet the 2020 water use target.*
- ***Section 6 – System Supplies:*** *This section describes the current and projected sources of water available to the City. A description of potential recycled water use, supply availability and associated energy use is also included in this section. This section also addresses climate change as it relates to system supplies.*
- ***Section 7 – Water Supply Reliability:*** *This section describes the reliability of the City's current supply and evaluates the reliability 20 years out, including normal, single-dry years, and multiple dry years. This section also provides a five-year reliability analysis and drought risk assessment and addresses climate change as it relates to water supply reliability.*
- ***Section 8 – Water Shortage Contingency Planning:*** *This section references the City's staged plan for dealing with water shortages, including a catastrophic supply interruption.*
- ***Section 9 – Demand Management Measures:*** *This section describes the City's efforts to promote conservation, reduce water demand, and describes the City's demand management measures.*
- ***Section 10 – Plan Adoption, Submittal, and Implementation:*** *This section describes the steps taken to adopt and submit the City's UWMP and make it publicly available. This section will also describe the City's plan to implement the UWMP.*

# 2 Plan Preparation

This section presents information on the development of the 2020 UWMP and efforts in coordination and outreach.

## 2.1 Basis for Preparing a Plan

Legal Requirements:

***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(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.*

***CWC §10621(a)*** *Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero, except as provided in subdivision (d).*

***CWC §10621 (d)*** *Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.*

***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.*

***CWC §10608.52(a)*** *The department, in consultation with the board, the California Bay-Delta Authority or its successor agency, the State Department of Public Health, and the Public Utilities Commission, shall develop a single standardized water use reporting form to meet the water use information needs of each agency, including the needs of urban water suppliers that elect to determine and report progress toward achieving targets on a regional basis as provided in subdivision (a) of Section 10608.28.*

***CWC §10608.52 (b)*** *At a minimum, the form shall be developed to accommodate information sufficient to assess an urban water supplier's compliance with conservation targets pursuant to Section 10608.24… The form shall accommodate reporting by urban water suppliers on an individual or regional basis as provided in subdivision (a) of Section 10608.28.*

***California Health and Safety Code §116275(h)*** *"Public Water System" means a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.*

The CWC defines an urban water supplier as "a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes". **Table 2-1** documents the number of municipal connections and the volume of water supplied in 2020. As of 2017, the City is considered an urban retail water supplier.

**Table 2-1: Public Water System (Submittal Table 2-1)**

| Public Water System Number | Public Water System Name | Number of Municipal Connections 2020[1] | Volume of Water Supplied 2020 (AF)[2] |
|---|---|---|---|
| 5410006 | Lindsay, City of | 3,090 | 2,329 |

[1]Municipal connections include all connections, metered or unmetered, including construction, recycled, and emergency water service connections.
[2]Volume of Water Supplied includes all water into the system, without correction for losses.

## 2.2 Individual Planning and Compliance

Water agencies are given the option to develop UWMPs individually or collectively as a regional group. While efforts to prepare the UWMP were coordinated with appropriate agencies, this UWMP was developed for the City service area only, and the City is not participating in a Regional UWMP (RUWMP) as shown in **Table 2-2**.

**Table 2-2: Plan Identification (Submittal Table 2-2)**

| Select Only One | Type of Plan | Name of RUWMP or Regional Alliance (if applicable) |
|---|---|---|
| ☑ | Individual UWMP | |
| | ☐ Water Supplier is also a member of a RUWMP | N/A |
| | ☐ Water Supplier is also a member of a Regional Alliance | N/A |
| ☐ | Regional Urban Water Management Plan (RUWMP) | N/A |

## 2.3 Fiscal or Calendar Year and Units of Measure

Legal Requirements:

***CWC §1608.20(a)(1)*** *Urban retail water suppliers…may determine the targets on a fiscal year or calendar year basis.*

The City is reporting on a calendar year basis and therefore the 2020 data includes the months of January to December 2020. Additionally, the data presented in this UWMP is presented in AF. **Table 2-3** indicates the City's type of reporting year, and the units of measure for reporting water volumes throughout the 2020 UWMP.

**Table 2-3: Agency Identification (Submittal Table 2-3)**

| Type of Plan | |
|---|---|
| ☐ | Supplier is a wholesaler |
| ☑ | Supplier is a retailer |
| **Fiscal or Calendar Year (select one)** | |
| ☑ | UWMP Tables are in Calendar Years |
| ☐ | UWMP Tables are in Fiscal Years |
| **Units of Measure used in UWMP** | |
| Units: | AF |

## 2.4 Coordination and Outreach

The UWMPA requires that the UWMP identify the water agency's coordination with appropriate nearby agencies.

Legal Requirements:

***CWC §10631(j)*** *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 (c). 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 (c).*

***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.*

***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 the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of 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 hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area.*

***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 City's 2020 UWMP is intended to address those aspects of the UWMPA which are under the control of the City, specifically water supply and water use. While preparing the 2020 UWMP, the City coordinated its efforts with relevant agencies to ensure that the data and issues are presented accurately.

### 2.4.1 Wholesale and Retail Coordination

The City does not receive wholesale water, nor does it plan to in the future (**Table 2-4**).

**Table 2-4: Water Supplier Information Exchange (Submittal Table 2-4)**

| The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC §10631 |
|---|
| **Wholesale Water Supplier Name** |
| N/A |

### 2.4.2 Coordination with Other Agencies and the Community

The City solicited participation from other agencies and organizations for the preparation of the 2020 UWMP. **Table 2-5** summarizes how the UWMP preparation was coordinated.

**Table 2-5: Coordination with Appropriate Agencies**

| Coordinating Agencies | Sent a Notice of Intention to Adopt | Sent a Copy of the Draft Plan | Commented on the Draft | Attended Public Meetings | Contacted for Assistance |
|---|---|---|---|---|---|
| County of Tulare | X | X | ☐ | ☐ | ☐ |
| East Kaweah GSA | X | X | ☐ | ☐ | X |
| Lindsay Strathmore Irrigation District | X | X | ☐ | ☐ | ☐ |
| Lindmore Irrigation District | X | X | ☐ | ☐ | ☐ |

### 2.4.3 Notice to Cities and Counties

The City provided formal written notification to the County of Tulare, the East Kaweah GSA, Lindsay Strathmore Irrigation District, and Lindmore Irrigation District that the City's UWMP was being written. In accordance with the UWMPA, this notification was provided at least 60 days prior to the public hearing of the plan. Electronic copies of the final UWMP will be provided to these agencies no later than 30 days after its submission to the DWR. **Appendix A** contains copies of the outreach documents.

# 3 System Description

The UWMPA requires that the UWMP include a description of the water purveyor's service area and various aspects of the area served including climate, population, and other demographic factors.

## 3.1 General Description

Legal Requirements:

> ***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 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 City, incorporated in 1910, is located near the base of the Sierra Nevada Mountains along State Route 65, near the middle of the San Joaquin Valley. The City covers approximately 2.7 square miles or about 1,750 acres, as shown in **Figure 3-1**.

The City is in Tulare County. Development of the City townsite began in earnest in 1889 under the Pacific Development Company when the Southern Pacific Railroad came through the area. The City utilizes a Council and Administrator (weak) form of government. Five elected City Council members, one of which serves as a mayor, address the legislative needs of the City. The City Administrator is appointed by the City Council to administer the overall city organization. Lindsay is a full-service city, operating its own water and wastewater systems, and hosts a full range of community-based programs and services. Strategic planning in the City is driven by the Lindsay Oversight Board, established in 2012, and by the City's General Plan.

While the City lies near the base of the Sequoia Mountains, its topography is mostly flat. The foothills of the Sierra Nevada Mountains begin about 1 mile east of the City, as shown in **Figure 3-1**. The Friant Kern Canal (Canal) flows just east of the City.

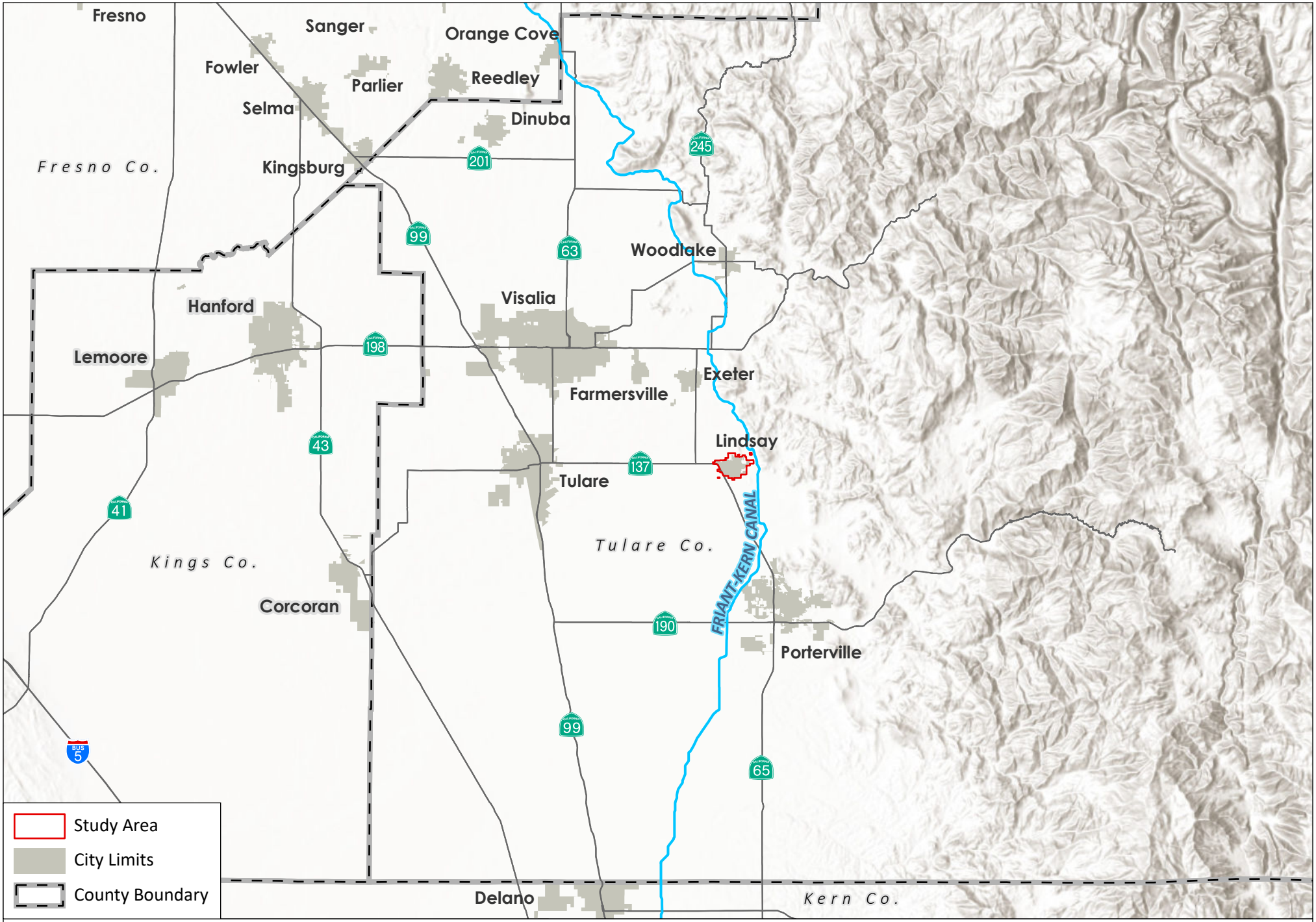



**Figure 3-1. Regional Location**

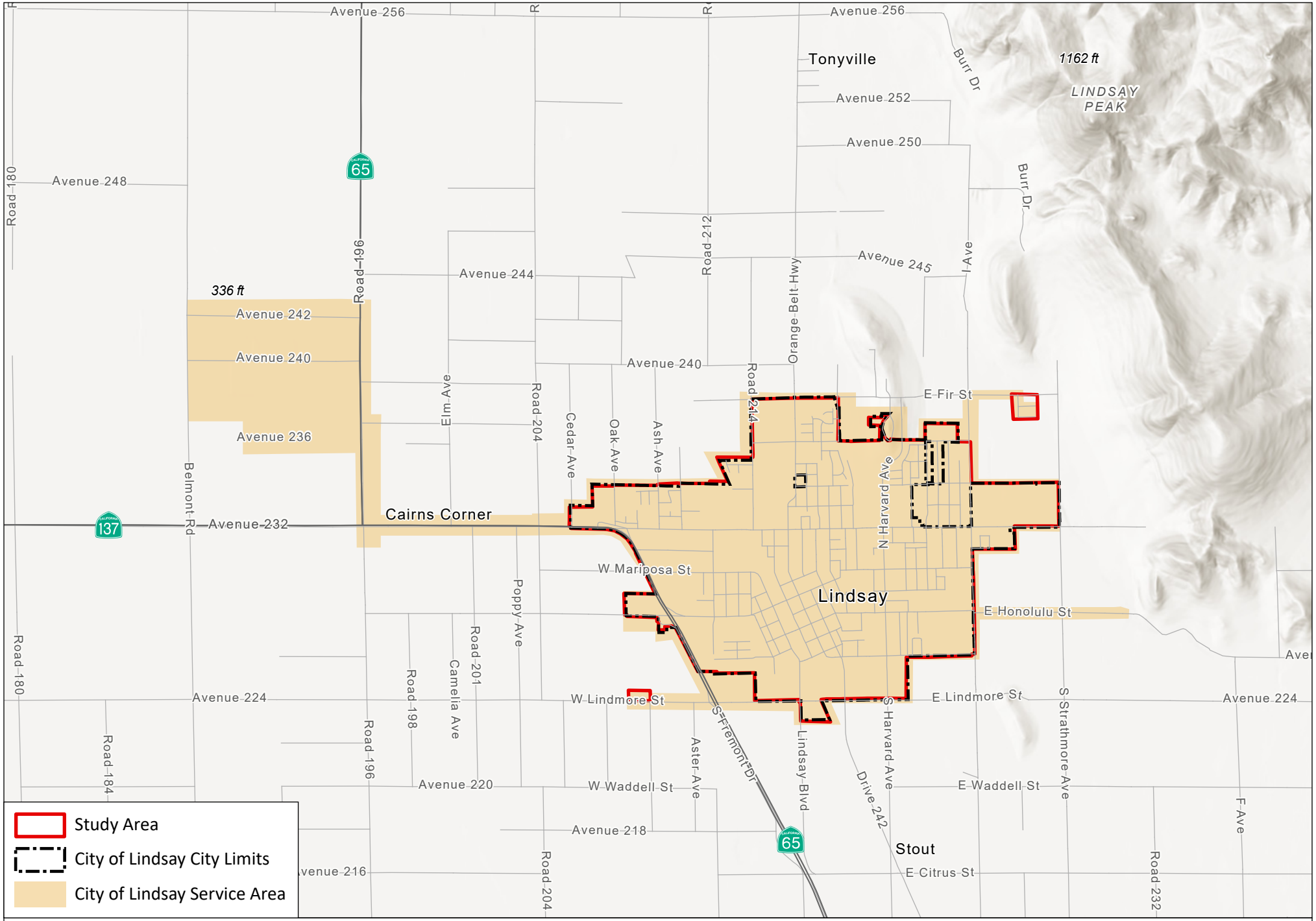
City of Lindsay 2020 Urban Water Management Plan

PROVOST& PRITCHARD

9/18/2023 \\ppeng.com\pzdata\clients\Lindsay_City of-3257\325722006-Engineering Reporting\400 GIS\Map\EngRptMaps.aprx

## 3.2 Service Area Boundary

The City provides water supply to all users within the City limits and a select few other locations, as shown in **Figure 3-2**. The Service Area encompasses the area within the city limits, three developments outside the City limits that receive City water service, known locally as Page-Moore Tract, the Sierra Shadows Mobile Home Park, and El Rancho, and an area west of the City near the intersection of Road 188 and Avenue 242 ("Avenue 240 and 242 Connection"). All these areas receive City water. The City also owns and operates a Wastewater Treatment Plan (WWTP).




# Figure 3-2. Service Area

City of Lindsay 2020 Urban Water Management Plan

PROVOST& PRITCHARD

11/6/2023 G:\Lindsay_City of-3257\325722006-Engineering Reporting\400 GIS\Map\EngRptMaps.aprx

## 3.3 Service Area Climate

The City's climate is generally dry with mild winters and hot summers. Historically, the warmest month is July, with average temperatures reaching 99-degrees Fahrenheit. Winds are generally from the northwest, following the layout of the San Joaquin Valley. The standard monthly average evapotranspiration (ETo) (CIMIS, 2023), and rainfall and temperature (Service, 2023) are summarized in **Table 3-1**.

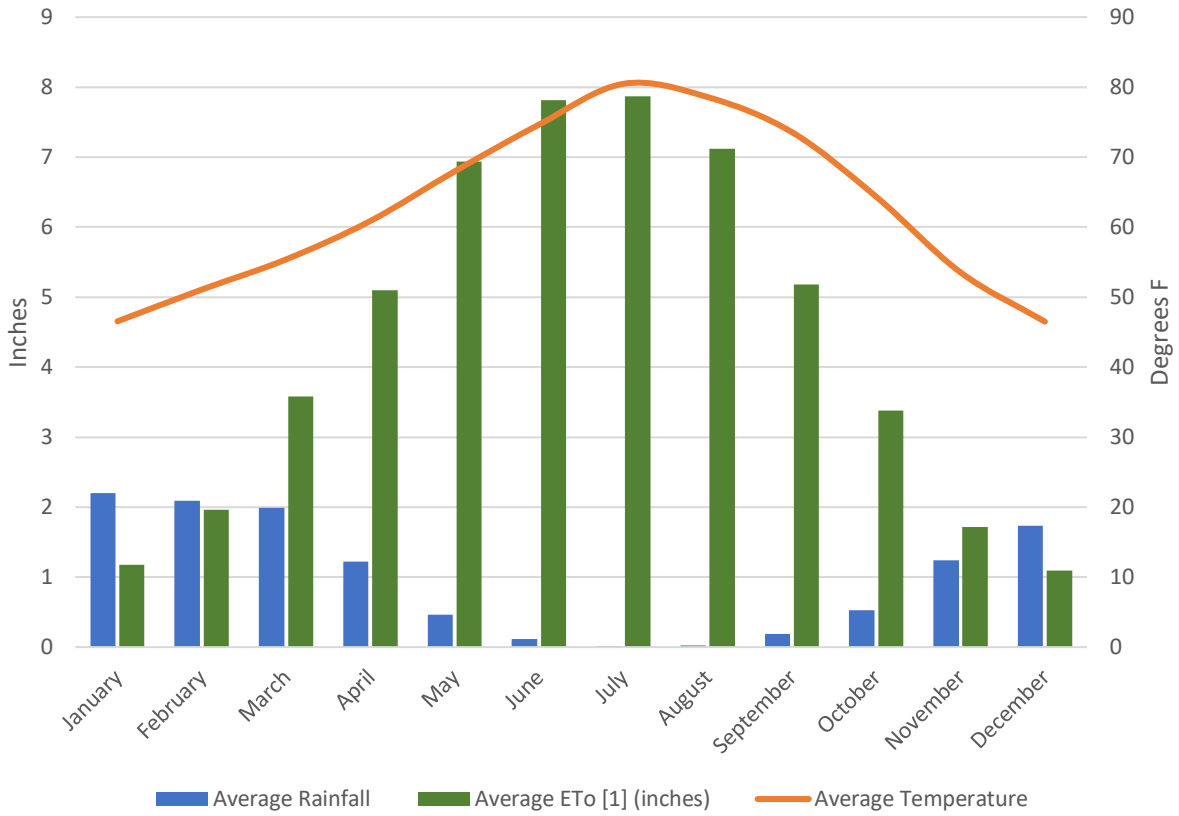
**Table 3-1: Climate Statistics**

| Month | Average ETo[1] (inches) | Average Rainfall[2] (inches) | Temperature[2] (degrees F) | | |
|---|---|---|---|---|---|
| | | | Average Minimum | Average Maximum | Average |
| January | 1.18 | 2.20 | 36 | 57 | 47 |
| February | 1.97 | 2.09 | 38 | 64 | 51 |
| March | 3.58 | 1.99 | 41 | 70 | 55 |
| April | 5.10 | 1.22 | 45 | 77 | 61 |
| May | 6.94 | 0.46 | 51 | 85 | 68 |
| June | 7.81 | 0.11 | 56 | 93 | 75 |
| July | 7.87 | 0.01 | 62 | 99 | 80 |
| August | 7.12 | 0.02 | 60 | 97 | 79 |
| September | 5.18 | 0.19 | 55 | 92 | 74 |
| October | 3.38 | 0.53 | 48 | 81 | 64 |
| November | 1.72 | 1.24 | 39 | 68 | 54 |
| December | 1.09 | 1.74 | 35 | 58 | 47 |
| **Total/Average** | **52.93** | **11.80** | **47** | **78** | **63** |

[1]Monthly averages of Porterville and Visalia Stations – San Joaquin Valley Stations 169 & 33; (CIMIS, 2023).
[2]Lindsay, CA; Period of reporting – 1928 to 2020; (Service, 2023).

A visual representation of this table is displayed in **Figure 3-3**, where average rainfall and average ETo are plotted against average temperature at monthly intervals.

**Figure 3-3: Climograph**




## 3.3.1 Climate Change

DWR guidelines require urban water suppliers to consider the potential effects related to climate change as in the UWMP as it relates to water demands, water supply, and water supply reliability. These topics are addressed in Sections 4, 6, and 7 of the UWMP, respectively.

California has a Mediterranean climate, which is not expected to change with climate change projections in the future. The climate typically consists of cool, wet winters and hot, dry summers.

According to climate scientists, increases in global greenhouse gas levels are changing climate patterns around the world and, it is speculated, may begin to change at an accelerated pace from what has occurred in the past. An accelerated rate of change could potentially result in impacts to the local climate of the City in the form of higher temperatures, increased droughts and floods, decreased snowpack amounts and durations, and other extreme variations in weather patterns. As the UWMP projects through 2040, these changes could potentially manifest themselves over that period, and could potentially affect the availability and volume of water resources.

In the past, the amount of rainfall has been consistent, with periods of drought and periods of excess precipitation spaced relatively far apart. With climate change, the rainfall levels could begin to vary more from year to year, incurring droughts followed by excesses with less time between them. Typically, climate change predicts a decrease in average rainfall for the area, while temperatures are expected to

increase. However, increased temperatures could intensify the El Nino Southern Oscillation (ENSO) cycle, resulting in very abundant precipitation in wet years and more extreme drought in dry years.

## 3.4 Service Area Population and Demographics

The City's service area includes both the city boundary and four unincorporated communities. Population estimates were calculated by adding the populations of these areas to the Department of Finance estimates for the City's population. These total service area population estimates were used throughout this UWMP. Historical population data for the City of Lindsay was obtained from the Department of Finance for 2000-2020 (DOF, 2021) and the Census Bureau for 2020 (Census Bureau, 2022). City population growth was projected at a rate of 0.8% annually, a conservative rate resulting from discussions with City officials along with analysis of historical trends.

To these growth estimates were added the relatively static populations of these additional areas. The City assessed the populations of the Page-Moore Tract, Avenue 240 & 242 connections, Sierra Shadow Mobile Home Park, and El Rancho connections at 871, 117, 178, and 198 individuals, respectively. Tabular historical population data is included later in **Section 4.2.2**. **Figure 3-4** displays the graphical historical and projected populations for the City. **Table 3-2** summarizes projected population growth for several periods.

**Figure 3-4: Historical and Projected Population**

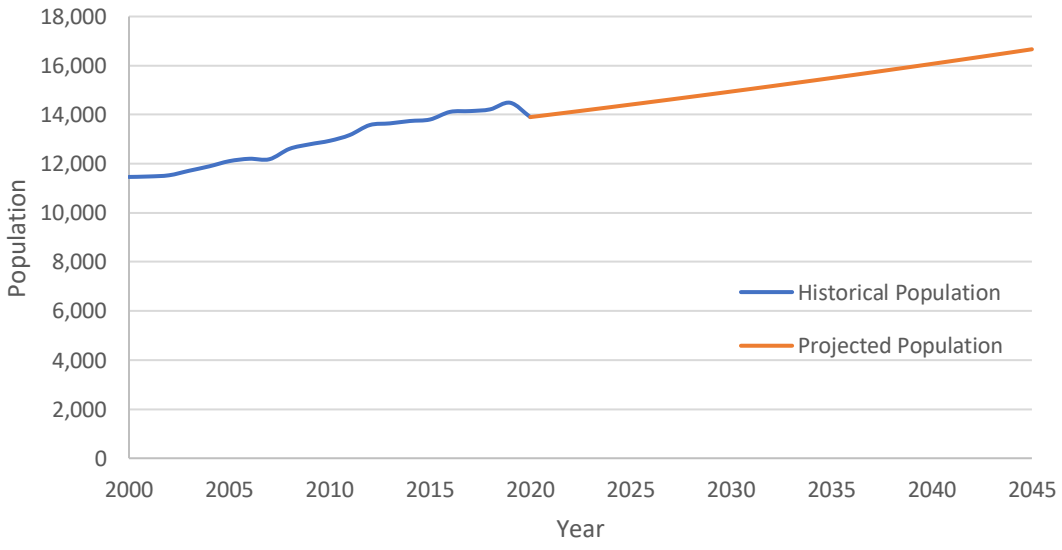



**Table 3-2: Population – Current and Projected (Submittal Table 3-1)**

| Service Area Population[1] | Years[2] | | | | |
|---|---|---|---|---|---|
| | 2020 | 2025 | 2030 | 2035 | 2040 |
| City of Lindsay | 13,901 | 14,411 | 14,941 | 15,493 | 16,067 |

[1]Service area population is defined as the population served by the distribution system.

[2]Included.8% annual growth projection; additional service areas were included after projection.

## 3.5 Land Uses within Service Area

Land uses in the City are shown in the table below (**Table 3-3**). The City's predominant land use is residential. There are industrial use areas along the railroad right-of-way and commercial use areas both within the downtown and near the State Route 65 alignment. The City of Lindsay updated components of their General Plan and Land Use Maps in 2021.The data below reflects these 2021 land-use allocations.

Of the 1,747 acres within the Service Area, over three-quarters are developed, leaving 151 acres of undeveloped area comprised of a variety of land uses including residential, mixed use and commercial. It is expected that a portion of this area will be developed in the next 20 years, but it is more likely the service area will change due to annexations. Currently, the City is not aware of any major planned construction projects or developments in the Service Area.

**Table 3-3: Land Uses**

| Land Use Category | Total Developed Acres[1] | Percent of Total Acreage | Total Un-Developed Acres[1] | Percent of Total Acreage | Total Acreage |
|---|---|---|---|---|---|
| **Residential** | | | | | |
| **Single Family Residential (R-1-7)** | 604.1 | 95% | 29.8 | 5% | 633.9 |
| **Multi-Family Residential (RM-3)** | 145.5 | 83% | 28.9 | 17% | 174.4 |
| **Multi-Family Residential (RM-MH8)** | 12.5 | 100% | 0 | 0% | 12.5 |
| **Non-Residential** | | | | | |
| **Central Commercial (CC)** | 28.6 | 89% | 3.6 | 11% | 32.2 |
| **Highway Commercial (CH)** | 48.7 | 74% | 17.3 | 26% | 66 |
| **Neighborhood Commercial (CN)** | 3.1 | 53% | 2.7 | 47% | 5.8 |
| **Service Commercial (CS)** | 8.5 | 85% | 1.5 | 15% | 10 |
| **Professional Offices (PO)** | 43.4 | 95% | 2.2 | 5% | 45.6 |
| **Office/High Density (RM-1.5)** | 15 | 96% | 0.7 | 4% | 15.7 |
| **Mixed Use** | 93.3 | 90% | 10.8 | 10% | 104.1 |
| **Heavy Industry (IH)** | 42.8 | 95% | 2.1 | 5% | 44.9 |
| **Light Industry (LI)** | 129.5 | 89% | 16.7 | 11% | 146.2 |
| **Resource, Conservation & Open Space (RCO)** | 203.5 | 96% | 9.1 | 4% | 212.6 |
| **Railroad** | 0 | 0% | 20.3 | 100% | 20.3 |
| **Unknown** | 0 | 0% | 5.7 | 100% | 5.7 |
| **Right-of-Way** | 217.2 | 100% | 0 | 0% | 217.2 |
| **Totals** | **1595.7** | **77%** | **151.4** | **23%** | **1747.1** |

[1] Data Provided by the City based on Zoning, Land Use, and Parcel Data (10/7/2022).

# 4 System Demands

This section describes and quantifies the current and projected water demands within the City's service area.

## 4.1 Non-Potable versus Potable Use

This section addresses demands that are met by non-potable and potable water sources. The City of Lindsay uses groundwater to meet its water system demands. The City also has access to surface water supplies in some years, but in recent years, this has not been a reliable water system supply source. At this time, recycled water is not available to the City and the demands are met with potable water sources. Recycled water and the potential for future use of recycled water is described in **Section 6**.

## 4.2 Past, Current, and Projected Water Use by Sector

Legal Requirements:

***CWC § 10631(d)***

*(1) 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…*

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

*(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.*

The UWMPA requires that the UWMP identify the quantity of water supplied to the City's customers including a breakdown by user classification.

The City utilizes several water use sectors identified in the CWC and tracks water use within those sectors separately. Historical water use and projected water use are presented for those sectors. Gross water use is calculated by calendar year.

### 4.2.1 Water Use Sectors Listed in Water Code

Legal Requirements:

***CWC § 10631(d)***

*(1) 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, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:*

*(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 City's water customers are divided into six categories that include single-family residential, multifamily residential, commercial/institutional, industrial, landscape, and other.

### 4.2.2 Past Water Use

The City maintains records of past water use, as shown in **Table 4-1** below. Recent water usages are at 20-year lows, and per capita water consumption in 2020 was 150 gpcd. This decrease in demand can be attributed to statewide and local conservation measures enacted because of state mandates due to extreme drought conditions within California. It can also be attributed to the temporary shut-down of many industries associated with the COVID-19 pandemic. **Table 4-1** shows the historical water production from 2000 to 2020. **Table 4-1** only accounts for total potable water.

**Table 4-1: Past Water Production (2000 – 2020)**

| Year | | Annual Potable Water Production | | | Population | |
|---|---|---|---|---|---|---|
| | Total Connections | Total Annual (AF) | Total Annual (MG)[1] | Daily Average (MGD)[2] | Population[3] | Per Capita Consumption (gpcd) |
| 2000 | -- | 2270 | 740 | 2.0 | 11,463 | 177 |
| 2001 | -- | 2196 | 715 | 2.0 | 11,481 | 171 |
| 2002 | -- | 2385 | 777 | 2.1 | 11,530 | 185 |
| 2003 | -- | 2702 | 880 | 2.4 | 11,715 | 206 |
| 2004 | -- | 2490 | 811 | 2.2 | 11,894 | 187 |
| 2005 | -- | 2746 | 895 | 2.5 | 12,106 | 203 |
| 2006 | -- | 2581 | 841 | 2.3 | 12,203 | 189 |
| 2007 | -- | 2442 | 796 | 2.2 | 12,185 | 179 |
| 2008 | -- | 2717 | 885 | 2.4 | 12,608 | 192 |
| 2009 | -- | 2883 | 939 | 2.6 | 12,792 | 201 |
| 2010 | 2679 | 2825 | 920 | 2.5 | 12,934 | 195 |
| 2011 | 2733 | 2629 | 857 | 2.3 | 13,170 | 178 |
| 2012 | 2542 | 2481 | 808 | 2.2 | 13,577 | 163 |
| 2013 | 2542 | 2889 | 941 | 2.6 | 13,645 | 189 |
| 2014 | 2902 | 2511 | 818 | 2.2 | 13,742 | 163 |
| 2015 | 2914 | 2242 | 730 | 2.0 | 13,803 | 145 |
| 2016 | 2959 | 2434 | 793 | 2.2 | 14,113 | 154 |
| 2017 | 3021 | 2473 | 806 | 2.2 | 14,146 | 156 |
| 2018 | 3040 | 2468 | 804 | 2.2 | 14,217 | 155 |
| 2019 | 3090 | 2428 | 791 | 2.2 | 14,485 | 150 |
| 2020 | 3090 | 2329 | 759 | 2.1 | 13,901 | 150 |

[1]MG = million gallons
[2]MGD = million gallons per day
[3]Service Area Population. Department of Finance 2000-2020 and Census Data 2020 were used for area corresponding with City boundary. Population estimates for additional areas within the service area (i.e. Page-Moore Tract, Avenue 240 & 242 connections, Sierra Shadow Mobile Home Park, and El Rancho connections) are included.

### 4.2.3 Distribution System Losses

Legal Requirements:

***CWC § 10631***

*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…*

*(J) Distribution system water loss….*

***CWC §10631(d)(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.*

California Senate Bill No. 1420 (SB 1420) requires water utilities that submit UWMPs to conduct annual system water loss audits in accordance with American Water Works Association (AWWA) standards. Agencies are required to submit their audits annually to DWR.

AWWA quantifies water loss as the difference between the quantity of water supplied and the quantity of water delivered to authorized customers. Water loss is further defined under two categories, apparent losses, and real losses. Apparent losses are due to unauthorized consumption, inaccurate metering, and systematic data handling errors. These losses can be considered non-physical losses associated with inaccurate recording. Real losses are the physical loss of water due to leaks within the distribution system.

The City became an urban water user in 2017 and annually completes water loss audits. Going forward, the City intends to comply with the AWWA standards. **Table 4-2** summarizes the estimated water loss for the City, as compared with deliveries to the different sectors for each year as reported in the Electronic Annual Reports (eAR) submitted to the State Water Resources Control Board (SWRCB); at the time of becoming an Urban Water User, not all deliveries were metered. Further details regarding currently unmetered connections can be found in **Section 9.1.2**.

**Table 4-2: Water Loss Reporting (Submittal Table 4-4)**

| Reporting Period Start Dates | Total Volume of Water Loss (AF) |
|---|---|
| January 1, 2016 | - |
| January 1, 2017 | - |
| January 1, 2018[1] | 45 |
| January 1, 2019[1] | 0 |
| January 1, 2020 | 99 |

[1]2018 & 2019 data come from eAR reported data compared with the City's production records.

### 4.2.4 Current Water Use

**Table 4-3** summarizes the City's current water use by customer class type. Losses shown below include unmetered connections and are estimated by using the difference between production and delivery in 2020. **Figure 4-1** provides a visual representation of the water use by sector for 2020, and **Figure 4-2** shows the distribution of this water use by sector at a monthly time-step.

**Table 4-3: Demands for Potable and Non-Potable Water – Actual (Submittal Table 4-1)**

| Use Type | Additional Description | Level of Treatment When Delivered | Volume (AF) | Volume (MG) |
|---|---|---|---|---|
| Single-Family | Includes residential landscaping | Drinking Water | 2,148 | 700 |
| Multifamily | Includes residential landscaping | Drinking Water | 43 | 14 |
| Commercial/ Institutional | Includes schools & churches | Drinking Water | 13 | 4 |
| Industrial | | Drinking Water | 4.4 | 1 |
| Landscape | | Drinking Water | 13.7 | 4 |
| Other | | Drinking Water | 9.0 | 3 |
| Losses[1] | Accounts for real and apparent losses and unmetered connections | Drinking Water | 99 | 32.18 |
| | | **Total** | **2,329** | **759** |

[1]Water loss is calculated as the total water supplied minus authorized consumption.

**Figure 4-1: 2020** Water Use by Sector

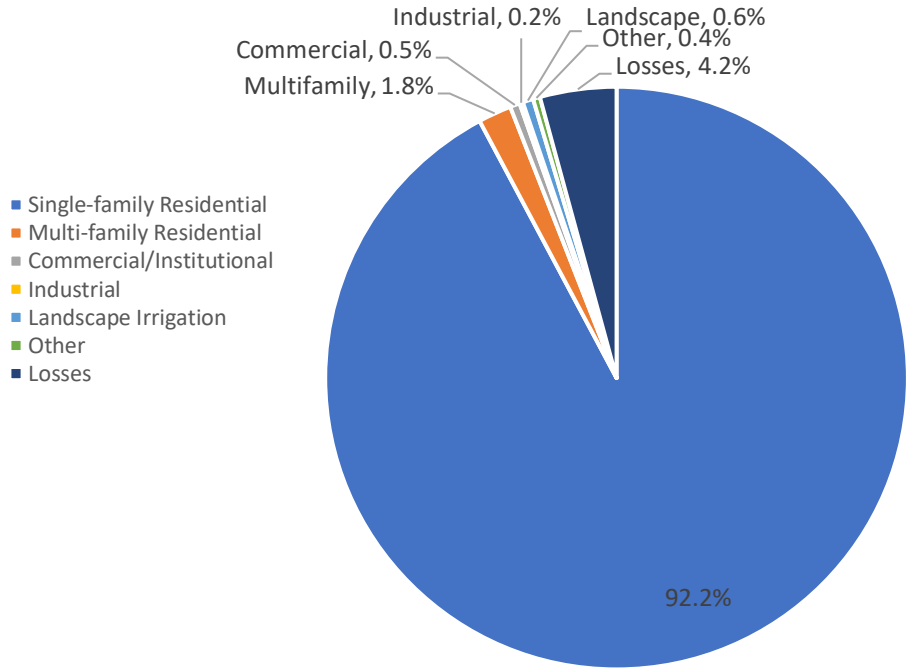
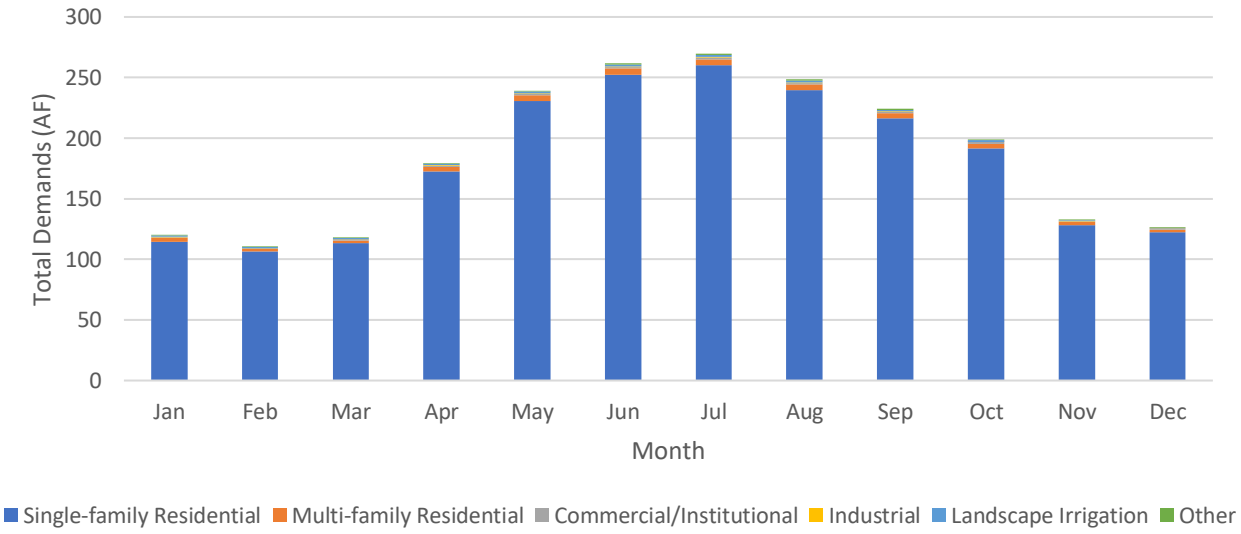



**Figure 4-2: 2020** Water Demands by Month



### 4.2.5 Projected Water Use

Legal Requirements:

***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.*

***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…*

***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.*

This section is based on a normal water year and normal water use, without additional restrictions put in place. **Section 7** discusses, in detail, water demand and supply characteristics associated with single-dry and multiple-dry years, including a Drought Risk Assessment (DRA).

**Table 4-4** represent the total sum of projected water demands for potable and raw use within the service area from 2025 to 2040 for normal years. These demands represent the City's total water demand in the future. **Section 6** further discusses the current and projected use of recycled water.

**Table 4-4: Use for Potable and Non-Potable Water – Projected (Submittal Table 4-2)**

| Use Type | Additional Description | Projected Water Use (AF)[1] | | | |
|---|---|---|---|---|---|
| | | 2025 | 2030 | 2035 | 2040 |
| Single-Family | Includes residential landscaping | 2,167 | 2,161 | 2,240 | 2,323 |
| Multifamily | Includes residential landscaping | 43 | 43 | 45 | 46 |
| Commercial | | 13 | 14 | 14 | 15 |
| Institutional | Includes schools & churches | 5 | 5 | 5 | 5 |
| Industrial | | 14 | 15 | 15 | 16 |
| Landscape | | 9 | 10 | 10 | 11 |
| Losses[2] | Accounts for real and apparent losses and unmetered connections | 103 | 107 | 111 | 115 |
| | **Total** | **2,355** | **2,354** | **2,441** | **2,532** |

[1]Projected water use is based on the 2020 Water Use Target of 151 gpcd for non-residential uses and 42 gcpd in 2030 for residential uses, as discussed in Section 4.2.5.1 and using the population projections discussed in Section 3.

[2]Water loss is estimated as the total water supplied minus authorized consumption.

**Table 4-5** represents the total sum of projected water demands for potable and raw water use within the service area. These demands represent the City's total water demand in the future.

**Table 4-5: Total Water Use (Potable and Non-Potable) (Submittal Table 4-3)**

| Demand Use | 2020 | 2025 | 2030 | 2035 | 2040 |
|---|---|---|---|---|---|
| Potable Water, Raw, Other Non-Potable | 2,329 | 2,355 | 2,354 | 2,441 | 2,532 |
| Recycled Water | 0 | 0 | 0 | 0 | 0 |
| **Total Water Demands** | **2,329** | **2,355** | **2,354** | **2,441** | **2,532** |

### 4.2.5.1 Water Savings Estimate

Demands in **Table 4-5** and **Table 4-4** are based on the 2020 Water Use Target (151 gpcd) for all uses except single-family and multifamily. In those instances, the Water Use Target has been reduced incrementally until it reaches 42 gpcd in 2030 and beyond. The purpose of this reduction is to address the efficient indoor residential water use standards discussed in AB 1668, SB 606, and subsequently of SB 1157, as updated in 2022. Additional water savings, such as mandated conservation measures, have not been included in the projections to allow for the City to plan in a conservative manner.

Water savings from codes, standards, ordinances, or transportation and land use plans are also known as "passive savings." These various factors generally decrease the water use for new and future customers, compared to historical customers. These codes and ordinances may include implementation of the Model Water Efficient Landscape Ordinance (MWELO), the California Energy Commission Title 20 appliances standards for toilets, urinals, faucets, and showerheads, or the CALGreen Building Code.

As shown in **Table 4-4**, passive savings have not been specifically incorporated in projected water demands. However, projections are based on relative consumptions between sectors in 2020, when the City was actively utilizing several of its conservation measures, as described in the City's Water Conservation Plan, elements of which have been brought forward into its Water Shortage Contingency Plan (WSCP). The City does expect that passive savings, such as implementation of the WSCP and toilet and showerhead rebate programs will help the City continue to meet its target per capita water demand in the future.

### 4.2.6 Characteristic Five-Year Water Use

***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…*

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

*(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.*

As part of the Drought Risk Assessment prepared in **Section 7**, the following five-year water use (see **Table 4-6**), between 2020 and 2025, can be utilized as a representative five-year normal period.

**Table 4-6: Five-Year Projected Water Use**

| Year | Five-Year Projected Water Use | | |
|---|---|---|---|
| | Projected Potable Water Use (AF) | Projected Non-Potable Water Use (AF) | Total Projected Water Use (AF) |
| 2021 | 2,334 | 0 | 2,334 |
| 2022 | 2,340 | 0 | 2,340 |
| 2023 | 2,345 | 0 | 2,345 |
| 2024 | 2,350 | 0 | 2,350 |
| 2025 | 2,355 | 0 | 2,355 |

# 4.3 Water Use for Low Income Households

Legal Requirements:

***CWC § 10631***

*(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. California Health and Safety Code 50079.5*

*(a) "Lower income households" means persons and families whose income does not exceed the qualifying limits for lower income families… In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.*

As described above, the UWMP is required to account for low-income household water demands. Low-income households are defined as families with an income less than 80-percent of the area median income, adjusted for family size.

To calculate low-income water demands, the current and projected water use of single-family and multi-family residential households were used in conjunction with the estimated percent of low-income households planned within the service area. It is understood that the Regional Housing Needs Allocation identified approximately 28 percent of the housing within the City will be within the very low and low income categories between 2014-2023 (Council, 2019). For the determination of projected low-income housing, it is assumed that 28-percent will remain consistent throughout 2040.

To determine water demands for low-income housing, the water demands in **Table 4.3** for single-family and multifamily units were multiplied by the percentage of low-income households. Water demands associated with low-income residential water users through year 2040 are presented in **Table 4-7**.

As shown in **Table 4-8**, lower income demand projections presented in **Table 4-7** are included in the total water use projections provided in **Table 4-4**.

**Table 4-7: Low Income Water Demands**

| Low Income Water Demands | Water Use (AF) | | | | |
|---|---|---|---|---|---|
| | 2020 | 2025 | 2030 | 2035 | 2040 |
| Residential | 613 | 619 | 617 | 640 | 664 |
| **Total (AF)** | **613** | **619** | **617** | **640** | **664** |

**Table 4-8: Inclusion of Water Use in Projections (Submittal Table 4.5)**

| Scenario | Response |
|---|---|
| Are Future Water Savings Included in Projections? | Yes |
| If "Yes" to above, state the section or page number where citations of the codes, ordinances, etc. utilized in demand projections are found. | Section 4.2 |
| Are Lower Income Residential Demands Included in Projections? | Yes |

# 4.4 Climate Change Related to System Demands

Legal Requirements:

***CWC §10630***

*It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied, while accounting for impacts from climate change.*

***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…*

*(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.*

As climate change becomes more noticeable and quantifiable, the City's response will include reducing demands to match possible reduction of water supplies. The potential impacts of climate change on the City's supply could include such items as more prolonged droughts, shifts in water supply patterns, and potential flooding.

Reduction of the per capita demands in the system can help respond to climate change in two ways. Reduced water demands equate to less energy use through reduced groundwater pumping and/or movement of water supplies through the system. Further reduction of per capita water demands may be challenging to achieve, as the City has implemented many conservation methodologies (discussed in further detail in **Section 9**); however, one strategy the City may choose would be to initiate the use of recycled water to use their water supplies more efficiently (this use has not been planned for in this UWMP but may be included in the future).

Additionally, it is anticipated climate change will impact landscape water demands most significantly; however, as the City will maintain the per capita goal, overall water demands are not anticipated to increase. Mitigating possible increased water demands for landscape may require less landscaping, increased use of drought tolerant plantings or more efficient irrigation strategies. Historically, the City has employed public outreach and educational efforts to reduce water use, along with landscaping requirements as mentioned in the City's Water Conservation Plan. Many of these practices are carried forward in the Water Shortage Contingency Plan (WSCP), included as **Appendix C**. These measures will help to respond to water demand variations as a result of climate change.

# 5 SBx7-7 Baselines, Targets, and Compliance

This section describes the baseline (base daily per capita) water use, the 2020 water use targets, and the 2020 actual water use. The UWMPA requires that the UWMP identify a baseline water demand, and urban water use target for the City.

Legal Requirements:

***CWC § 10608.20***

*(e) An urban retail water supplier shall include in its urban water management plan. . . due in 2010 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.*

The base daily per capita use was the first step in determining the City's urban water use target. The historical per capita use between 2000 and 2009 set the "baseline" from which the urban water use target was determined. The City established a 2020 urban water use target to judge compliance with the 2020 use reductions set forth in the Water Conservation Bill of 2009.

## 5.1 Baseline and Target Calculations for SBx7-7

The 2020 UWMP Guidebook indicates criteria to determine if the Supplier should or should not consider recalculation of its baselines and targets. As the City is newly subject to UWMP requirements, it is calculating its baseline and targets for the first time, as described in the following subsections.

To address the annexation of the El Rancho community to the City's service area in 2016, Appendix P of the UWMP Guidebook, Section P.3.2 was referenced. The baselines and targets for the new service area (annex/merged and existing) were calculated as one entity. One verification form was completed for the original service area, and one compliance form was completed for the entire service area in 2020, including the 2016 annexed area. This method was approved through a phone conversation with Gwen Huff at DWR on 11-7-23.

### 5.1.1 Rationale for Completing Baseline and Target Calculations

*Supplier Submitted 2015 UWMP, No Change to Service Area*

This criterion does not apply to the City.

*Supplier Did Not Submit 2015 UWMP*

This criterion does not apply to the City.

*Supplier Newly Subject to UWMP Requirements*

The City is newly subject to UWMP Requirements. Therefore, it is calculating the 2020 target for the first time in this UWMP. The City has prepared the 2020 Compliance Form, see **Appendix B**, for review and reference.

*Distribution Area Expansion*

The City had a change in its service area in 2016 with the annexation of El Rancho. As stated in the 2020 UWMP Guidebook, "If the Supplier's service area expanded by way of a merger or annexation, the Supplier must provide baseline and targets to include the new area." Based on Appendix P of the UWMP Guidebook, Section P.3.2, the baselines and targets for the new service area (annex/merged and existing) were calculated as one entity.

*Distribution Area Contraction*

This criterion does not apply to the City.

*Large Partial Customers Become Whole Customers*

This criterion does not apply to the City.

## 5.1.2 Baseline Calculation

To calculate baseline water use, it was determined that the City would take the 10-year approach, as they are not currently delivering over 10% of recycled water. A 5-year baseline must also be calculated to assist in establishing the reduction targets. The following table summarizes water deliveries made in 2009, substantiating the 10-year baseline approach.

**Table 5-1: Base Period Ranges**

| Base | Parameter | Value | Units |
|---|---|---|---|
| 10- Year Base Period | 2009 total water deliveries | 2,884 | AF |
| | 2009 total volume of delivered water | 2,884 | AF |
| | 2009 recycled water as a percent of total deliveries | 0 | percent |
| | Number of years in base period(1) | 10 | Years |
| | Year beginning base period range | 2000 | |
| | Year ending base period range(2) | 2009 | |
| 5-Year Base Period | Number of years in base period | 5 | Years |
| | Year beginning base period range | 2005 | |
| | Year ending base period range(3) | 2009 | |

The data used to calculate the baseline is summarized in the following table. The UWMPA requirements state a continuous range must be used with the range ending between the end of 2004 and 2010.

**Table 5-2: Base Daily Per Capita Water Use – 10 Year Range**

| Base period year | | Distribution System Population | Volume into Distribution System (AFY) | Annual Daily per Capita Water Use (gpcd) |
|---|---|---|---|---|
| Sequence | Calendar Year | | | |
| 1 | 2000 | 11,463 | 2,271 | 177 |
| 2 | 2001 | 11,481 | 2,197 | 171 |
| 3 | 2002 | 11,530 | 2,386 | 185 |

| | | | | |
|---|---|---|---|---|
| 4 | 2003 | 11,715 | 2,702 | 206 |
| 5 | 2004 | 11,894 | 2,490 | 187 |
| 6 | 2005 | 12,106 | 2,747 | 203 |
| 7 | 2006 | 12,203 | 2,582 | 189 |
| 8 | 2007 | 12,185 | 2,443 | 179 |
| 9 | 2008 | 12,608 | 2,718 | 192 |
| 10 | 2009 | 12,792 | 2,884 | 201 |
| | | 10-Year Base Daily Per Capita Water Use | | 189 |

The following table summarizes the data used to calculate the 5-year baseline, which has a UWMPA requirement to be a continuous range, ending between the end of 2007 and 2010.

**Table 5-3: Base Daily Per Capita Water Use – 5 Year Range**

| Base period year | | Distribution System Population | Volume into Distribution System (AFY) | Annual Daily per Capita Water Use (gpcd) |
|---|---|---|---|---|
| Sequence | Calendar Year | | | |
| 1 | 2005 | 12,106 | 2,747 | 203 |
| 2 | 2006 | 12,203 | 2,582 | 189 |
| 3 | 2007 | 12,185 | 2,443 | 179 |
| 4 | 2008 | 12,608 | 2,718 | 192 |
| 5 | 2009 | 12,792 | 2,884 | 201 |
| | | 5-Year Base Daily Per Capita Water Use | | 193 |

### 5.1.3 SBx7-7 Targets

Four methods have been developed to determine water use targets for urban water users. The UWMPA requires a target be established for 2020 and an interim target for 2015. Because the City did not become an urban water user until 2017, it was not subject to the interim target. Each method and its calculated water use are described below.

#### 5.1.3.1 Method 1 – 80 Percent

Method 1 is calculated upon the determined base daily per capita use as determined by the water supplier. The base daily per capita use is 189 gpcd. Method 1 requires that this usage be reduced by 20%, yielding a target use of 151 gpcd.

#### 5.1.3.2 Method 2 – Performance Standards

Method 2 uses commercial, industrial, institutional, indoor residential, and landscape water usage quantities to calculate a water use target. Because the City is not fully metered and the City's historical data is deficient in landscape water usage, this method is impractical for calculating target water use.

#### 5.1.3.3 Method 3 – 90 Percent Hydrologic Region Target

Method 3 is based upon the hydrologic region target, which is reduced by 5% to obtain the 95% Target. According to the 20x2020 Water Conservation Plan, the region-specific conservation goal is 188 gpcd for the Tulare Lake hydrologic region. With this information, Method 3 yields a target use of 179 gpcd.

#### 5.1.3.4 Method 4 – Savings by Water Sector

Provisional Target Method 4 was developed in accordance with Water Code Section 10608.20(b)(4). DWR developed a Target Method 4 Calculator using an Excel spreadsheet. The methodology for the provisional method relies on the base daily per capita use in the mid-point of the baseline year and reduction in the three urban use sectors:

- Residential indoor;
- Commercial, industrial, and institutional (CII); and
- Landscape use and water loss.

A discussion of each of these components, and the calculated savings in each sector is included below.

##### *5.1.3.4.1 Residential Indoor Savings*

There are two alternatives for calculating indoor residential water savings. The first method uses the Target Method 4 Calculator based on historical data for a water supplier while the second method uses a default savings of 15 gpcd. Because the City does not have adequate access to historical records to the level of specificity required for the first method, the default value of 15 gpcd was used.

##### *5.1.3.4.2 Commercial, Industrial and Institutional Savings*

CII water savings is assumed in the methodology to be 10 percent of baseline CII water use, which is an average for the baseline period. With a baseline period from 2000-2009, the midpoint of the baseline period was 2004. The relative percentage use of CII water in 2020 was applied to the gross water use in 2004 to calculate the CII water used. The CII water savings were ten percent of this result, or 0.1 gpcd.

##### *5.1.3.4.3 Landscape and Water Loss Savings*

According to the Final Target Method 4 Methodologies guidance document, landscape and water loss per capita use was calculated as the base daily per capita water use of 189 gpcd minus the standard indoor residential water use of 70 gpcd minus the CII water use of 0.1 gpcd. The draft provisional method estimates a default value for landscape and water loss savings of 21.6 percent. The landscape and water loss savings are therefore 25.4 gpcd.

##### *5.1.3.4.4 Metered Savings*

Because the number of connections in the City in 2004 was not available data, the City estimated the total amount of water delivered to unmetered connections during the midpoint year of the baseline period. A linear relationship was assumed between the year and the number of connections. This equation was projected to 2004 and resulted in approximately 2,270 connections in 2004. As with the CII calculations, the relative percentage use of unmetered water in 2020 was applied to the gross water use in 2004 to calculate the unmetered water used, resulting in approximately 110 unmetered

connections supplying 120 AF of water in 2004. According to Equation 4 of the Final Target Method 4 document, simplified by the Target Method 4 Calculator, the potential metering savings was 1.8 gpcd.

#### *5.1.3.4.5 Summary*

Based on the steps above, the total water savings is estimated at 42.3 gpcd. When compared with the baseline demand of 189 gpcd, this would result in a water conservation target of 147 gpcd.

**Table 5-4: Method 4 Summary**

| Use Category | Water Savings (gpcd) |
|---|---|
| Residential Indoor | 15.0[1] |
| CII | 0.1[2] |
| Landscape/ Water Loss | 25.4[3] |
| Metered | 1.8[4] |
| Totals | 42.3 |
| **Water Conservation Target** | **147** |

[1]Assumed value based on Provisional Method 4
[2]CII Water savings of 10% based on Provisional Method 4
[3]Landscape and Water Loss savings of 21.6% based on Provisional Method 4
[4]Metered savings of 20% based on Provisional Method 4

### 5.1.3.5 Minimum Water Use Reduction Requirement

The minimum reduction required by DWR is below 95% of the 5-year baseline of 183, which is 174 gpcd. This number is used as the target confirmation, to ensure that the target calculated is adequate to meet the State's objectives. Methods 1 and 4 satisfy this requirement.

## 5.1.4 Summary of Baseline and Targets

The 2020 target for the City's original area was determined using Method 1, 80% of the 10-year baseline. According to DWR guidelines, this target is valid because it is less than the target confirmation. A summary of the baselines and targets is presented in **Table 5-5**.

**Table 5-5: Baseline and Targets Summary for Original Area**

| Baselines (gpcd) | | Target Determinations (gpcd) | |
|---|---|---|---|
| 10-Year | 189 | Method 1 | 151 |
| 5-Year | 183 | Method 2 | N/A |
| | | Method 3 | 179 |
| | | Method 4 | 147 |
| | | Target Confirmation (gpcd) | 174 |
| | | **Target Selected (gpcd)** | **151** |
| | | **Interim Target (gpcd)** | **170[1]** |

[1]The 2015 Interim Target does not apply to the City because it did not become an urban water user until 2017.

While the change to the total service population is minimal, these calculations are included for thoroughness. Based on the above calculations, the 2020 target for the City as a whole was calculated to be 151 gpcd.

## 5.2 SBx7-7 Forms and Summary Tables

The following subsections present the information from City's SBx7-7 Verification forms according to the 2020 UWMP Guidebook requirements.

### 5.2.1 SBx7-7 Verification Form

As recommended in the 2020 UWMP Guidebook for first-time UWMP submissions, a New Verification Form and an SB X7-7 2020 Compliance Form have been prepared with the 2020 UWMP and are included in **Appendix B**.

### 5.2.2 SBx7-7 2020 Compliance

The City's 2020 per capita water use goal was set at 151 gpcd. The City has met this goal with a water use average of 150 gpcd for the year 2020 and achieved SBx7-7 compliance.

### 5.2.3 DWR Submittal Tables

In addition to reporting compliance on the SBx7-7 Compliance Form, the City is also required to report compliance on the DWR Submittal Tables 5-1 and 5-2, shown below.

**Table 5-6: Baselines and Targets Summary (Submittal Table 5-1)**

| Baseline Period | Start Year | End Year | Average Baseline GPCD | Confirmed 2020 Target |
|---|---|---|---|---|
| 10-15 Year | 2000 | 2009 | 189 | 151 |
| 5 Year | 2005 | 2009 | 183 | |

**Table 5-7: 2020 Compliance (Submittal Table 5-2)**

| Actual 2020 GPCD | 2020 Total Adjustments | Adjusted 2020 GPCD | 2020 Confirmed Target GPCD | Did Supplier Achieve Targeted Reduction for 2020 |
|---|---|---|---|---|
| 150 | 0 | 150 | 151 | Yes |

# 6 System Supplies

The UWMPA requires that the UWMP include a description of the agency's existing and future water supply sources for the next 20 years. The description of water supplies must include detailed information on the groundwater basin such as water rights, determination if the basin is in overdraft, adjudication decree, and other information from the groundwater management plan.

## 6.1 Water Supply Analysis Overview

Legal Requirements:

***CWC §10631(b)*** *Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier [in five-year increments to 20 years or as far as data is available] providing supporting and related information, including all of the following:*

*(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.*

*(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.*

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

The City is reliant on groundwater and surface water sources for its water supply; it is not anticipated this will change in the near future with regards to water supply for potable consumption. The following sections quantify each supply source, including future planned supplies over five-year increments through 2040. These supply sources will be quantified for the normal year, single-dry year, and a five-year period of multiple dry years.

The City's groundwater supplies are extracted from the Kaweah Subbasin, an unadjudicated basin underlying the area. The basin does not currently have legal limitations on groundwater pumping. The City is a participant in the EKGSA and the full text of the EKGSP is available on the EKGSA Website (https://ekgsa.org/) (EKGSA, 2023). EKGSA is working cooperatively with the other GSAs in the Kaweah Subbasin to manage the groundwater aquifer and reach sustainability by 2040. As part of those efforts, the agencies have agreed to manage groundwater extraction in a way that does not cause undesirable results in the aquifer.

## 6.2 Water Supply Characterization

The following subsections provide water supply availability quantification and narrative required under the CWC.

### 6.2.1 Purchased or Imported Water

The Friant-Kern Canal flows along the eastern edge of the City and is a vital potable water source. The City has a contracted allocation of approximately 2,500 acre-feet per year from the San Joaquin River

through the USBR as part of the CVP, Contract No. 5-07-20-W0428-LTR1 through 2045. However, allocations are dependent on the seasonal rainfall amounts and restoration flows to the San Joaquin River, based on the criteria set forth in the 2006 settlement agreement. During periods of reduced allocations, the City is solely reliant on groundwater to meet potable water demands. For example, during the years of 2014-2015 the City received no surface water allocation and was solely reliant on groundwater. However, when it is available, surface water use is preferred to groundwater use due to general sustainability concerns in the region and groundwater quality issues. **Table 6-1** summarizes the imported surface water from the CVP for the last 5 years.

The City has no other surface water contracts. The City has no history of purchasing surface water for either recharge or potable uses; refer to **Section 6.2.5** for more information. The City does not provide agricultural water within City limits.

**Table 6-1: Purchased or Imported Water Volume**

| Surface Water Type | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|
| Contract Water | 1,324 | 1,217 | 1,683 | 1,758 | 1,257 |
| **Total** | **1,324** | **1,217** | **1,683** | **1,758** | **1,257** |
| Units: AF | | | | | |

## 6.2.2 Groundwater

Legal Requirements:

***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.*

*(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.*

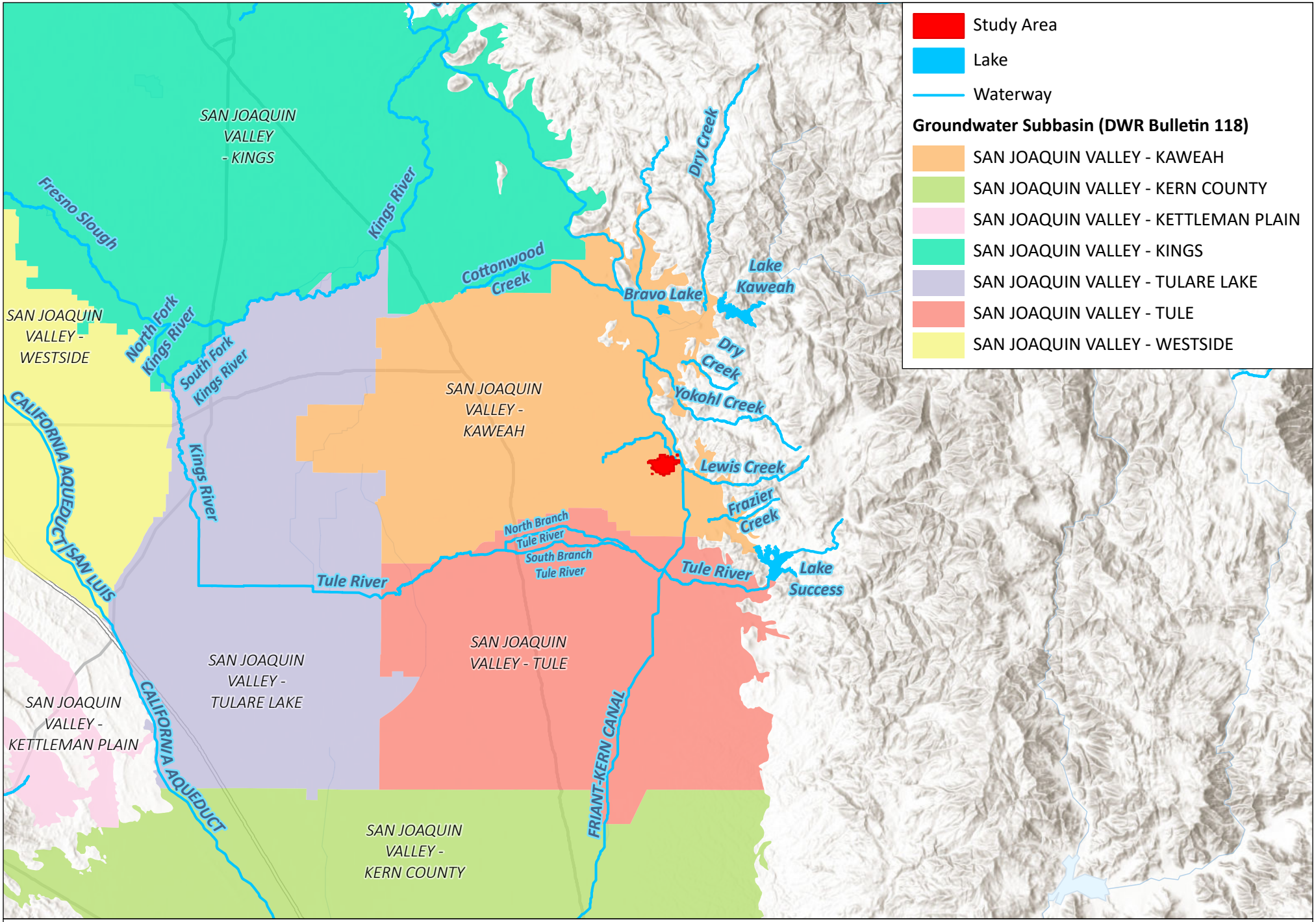
### 6.2.2.1 Basin Description

The City is located in the Tulare Lake hydrologic region and extracts its groundwater from the Kaweah Subbasin, one of nine subbasins in the San Joaquin Valley Groundwater Basin. **Figure 6-1** shows the

location of the City within the groundwater basin. The total surface area of the subbasin is 446,000 acres, or 696 square miles. The City occupies less than 0.4% of this area. The Kaweah Subbasin consists of alluvium emanating from the Sierra Nevada range. The Subbasin is bounded by the Kings River Subbasin to the north, the Tulare Lake Subbasin to the west, the Tule Subbasin to the south, and the Crystalline bedrock of the Sierra Nevada Mountains to the east.

The current volume of water in the entire basin, or in the basin portion underlying the City, is not precisely known at this time, and is dependent on groundwater levels to bedrock. In its 2020 Bulletin 118 update, DWR listed the Kaweah Subbasin as a groundwater basin subject to critical conditions of overdraft (DWR, 2020). In the Kaweah Subbasin Annual Monitoring Report in 2021, the cumulative change in storage since water year 1997 was -2,742,000 AF of storage, with an average change in storage of approximately -151,000 AF annually (Group, Provost & Pritchard Consulting, 2022). DWR's Bulletin 118 – California Groundwater (2004) estimated the Kaweah Subbasin had 11,600,000 AF of storage to a depth of 300 feet in 1995 (CA.GOV, 2011). Combining the estimated annual losses with the total cumulative loss since 1997 leaves the Kaweah Subbasin with approximately 8,560,000 AF of storage remaining in 2021.

Aquifers in the Kaweah Subbasin consist of alluvial sediments composed of unconsolidated gravels, sands, silts, and clays. Major streams in the area include the Kaweah and St. Johns rivers. DWR Bulletin 118 (California's Groundwater (Bulletin 118), 2023), the EKGSP (EKGSA, 2023), and the Subbasin-wide annual reports (Group, Provost & Pritchard Consulting, 2022) submitted to DWR include detailed descriptions of the Kaweah Subbasin and its characteristics and conditions.




0 5 10
Miles

**Figure 6-1. Groundwater Basins and Subbasins**

City of Lindsay 2020 Urban Water Management Plan

PROVOST& PRITCHARD

9/18/2023 \\ppeng.com\pzdata\clients\Lindsay_City of-3257\325722006-Engineering Reporting\400 GIS\Map\EngRptMaps.aprx

#### 6.2.2.2 Groundwater Quality

Around the City, groundwater is mainly of a bicarbonate type, transitioning to sodium bicarbonate waters near the western margin of the subbasin. While total dissolved solids (TDS) ranges from 35 to 1,000 milligrams per liter (mg/L) within the subbasin, average TDS is 189 mg/L (DWR, 2003). On the eastern side of the subbasin, there are localized areas of high nitrate pollution. There are also high salinity levels in the groundwater between Lindsay and Exter (DWR, 2020).

More locally, the City is contending with a number of existing groundwater quality issues including lead, disinfection byproducts, perchlorate, and nitrate. The City experienced an Action Level and 90th percentile Exceedance of lead in September 2021 at 4 out of 30 testing sites. The City is currently addressing this issue with additional testing, monitoring, and water system improvements. Disinfection byproducts (DBP), consisting of total trihalomethanes (TTHM), and Haloacetic acids (HAA5), were also found in exceedance of the maximum contaminant level (MCL). The City is working to collect samples, monitor the situation, and correct the issues. Well 11 is inactive due to exceedances of the MCL for perchlorate and nitrate. The well will remain on inactive 'emergency use only' status until a proposed project to treat the water to reduce the perchlorate and nitrate to below the MCL level is funded and implemented.

In addition to existing water quality concerns, there are several contaminants that may become critical in the near future. While not officially adopted yet, the Division of Drinking Water (DDW) recently announced a new draft Hexavalent Chromium (Cr6) MCL of 10 parts per billion (ppb [ug/L]). Previously, this impurity was regulated under the total chromium MCL. Existing water quality monitoring reports do not report this contaminant, but the City will need to monitor it in the future. There may be an impact to potential treatment methods of City wells including reverse osmosis or ion exchange. In addition, 1,2,3-Trichloropropane (TCP) has a primary MCL of 0.0005 µg/L, established by the DDW in 2017. This is a follow up of the Public Health Goal (PHG) of 0.0007 µg/L that was established in 2009. Since TCP was used as a component in agricultural fumigants applied over large areas of California, it is reasonable to expect that the City may be impacted. The City does not currently have wellhead treatment on any active well within its supply portfolio.

Beyond the aforementioned exceedances, the City is in compliance with the regulated constituents, as defined by the State Water Resources Control Board and regulated by the DDW.

#### 6.2.2.3 Groundwater Sustainability Plan

The City is part of the EKGSA. The EKGSA is working collaboratively under a coordination agreement with the other two (2) GSAs in the Kaweah Subbasin to achieve sustainable groundwater conditions by 2040, as required by SGMA for subbasins subject to critical conditions of overdraft. The EKGSA prepared the EKGSP and collaborated with the other Subbasin GSAs in the process.

SGMA identifies six (6) sustainability indicators to be monitored and reported to document sustainability: lowering groundwater levels, reduced [groundwater] storage, seawater intrusion, degraded [groundwater] quality, land subsidence, and surface water depletion. The EKGSA documents five (5) of these sustainability indicators with seawater intrusion not applicable to this region.

The EKGSP was submitted to DWR in January 2020 in compliance with SGMA. The GSP submitted to DWR in January 2020 was revised and resubmitted in July 2022 following an "Incomplete" determination by DWR. According to the Water Accounting Framework in the GSP, the EKGSA is allotted nearly 125,000 AFY of approximately 660,000 AFY accounted for in the subbasin (GSAs, 2021). The City's groundwater falls under this allotment. The EKGSP is included as **Appendix G**.

#### 6.2.2.4 Coordination with Groundwater Sustainability Agency

The City is partnering with Lindmore Irrigation District and EKGSA on a recharge project in the City's existing Mariposa basin which will extend into the future. The improvement project portion was recently completed and involved loosening the soil across the basin and extending one of Lindmore Irrigation District's delivery pipelines from the Friant-Kern Canal to the Lindsay Recharge Basin (Bettis, 2023). In wet years, Lindmore Irrigation District will provide water from their canal allocation and discharge to Mariposa pond. The City also has committed to 1,500 AF over a 10 year period. It is estimated that 150 acre-feet of water will return to the aquifer annually, but estimates suggest that as much as 700 acre-feet may be possible in wet years (Bettis, 2023).

In this way, the City is thinking about future groundwater supplies and responding to the region's variable climate.

#### 6.2.2.5 Historical Groundwater Pumping

The City currently obtains groundwater from groundwater wells. The City owns seven (7) groundwater wells; two (2) are active wells, three (3) are considered abandoned wells, and two (2) are inactive- one of which is slated for restoration and future use. The combined rated pumping capacity of the City's active wells is approximately 1,950 gallons per minute (gpm). However, in practice, when Well 14 and Well 15 are both in use, their individual operating capacity is reduced; the resulting operating well capacity of the City is only 1,320 gpm. The City's water supply wells are summarized in **Table 6-2**.

**Table 6-2: Water Supply Wells**

| Well No. | Capacity (gpm) | | Current Status | Notes |
|---|---|---|---|---|
| | Planned Capacity | Operating Well Capacity | | |
| **2** | 600 | - | Abandoned | |
| **4** | 800 | - | Abandoned | |
| **6** | 800 | - | Abandoned | |
| **11** | 1,000 | - | Inactive | Planned Restoration and Future Use |
| **13** | 1,100 | - | Inactive | Landscape Irrigation Only |
| **14** | 750 | 520 | Active | |
| **15** | 1,200 | 800 | Active | |
| **Total** | **1,950** | **1,320** | | |

In 2020, groundwater provided 44% of the total potable water used. The historical volume of groundwater pumped by the City over the past five years is provided in **Table 6-3**.

**Table 6-3: Groundwater Volume Pumped (Submittal Table 6-1)**

| Groundwater Type | Basin Name | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| Alluvial Basin | Kaweah Subbasin 5-22.11 | 1,110 | 1,256 | 785 | 670 | 987 |
| **Total** | | **1,110** | **1,256** | **785** | **670** | **987** |
| Units: AF | | | | | | |

### 6.2.3 Surface Water

The City's only available surface water is described in **Section 6.2.1** under Purchased or Imported Water.

### 6.2.4 Stormwater

The City also has stormwater basins spread throughout the city limits. These basins are connected to the City's existing piped storm drain system and are primarily used to alleviate flooding. The stormwater basins are sized to capture the 100-year storm event runoff and allowed to percolate into the groundwater. Each basin acts independently, and they are not connected to any external facilities. In events where storm drainage basin capacity is potentially exceeded water overflows to the local surrounding areas. No data is currently available on stormwater recharge volumes in the City.

### 6.2.5 Wastewater and Recycled Water

This section describes the City's wastewater system and potential opportunities for recycled water. The City does not recycle water for direct use of any kind at this time. Treated effluent from the wastewater treatment plant (WWTP) is disposed through on-site percolation ponds. Additionally, the City is collaborating with Lindmore Irrigation District and EKGSA for groundwater recharge in wet years. Although these actions are not considered recycled water according to UWMP guidelines, they help to recharge the groundwater supply.

#### 6.2.5.1 Recycled Water Coordination

Legal Requirements:

***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.*

The City does not currently recycle water for direct use. While the City does have WWTP effluent, as described in subsequent sections, the amount of infrastructure required at the WWTP and throughout the City to implement a recycled water system would be extensive. At present, such an expansion is not financially feasible for the City.

#### 6.2.5.2 Wastewater Collection, Treatment, and Disposal

Legal Requirements:

***CWC §10633***

*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.*

#### *6.2.5.2.1 Wastewater Collection System*

Wastewater is collected throughout the City via a network of sanitary sewer collection pipelines ranging from 4 to 22 inches in diameter. The influent is gravity-fed to the WWTP, located approximately 1.4 miles northwest of the City limits. The original WWTP was constructed around 1911 and provides primary and secondary treatment. A major plant expansion and upgrade occurred around 1999 and increased the capacity to approximately 2.5 million gallons per day (mgd). The WWTP has approximately 115 acres of land for incidental recharge and evaporation of effluent. The treatment process consists of headworks, screening, oxidation ditches, final clarification, RAS/WAS pump station, and scum pump station.

The average daily wastewater volume for 2020 was estimated to be approximately 1.4 mgd. The City has no facilities for extensive storage of wastewater prior to treatment. No septage haulers from outside the City service bring in additional wastewater volume. **Table 6-4** summarizes the current wastewater collected from within the City.

**Table 6-4: Wastewater Collected Within Service Area in 2022 (Submittal Table 6-2)**

| 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 (AF) | Name of Wastewater Treatment Agency Receiving Collected Wastewater | Treatment Plant Name | Is WWTP Located Within UWMP Area? |
| City of Lindsay | Measured | 1,576 | City of Lindsay | Lindsay Wastewater Treatment Plant | Yes |

#### *6.2.5.2.2 Wastewater Treatment Facilities*

The effluent from the City's WWTP is disposed to several percolation / evaporation ponds of varying size, with the smallest and largest ponds approximately 3 and 22 acres, respectively. **Table 6-5** summarizes the current wastewater treated and discharged by the City.

**Table 6-5: Wastewater Treatment and Discharge (Submittal Table 6-3)**

| Wastewater Treatment Plant Name | Treatment Level | 2020 Volumes | | | |
|---|---|---|---|---|---|
| | | Wastewater Treated (AF) | Discharged Treated Wastewater (AF) | Recycled within Service Area (AF) | Recycled Outside of Service Area (AF) |
| Lindsay Wastewater Treatment Plant | Secondary, Un-Disinfected | 1,576 | 1,576 | 0 | 0 |
| | **Total** | **1,576** | **1,576** | **0** | **0** |
| Discharge Information | Discharge Location Name or Identifier | | | | WWTP Percolation Ponds |
| | Discharge Location Description | | | | 115 acres at WWTP |
| | Method of Disposal | | | | Percolation Ponds |
| | Does this Plant Treat Wastewater Generated Outside the Service Area? | | | | No |

### 6.2.5.3 Recycled Water System Description

Legal Requirements:

***CWC §10633***

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

The City does not currently recycle water. Treated effluent from the WWTP is disposed through percolation ponds at the WWTP, which, though not considered recycled water by DWR, helps recharge the Kaweah Groundwater Subbasin.

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

Legal Requirements:

***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.*

*(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.*

The City does not currently use recycled water within its service area. Several potential beneficial uses of recycled water exist, including industrial water usage and landscape irrigation. If recycled water projects are explored, the City will most likely pursue grants to help offset portions of the design and capital costs.

Any potential use for recycled water would have to improve water balance from the current operation, which effectively allows most treated wastewater to percolate back to the drinking water aquifer. An

application where recycled water could directly replace groundwater pumping would be a more efficient use of the water and could be advantageous if the business case could be made. **Table 6-4** shows the current and projected recycled water direct beneficial users.

**Table 6-6: Current and Projected Recycled Water Direct Beneficial Uses (Submittal Table 6-4)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Name of Agency Producing (Treating) the Recycled Water | | | | | N/A | | |
| Name of Agency Operating the Recycled Water Distribution System | | | | | N/A | | |
| Supplemental Water Added in 2020 | | | | | 0 | | |
| Source of 2020 Supplemental Water | | | | | N/A | | |
| Beneficial Use Type | General Description of 2020 Users | Level of Treatment | 2020 | 2025 | 2030 | 2035 | 2040 |
| N/A | N/A | N/A | 0 | 0 | 0 | 0 | 0 |
| | | **Total** | **0** | **0** | **0** | **0** | **0** |

#### *6.2.5.4.1 Planned versus Actual Use of Recycled Water*

Legal Requirements:

> ***CWC §10633***
> *(e) (Provide) a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.*

The City has not completed any previous studies on the feasibility of recycling wastewater for beneficial reuse. Since the City currently doesn't use recycled water and there are no previous completed studies, there are no comparisons to make between the two scenarios.

**Table 6-7: 2015 Recycled Water Use Projection Compared to 2020 Actual (Submittal Table 6-5)**

| Use Type | 2015 Projection for 2020 | Actual 2020 Use |
|---|---|---|
| N/A | 0 | 0 |

Units: AF

### 6.2.5.5 Actions to Encourage and Optimize Future Recycled Water Use

Legal Requirements:

> ***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…and shall include the following:*
> *(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.*

The City is aware of the many benefits of utilization of recycled water, but it is not currently financially feasible at the present time. The City would be open to implementing recycled water for industrial and landscape water uses if a significant portion of the design and capital costs can be funded through grants and if uses can be found which directly reduce use of potable water. **Table 6-8** summarizes the actions taken by the City to encourage and optimize future recycled water use.

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

| Name of Action | Description | Planned Implementation Year | Expected Increase in Recycled Water Use (AF) |
|---|---|---|---|
| Grant funding opportunities for recycled water projects | Seek funding for capital projects if economics of recycled water improve | Unknown | Unknown |

### 6.2.6 Desalination Water Opportunities

Legal Requirements:

***CWC §10631(g)*** *Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.*

The groundwater that the City relies on is not brackish or in need of desalination. If this were to change in the future, the City will consider this option.

### 6.2.7 Exchanges or Transfers

Legal Requirements:

***CWC §10631(c)*** *Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.*

The City has an allocation of surface water from the San Joaquin River for approximately 2,500 acre-feet. Allocations are subject to approval by the USBR and may be reduced to aid with the San Joaquin River Restoration Program. Full allocations are expected only in above average rainfall years. There is an agreement through 2045 between the City and USBR for the surface water allocation.

#### 6.2.7.1 Exchanges

The City does not have any agreements in place to exchange water with other agencies, nor does the City have long-term plans to exchange water.

#### 6.2.7.2 Transfers

As a long-term CVP Contractor, the City has the potential to transfer supplies with other Contractors. However, the City does not currently have any plans to transfer water from nearby water providers. As the City continues to expand, the City could explore opportunities to obtain water rights through transfers from areas annexed into the City.

#### 6.2.7.3 Water Banking Facility

The City does not currently have any water banking facilities, nor does it have plans to participate in any water banking projects.

#### 6.2.7.4 Emergency Interties

The City does not currently have any emergency interties with adjacent water systems.

### 6.2.8 Future Water Projects

Legal Requirements:

***CWC §10631(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.*

Future water projects for the City of Lindsay are documented in their 2022 WFS (Provost & Pritchard , 2022). The City's WFS includes plans to add multiple groundwater wells to address both existing deficiencies and necessary expansions to accommodate planned growth. Note that projects will be implemented as needed and as possible, which may not strictly align with the schedule in the WFS.

According to the WFS, the City will need additional wells in 2024, or as soon as feasible, to meet current winter demands, particularly in years when the Friant Kern Canal undergoes maintenance activities (approximately every third year). The Well 11 groundwater treatment project will partially fulfill this need. In addition to this, three new supply wells and corresponding drinking water test wells and infrastructure will likely be needed. The timing of the third well will depend on per capita demand trends. These added supply sources can be provided via additional groundwater wells or through additional surface water storage (i.e., a reservoir) so surface water deliveries received spring through fall could be utilized during the winter months. Since the new wells will likely need to be located outside the City's existing water system to avoid groundwater quality issues, new infrastructure may be required. **Table 6-9** summarizes the water supply projects (new wells) outlined in the current WFS (Provost & Pritchard , 2022).

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

| 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 (AF) |
|---|---|---|---|---|---|
| New Well #1 | No | 850 gpm well to address winter demand | 2024-2025 | Average Year | 1,370 |
| New Well #2 | No | 1,000 gpm well to address winter demand | 2026-2027 | Average Year | 1,610 |
| New Well #3 | No | 750 gpm well to address winter demand with population growth | 2029-2030 | Average Year | 1,210 |
| Well 11-Water Treatment | No | 1,000 gpm well to address winter demand | 2023-2025 | Average Year | 1,610 |

## 6.2.9 Summary of Existing and Planned Sources of Water

Legal Requirements:

***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 10631(a).*

*(4)(D) (Provide 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.*

### 6.2.9.1 Description of Supplies

#### *6.2.9.1.1 Groundwater*

The City plans to continue using groundwater to meet their water demands. The City has made extensive progress in reducing per capita demands, which has reduced stress on the groundwater aquifer.

#### *6.2.9.1.2 Surface Water*

The City continues to utilize their surface water allocations from the CVP on the Friant Kern Canal to reduce their reliance on groundwater when possible. The City currently doesn't have any plans to purchase any additional surface water rights.

#### *6.2.9.1.3 Supply from Storage*

The City's water storage requirements include operational, emergency and fire storage. The available storage consists of a single 4-million-gallon storage tank, at the north end of town. The City does not currently have any plans to build additional storage facilities.

#### *6.2.9.1.4 Summary of Existing and Planned Sources of Water*

In recent years, the City has been moving from dependence on both surface water and groundwater toward greater groundwater reliance. This is due to the extreme variability in recent years of CVP allocations available to the City because of increased environmental variability and required environmental flows. In 2014 and 2015, the City received 0% of its allocation of surface water. The following two years, the City received 100% of its allocation. Since then, the availability of groundwater has varied. A 55-year historical record of the Friant Kern Canal deliveries including the San Joaquin River Restoration flows averaged a CVP Class I delivery of 87%. However, in the last 10 years, this average has been only 67%, with 5 of the last 10 years receiving 50% allocation or less.

This percentage is utilized for the projection purposes of this report. **Table 6-10** summarizes the existing and planned sources of water for the City.

**Table 6-10: Water Supplies – Actual & Projected (Submittal Tables 6-8 and 6-9)**

| Water Supply | Additional Details on Water Supply | Category | 2020 Actual Volume Used (AF) | Projected Reasonably Available Water Supply (AF)[3] | | | |
|---|---|---|---|---|---|---|---|
| | | | | 2025 | 2030 | 2035 | 2040 |
| Groundwater (not desalinated) | Kaweah Subbasin 5-22.11[1] | Potable | 1,072 | 680 | 679 | 766 | 857 |
| Surface water (not desalinated) | CVP Class I Supplies Projected at 67% Allocation[2] | Potable | 1,257 | 1,675 | 1,675 | 1,675 | 1,675 |
| | | **Total** | **2,329** | **2,355** | **2,354** | **2,441** | **2,532** |

[1]Groundwater use calculated to meet projected demand, after surface water supplies are utilized. Actual groundwater use may vary depending on surface water availability.

[2]Average allocation from the last 10 years

[3]By 2030, additional well capacity is expected to increase by roughly 1,850 gpm (2,984 AFY) with the restoration of Well 11 and the addition of a new well.

## 6.2.10 Special Conditions

### 6.2.10.1 Climate Change Impacts to Water Supply Sources

The impacts on the City's water supply due to climate change could take many forms but are likely to impact surface water supplies most. It is anticipated that precipitation will occur in the form of rain, instead of snowpack, more often and snowmelt and its associated runoff will begin earlier than in the past. This change will require that more water storage facilities be available to capture the water supply that would have otherwise been 'stored' as snowpack in the mountains.

### 6.2.10.2 Regulatory Conditions

The introduction of SGMA has been a major modification to how water supplies are considered. The Kaweah Subbasin has a good plan to work cooperatively in managing their groundwater basin and reaching sustainability. It is not anticipated that additional regulation will be introduced to further modify how the agencies can access and utilize water supply sources. If the cooperative approach to SGMA compliance does not continue, additional regulation may be a possibility in the form of adjudication of the groundwater basin.

### 6.2.10.3 Seismic Risk Assessment & Mitigation Plan

The City is covered by the Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP) published in March 2023. A portions of the MJLHMP, Annex D, is included as **Appendix G**. A seismic risk assessment for the County was performed as part of this plan. According to that plan, the City falls into the low to moderate ranges of the scale of earthquake severity risk and is considered distant from known, active faults. Earthquakes are considered an only occasional hazard for the City, significantly less than drought and climate change. In the event of seismic activity, the City might suffer extensive damage of limited magnitude. While it is expected that only weaker buildings might be damaged,

infrequent severe earthquakes could cause more severe shaking and damage. Numerous building and zoning codes exist at the local level to decrease the impact of seismic events. Annex D of the MJLHMP details the financial, planning, and regulatory capabilities, administrative and technical resources, and previous and ongoing mitigation activities currently available to the City.

## 6.3 Energy Consumption

The City tracks their energy use on a per supply source basis, i.e., energy use per well, on a monthly basis. In 2020, through pumps associated with groundwater wells, the City used approximately 1.2 million kilowatt hours (kWh) of power to produce 3,586 AF of water into the distribution system, yielding a power consumption of 341.0 kWh/AF as shown in the following table. These figures include energy used by the wastewater system, including wastewater delivered to the City WWTP, as those are attributable to the City. **Table 6-11** summarizes the energy usage for Lindsay in 2020.

**Table 6-11 Energy Consumption (Submittal Table O-1A)**

| Urban Water Supplier | | City of Lindsay | | | | | |
|---|---|---|---|---|---|---|---|
| Start Date: | 1/1/2020 | Urban Water Supplier Operational Control | | | | | |
| End Date: | 12/31/2020 | Water Management Process | | | | | |
| | Units | Extract and Divert (A) | Place into Storage (B) | Convey-ance (C) | Treat-ment (D) | Distribu-tion (E) | Total Utility |
| Volume of Water Entering Process | AF | 1,226 | 0 | 0 | 1,257 | 2,484 | 2,484 |
| Energy Consumed | kWh | 692,426 | 1,541 | 0 | 43,980 | 485,133 | 1,223,080 |
| Energy Intensity | kWh/AF | 564.6 | 0.0 | 0.0 | 35.0 | 195.3 | 492.4 |
| Quantity of Self-Generated Renewable Energy: | | 0 kWh | | | | | |
| Data Quality: | Metered Data | | | | | | |
| Data Quality Narrative: | Column A accounts for groundwater extracted from Wells 14 & 15; Column B accounts for water placed into storage and energy required to pump it to that facility; Column D accounts for all water processed through the SWTP and energy required to run the SWTP; Column E accounts for all water distributed through the water system and energy associated with moving it throughout the system via booster pumps, including into and out of temporary storage reservoirs. | | | | | | |

# 7 Water Supply Reliability

The UWMPA requires that the UWMP address the reliability of the City's long-term water supplies. This includes a description of supply constraints which may impact the supply. Also included is a comparison between the City's supply and demand.

Legal Requirements:

***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.*

## 7.1 Constraints on Water Sources

Legal Requirements:

***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.*

Given there are a variety of circumstances that can render a source inconsistent, determining the supply reliability for the City is complex because of the intricate factors that accompany a water source. These factors include legal issues, environmental constraints, infrastructure, water quality, and climatic variations.

### 7.1.1 Legal

The groundwater supplies the City relies upon are not adjudicated. The surface water supplies have long-range contracts to document quantities and availability to the City.

Since SGMA became effective, the City has been working collaboratively with other agencies also reliant on the groundwater basin to reach sustainable management of the groundwater aquifer prior to 2040, as required. The City's groundwater supplies were forecasted to increase with population growth into the future. This trend continues to 2040; however, the total quantity of groundwater needed is less due to compliance with SBx7-7 and upcoming compliance with AB 1668, SB 606, and SB 1157.

Should new legal requirements or basin adjudication come into effect prior to the 2025 UWMP Update, the City will endeavor to understand and comply with those regulations as they are written and provide documentation of those efforts in the 2025 UWMP Update.

### 7.1.2 Environmental

The status of environmental regulation in California is routinely changing due to new legislation, endangered species statuses, and other factors. Currently, the surface water received by the City from the CVP is impacted by restoration flow requirements to the San Joaquin River. Should new environmental legislation come into existence, it could potentially reduce the City's available supply. The City will continue to monitor environmental regulations for impacts to the City's system.

### 7.1.3 Infrastructure

The City's surface water availability is affected by infrastructure maintenance on the Friant Kern Canal. A critical time for the City is created by the maintenance cycle of the Friant Kern Canal, which is taken out of operation for two to four months in the fall of every third year, making surface water completely unavailable for that time. The winter supply is limited to the capacity of the groundwater wells for the time when the Friant Kern Canal is offline for maintenance.

The City's water availability is also affected by electricity availability. In case of power loss, the higher capacity well of the two wells currently in use (Well 15) is equipped with a backup portable generator. This would enable the City to provide a reasonable portion of its normal water production in case of electricity loss.

### 7.1.4 Water Quality

The regulatory and legal requirements pertaining to water quality are frequently changing in the State of California due to revisions to existing or introduction of new MCLs for various primary and secondary constituents throughout the State.

At the subbasin-level, the primary constituent of concern is nitrogen. This is a legacy issue that has largely been the focus of the Irrigated Lands Regulatory Program (ILRP). While many constituents are being monitored throughout the subbasin, undesirable results have not yet occurred. While the EKGSA is working on developing Groundwater Quality Monitoring Networks, the current data sets do not have historical wide-spread monitoring for several constituents of concern. The constituents currently being monitored within the GSA are arsenic, chlorine, chromium-6 (Cr6), 1,2-Dibromo-3-chloropropane (DBCP), sodium, nitrate, polychlorinated terphenyl (PCATE), TCP, and TDS (GSAs, 2021).

The City itself also has several existing groundwater quality issues, including lead and DBP. The City experienced an Action Level and 90th percentile exceedance of lead in September 2021 at 4 out of 30 testing sites. The City is currently addressing this issue with additional testing, monitoring, and water system improvements. DBP, consisting of TTHM and HAA5, was found in exceedance of the MCL. The City is working to collect samples, monitor the situation, and correct the issues. A single exceedance for turbidity was experienced by the City in March 2021. This exceedance was caused by changes in water quality in the Friant Kern Canal water supply and the City adjusted treatment operations to achieve compliance. Well 11 is inactive due to exceedances of the MCL for perchlorate and nitrate. The well will remain on inactive 'emergency use only' status until a proposed project to treat the water to reduce the perchlorate and nitrate to below the MCL level is funded and implemented. In addition to existing water

quality concerns, there are several contaminants that may become critical in the near future. While not officially adopted yet, the Division of Drinking Water recently announced a new draft Cr6 MCL of 10 ppb (ug/L). Previously, it was regulated under the total chromium MCL. Existing water quality monitoring reports do not report this contaminant but the City will need to monitor it in the future. It could also influence treatment methods of City wells which may include reverse osmosis or ion exchange. Similarly, TCP has a primary MCL that was revised in 2017 from 0.0007 µg/L to 0.0005 µg/L. Since TCP was used as a component in agricultural fumigants applied over large areas of California, it is reasonable to expect that the City may be impacted. The City will continue to monitor those and any new constituents, if needed, to remain in compliance with regulations and reporting requirements.

### 7.1.5 Climatic Variations

As climate change becomes more quantifiable and potentially affects the local water conditions more, alterations in the water supply planning arena may become necessary. Climate change elements such as drought, greater proportion of precipitation falling as rain instead of snow in the watershed, or massive flooding could potentially affect supply reliability, thus requiring the City to modify their water supplies.

Climate change impacts on groundwater should be less significant to overall water management strategies, as the City is already positioning to respond to SGMA and achieve groundwater sustainability by 2040. Without groundwater sustainability achieved, groundwater levels could continue to decline, impacting the overall access to and quantity of groundwater in the aquifer.

The City will continue to monitor impacts to the water supply as a result of climate change and other factors and is poised to respond through adaptation strategies if needed. Adaptation may consist of water conservation methods, more extensive master planning, acquisition of surface water supplies for recharge or potable uses, increased usage of recycled water, and investment in infrastructure to support the previously stated measures.

## 7.2 Reliability by Type Year

This section considers the City's water supply reliability during three water scenarios: normal year, single-dry year, and multiple-dry year period.

### 7.2.1 Types of Years

The reliability scenarios to be considered are defined as follows:

- ***Average year****: This condition represents the water supplies a Supplier considers available during normal conditions. This could be a single year or an averaged range of years that closely represents the average water supply available to the Supplier. In the 2020 UWMP Guidebook, DWR uses the terms average and normal interchangeably when addressing the water year type.*
- ***Single-dry year:*** *the year that represents the lowest water supply available to the City. Generally considered to be the lowest annual runoff for a watershed since the water-year beginning in 1903. Suppliers should determine this for each watershed from which they receive supplies.*

- ***Multiple-dry year period:*** *the period that represents the lowest average water supply available to the City for a consecutive multiple year period. Generally considered to be the lowest average runoff for a consecutive multiple year period (five years or more).*

**Table 7-1** summarizes the base years for the average, single and multi-dry year periods. In addition, the available supply volume and percent relative to the normal/average year is listed. As shown, the representative normal year is 2009, while 2015 represents the lowest supply year (single dry year). **Table 7-1** reflects the recent 2012 through 2016 drought since accurate water supply records were available. The relatively small differences between the percent of average supply in dry years compared to average years is due to the switch in dry years from surface water use to groundwater use.

The City's groundwater supply has historically been very consistent, due in large part to the reliability of the groundwater aquifer, and it is anticipated this will continue into the future. However, as SGMA is further implemented, it is possible that there may be further restrictions on groundwater pumping, particularly in critical dry and multiple dry years.

The surface water available to the City is of a CVP Class I type, but has been much less reliable in recent years. Given historical CVP Class I allocations for the last 10 years, the available supply for surface water is projected at 67% for normal years.

**Table 7-1: Bases of Water Year Data (Submittal Table 7-1)**

| Year Type | Base Year | Available Supplies if Year Type Repeats | | |
|---|---|---|---|---|
| | | | Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. | |
| | | X | Quantification of available supplies is provided in this table as either volume only, percent only, or both. | |
| | | | Volume Applied (AF) | Percent of Average Supply |
| Normal/Average Year | 2009 | | 2,883 | 100% |
| Single-Dry Year | 2015 | | 2,242 | 78% |
| Multiple-Dry Year 1 | 2012 | | 2,481 | 86% |
| Multiple-Dry Year 2 | 2013 | | 2,889 | 100% |
| Multiple-Dry Year 3 | 2014 | | 2,511 | 87% |
| Multiple-Dry Year 4 | 2015 | | 2,242 | 78% |
| Multiple-Dry Year 5 | 2016 | | 2,434 | 84% |

# 7.3 Supply and Demand Comparison

Legal Requirements:

***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 total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry 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.*

## 7.3.1 Reliability – Normal Year

The projected normal water year supply and demand from 2025 through 2040 are shown in **Table 7-2**.

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

| | 2025 | 2030 | 2035 | 2040 |
|---|---|---|---|---|
| Supply Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| Demand Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| **Difference** | **0** | **0** | **0** | **0** |

Units: AF

As shown, demands are expected to correlate directly with projected population estimates from 2025 to 2040 and supply is projected to match demands. The supply to customers will be provided by both groundwater and surface water, with a slight surplus in surface water resulting in a lower required quantity of groundwater to be pumped. In other words, the excess shown in in **Table 7-2** will result in a savings in groundwater pumped in normal years.

## 7.3.2 Reliability – Single Dry Year

The single dry year scenario below illustrates that when the City receives a 0% surface water allocation, their groundwater supply is unable to meet their projected population's demand. This illustrates the City's need to move toward greater groundwater reliance, as there is no ostensible additional surface water supply available. This projection takes into account well capacity constraints, but account for possible state-wide mandates for conservation beyond that required by SBx7-7, SB 606, AB 1668, and SB 1157. Neither does it account for groundwater pumping restrictions that may arise from SGMA, or any possible future adjudication of the basin. The single-dry year supply and demand are shown in **Table 7-3**.

**Table 7-3: Single-Dry Year Supply and Demand Comparison (Submittal Table 7-3)**

| | 2025 | 2030 | 2035 | 2040 |
|---|---|---|---|---|
| Supply Totals | 2,129 | 2,354 | 2,441 | 2,532 |
| Demand Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| **Difference** | **(226)** | **0** | **0** | **0** |

Units: AF

### 7.3.3 Reliability – Five Consecutive Dry Years

The projected multiple-dry year supply and demand from 2025 through 2040 is presented in **Table 7-4**. It is anticipated that State-wide conservation mandates would be required during a prolonged drought; however, the magnitude of those mandates is unknown. While supplies would be available from the aquifer to meet the demands, additional wells would be required in dry years as the capacity of both existing wells running together would be less than what is required in the third and fourth years.

**Table 7-4: Multiple-Dry Year Supply and Demand Comparison (Submittal Table 7-4)**

| | | 2025 | 2030 | 2035 | 2040 |
|---|---|---|---|---|---|
| First Year | Supply Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| | Demand Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| | **Difference** | **0** | **0** | **0** | **0** |
| Second Year | Supply Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| | Demand Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| | **Difference** | **0** | **0** | **0** | **0** |
| Third Year | Supply Totals | 2,129 | 2,354 | 2,441 | 2,532 |
| | Demand Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| | **Difference** | **(226)** | **0** | **0** | **0** |
| Fourth Year | Supply Totals | 2,129 | 2,354 | 2,441 | 2,532 |
| | Demand Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| | **Difference** | **(226)** | **0** | **0** | **0** |
| Fifth Year | Supply Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| | Demand Totals | 2,355 | 2,354 | 2,441 | 2,532 |
| | **Difference** | **0** | **0** | **0** | **0** |

### 7.3.4 Description of Management Tools and Options

Legal Requirements:

> ***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.*

#### 7.3.4.1 Groundwater Reliability

The City's wells draw water from a non-adjudicated groundwater basin (Kaweah Subbasin) with no present limits on pumping. Currently, the number and capacity of wells limits the available groundwater supply. However, the basin has been labeled as being in a critical state of overdraft. Therefore, reliability of the groundwater supply will depend on the long-term balance between groundwater extraction and recharge for the Subbasin as a whole, as discussed in previous sections.

To minimize the City's contribution to groundwater depletion, sustainable use of groundwater supply sources is a primary focus of the City's urban water management activities extending into the future. The City may consider engaging in groundwater recharge activities for their treated wastewater effluent or when surface water supplies are available to replenish the water table to offset pumping to meet future GSP requirements. As a participating party in the EKGSA and the EKGSP, the City continues to actively pursue joint efforts to address overdraft.

#### 7.3.4.2 Surface Water Reliability

Surface water is supplied by the CVP (Class I) and conveyed to the City via the Friant Kern Canal. However, climate change in the region has contributed to decreased surface water reliability. This supply is impacted by the level of snowmelt and precipitation received in other areas of the State and is susceptible to dry conditions. It is also subject to habitat restoration flows which decrease the allocation the City receives. The City's contract provides up to 2,500 AFY, but the allocated amount varies with climatic conditions and environmental needs.

While the City historically relied on surface water resources, extreme variability in available surface water supply in recent years has encouraged the City to move toward decreased reliance on surface water.

#### 7.3.4.3 Recycled Water Reliability

The City does not recycle water therefore this section does not apply.

## 7.4 Drought Risk Assessment

Legal Requirements:

***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.*

### 7.4.1 DRA Data, Methods, and Basis for Water Shortage Conditions

The Drought Risk Assessment (DRA) for the City has been prepared for the next five years' (2021-2025) supplies and demands based on the supply impacts seen during the 2012-2016 drought period. This requires the City to evaluate whether it can accommodate another historic drought if it were to begin in

2021. The DRA shows the City would need to enact water conservation measures at Level 2 of the WSCP (or a savings of 18%) to reduce demands. The City's efforts in the 2012-2016 drought have proven its ability to accomplish significant conservation when mandatory measures are enacted.

#### 7.4.1.1 Water Use

The water use values are a projection between the actual water use in 2020 (**Table 4-3**) and the projected water use in 2025 (**Table 4-4**). This linear projection, beginning in 2021 and culminating in 2025, does not account for conservation or other demand reductions.

#### 7.4.1.2 Water Supply

The water supply value considers the City's primary and secondary supply sources of groundwater and surface water, respectively. For purposes of the DRA, the groundwater quantity available is equal to the total active well supply working capacity of 1.9 mgd (2,130 AFY). For the purposes of the DRA, the surface water quality available in normal years is projected at 67% allocation in normal years, with 0% allocation in dry years as seen in the historical trends.

#### 7.4.1.3 Water Shortage Conditions

The DRA utilizes the same levels discussed in the Water Shortage Contingency Plan (WSCP) and the related use reduction benefit is shown in the table below. The required reductions range from 0 to 18 percent, depending on the year. The results of the WSCP are expected to differ somewhat from what was experienced in the 2012-2016 drought because at that time the City was following a slightly different water conservation procedure.

### 7.4.2 Individual Water Source Reliability

Groundwater is considered a very reliable water supply. For purposes of the immediate five-year DRA, the City will consider its current operational pumping capacity as the quantity available to match demands; however, it is understood there could be mandated conservation during a prolonged drought. In that instance, the City would utilize methods discussed in the WSCP to reduce system demands.

As previously stated, the Class I CVP surface water supplies available to the City have not been reliable in recent years. While surface water decreases groundwater supply requirements in normal and wet years, the City expects must be prepared for very low allocations in dry years. Therefore, the City must plan to rely on groundwater only in dry years.

### 7.4.3 Total Water Supply and Use Comparison

The following comparison is completed on an annual basis rather than a monthly or quarterly basis. **Table 7-5** summarizes the supply and demand comparison along with impacts due to planned WSCP actions.

**Table 7-5: Five-Year Drought Risk Assessment (Submittal Table 7-5)**

| Year | Without WSCP Actions | | | Planned WSCP Actions | | | |
|---|---|---|---|---|---|---|---|
| | Total Water Use | Total Supplies | Surplus/ Shortfall w/o WSCP Action | Supply augmentation benefit | Use reduction savings benefit | Revised Surplus/ (shortfall) | Resulting % Use Reduction from WSCP action |
| 2021 | 2,334 | 2,334 | 0 | 0 | 0 | 0 | 0% |
| 2022 | 2,340 | 2,340 | 0 | 0 | 0 | 0 | 0% |
| 2023 | 2,345 | 2,129 | (216) | 0 | 422 | 206 | 18% |
| 2024 | 2,350 | 2,129 | (221) | 0 | 423 | 202 | 18% |
| 2025 | 2,355 | 2,500 | 145 | 0 | 0 | 145 | 0% |

# 8 Water Shortage Contingency Planning

Legal Requirements:

***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.*

The UWMPA requires that the UWMP include an urban water shortage contingency analysis that addresses stages of action to be undertaken by the urban water supplier in response to water supply shortages ranging from less than 10 to greater than 50 percent supply reduction, and an outline of specific actions applicable to each stage. In addition to the stages of action, the City is required to develop mandatory prohibitions against specific water use during shortages and consumption reduction methods in the most restrictive stages.

The City's WSCP is an independent document from the UWMP and can be found in **Appendix C**.

# 9 Demand Management Measures

This section provides a comprehensive description of the water conservation programs that the City has implemented, is currently implementing, and plans to implement in order to meet its urban water use reduction targets.

## 9.1 Demand Management Measures

Legal Requirements:

***CWC §10631***

*(f)(A)…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 measure 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.*

The UWMPA requires urban water suppliers to provide information regarding water conservation and DMMs compliance; this Section provides that information. The UWMPA was amended in 2014 to streamline DMMs from 14 specific measures to six more general requirements and an "other" category.

In May 2022, the City adopted a Water Conservation Plan. Since then, the City has developed a WSCP to further build on the City's ability to conserve water. The City takes water conservation very seriously and considers implementation of DMMs as a necessity to achieve the goals of the conservation program.

### 9.1.1 Water Waste Prevention Ordinance

The City identifies drought water rate structures for water waste or violating current drought regulations. The water waste ordinances from the City of Lindsay's Water Conservation Plan have been carried over to its WSCP (see **Appendix C**). The penalties associated with each stage of a water shortage are provided for residential and non-residential residents below. Per Title 1, General Provisions of the Municipal Code of the City of Lindsay, Chapter 1.16, General Penalty, Section 1.16.010, Penalty for Code Violations, the following amounts, and provisions will be enforced. Except where specifically provided otherwise in the Lindsay Municipal Code, violation of any of the provisions of this code shall be unlawful and constitute an infraction.

*Any residential person shall be punished by:*

- *Violation 1 – A fine not exceeding $100*
- *Violation 2 – A fine not exceeding $500 within the same section and year*

- *Violation 3 – A fine not exceeding $1,000 for each additional violation within the same section within one year*

*Any non-residential person or group shall be punished by:*

- *Violation 1 – A fine not exceeding $1,000*
- *Violation 2 – A fine not exceeding $5,000 within the same section and year*
- *Violation 3 – A fine not exceeding $10,000 for each additional violation within the same section within one year*

In a recent period of 10 months under its Water Conservation Plan, from May 2022 to February 2023, there were a total of 65 water wasters. Three (3) commercial businesses were fined ($1,000 each) and twenty-three (23) residential locations were fined ($100 each).

Further details on prohibitions and penalties are explored in the City's WSCP (**Appendix C**).

### 9.1.2 Metering

Legal Requirements:

***CWC §526***

*(a) Notwithstanding any other provisions 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... located within its service area.*

***CWC §527***

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

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

The City meters its residential, multi-family, commercial, institutional, industrial, and church customers, and as it recently became an urban water supplier, has plans to meter all its deliveries. As of May 2022, metered customers accounted for greater than 95% of service connections. Currently non-metered customers include government-owned facilities, city-owned facilities, landscaping areas, and the surface water treatment plant (SWTP) backwash, where less than 1 AF is required to backwash the SWTP approximately once every 7 days. Specifically, the following locations require meters: City Services, City Hall, Museum, Police Department, Library, Library Landscape, Senior Center, City Park, Soccer Fields, Sweet Brier Plaza, Olive Bowl, Harvard Park, Water Treatment Plant, City Corporation Yard. Metering was included as a high priority action item in the City's CIP in the recently completed WFS in 2022 (Provost & Pritchard , 2022).

### 9.1.3 Conservation Pricing

As mentioned in its WSCP, in Level C, the City may choose to establish a usage allowance where uses beyond the allowance would be charged at a higher rate. Provisions are also set forth to establish a 15% rate increase upon Council adoption after notice, hearing, etc. to encourage water conservation and also serve to recover lost revenues from water conservation.

### 9.1.4 Public Education and Outreach

The City utilizes mass mailings and the City internet site to distribute information to all water service customers. Walk in customers are also provided with information at City Hall and at the Public Works Department Water Division.

Flyers mailed out to customers are also posted throughout City Hall and in the Public Works department. Banners have been posted around the City as well.

The City makes staff available for guidance and educational tours of water system facilities. As part of their Water Conservation Plan and WSCP, the City also coordinates with local schools to implement a Water Education Program to instill a water conservation ethic in the minds of students. In this way, the City is thinking in advance about influencing the water-using habits of tomorrow's adults.

### 9.1.5 Programs to Assess and Manage Distribution System Real Loss

As part of its Water Conservation Plan and in its WSCP, the City pledged to intensify its leak detection program by repairing or replacing leaking valves, water meters and fire hydrants as necessary. All of the City's wells are metered; however, as of 2020, about 5% of the City's water connections were not metered. Thus, a complete system water audit was not possible without assuming unmetered water usage. Currently, water main records are maintained in a GIS system. The City has convenient access to historical data on each water main.

In 2020, losses were estimated around 99 AF, which is about 4% of the total production. As previously discussed, plans are in place to meter the remaining connections within the City's service area.

### 9.1.6 Water Conservation Program Coordination and Staffing Support

The City is aware of the need for continual water conservation and through direction by the City Council has adopted resolutions and ordinances to provide staff with the means of implementing and enforcing necessary water conservation measures as outlined in its historical Water Conservation Plan (Lindsay, 2022) and its WSCP (**Appendix C**). As the City's water conservation efforts have expanded, additional staff have been used to implement water conservation measures. Currently, the Department of City Services oversees water conservation efforts, education, etc.

### 9.1.7 Other Demand Management Measures

The City has implemented several other DMMs, which are described below. The City operates numerous rebate programs to help defer costs for customers and encourage water conservation. Residents should check with the City to determine program qualifications and follow directions listed on the City of Lindsay website.

#### 9.1.7.1 City of Lindsay Water Conservation Plan

In May 2023, the City adopted its most recent Water Conservation Plan (City of Lindsay, Water Conservation Plan, 2023). Much of the content of the Water Conservation Plan developed by the City

was carried over into its WSCP. An example figure from the Water Conservation Plan is included as **Figure 9-1.**


**Figure 9-1: Mandatory Conservation Water Use Schedule**

#### 9.1.7.2 Turf Replacement Rebate Program

The City will pay customers $2.00 per square foot to remove up to 1,000 square feet of irrigated turf for drought tolerant landscape. The minimum conversion area is greater than 20 square feet of irrigated turf, but not more than 400 square feet to qualify for the rebate. Users only qualify for the rebate for projects undertaken after the initiation of the program. Turf grass at homes and commercial landscapes consume large amounts of water and water-efficient landscapes use 50% or less water than most turf. The amount saved depends on the amount of turf removed, type of plants installed, irrigation system, and soil type. A water-efficient landscape can use less water and may also reduce maintenance costs.

#### 9.1.7.3 High Efficiency Toilet Replacement Rebate Program

Customers may be eligible for a rebate when they replace their old high water use toilets with a new qualifying High Efficiency (HE) Toilet. Installing an HE toilet can save about 38 gallons of water per day for a family of four. The City is offering a rebate of $35 if an eligible toilet was replaced or upgraded.

#### 9.1.7.4 High Efficiency Showerhead Giveaway

The City is offering a free giveaway of efficient showerheads.

## 9.2 Implementation Over the Past Five Years

**Section 9.1** discusses the implementation over the previous five years for DMMs, providing statistics on implementation where applicable and available. Overall, the DMMs continue to increase public awareness towards water conservation by providing rebates, educational programs, and informational and enforcement notices in English and Spanish.

## 9.3 Planned Implementation to Achieve Water Use Targets

The City has implemented the recommended DMMs cited in the CWC 10631 (e)(1)(B) and will continue to do so in the future. The City has met their 2020 target of 151 gpcd with an actual water use of 150 gpcd in 2020.

# 10 Plan Adoption, Submittal, and Implementation

The City has prepared this 2020 UWMP, as required by the UWMPA. This section documents plan adoption, submittal, and implementation of the 2020 UWMP. A completed UWMP checklist will be included in **Appendix D** of the Final UWMP.

## 10.1 Inclusion of All 2020 Data

The 2020 UWMP includes the water use and planning data for the calendar year of 2020. The City is reporting on a calendar year basis and therefore, 2020 data includes the months of January to December 2020. More recent data is included, when appropriate, as this is the City's first UWMP.

## 10.2 Notice of Public Hearing

Prior to adoption of the 2020 UWMP, a public hearing will be held on November 14, 2023 and notices provided to the public. The public hearing provides an opportunity for the public to provide input to the plan before it is adopted. Additionally, the public hearing provides an opportunity for the City's customers, residents, and employees to learn and ask questions about the current and future water supply of the City.

### 10.2.1 Notice

Legal Requirements:

***CWC §10631***

*(b) Every urban water supplier required to prepare a plan shall… at least 60 days prior to the public hearing on the plan … notify any city or county within which the supplier provides waters supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.*

***CWC §10642***

*…The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area…*

The City has provided formal written notification to the County of Tulare, the East Kaweah GSA, the Lindsay Strathmore Irrigation District, and the Lindmore Irrigation District that the City had become an urban water supplier and an UWMP was being written for 2020. As shown in **Table 10-1**, this notification was provided to the parties at least 60 days prior to the public hearing of the plan. Copies of the final UWMP will be provided to these agencies no later than 30 days after its submission to the DWR. The notice of public hearing to the public is included in **Appendix A**.

**Table 10-1: Notification Letters (Submittal Table 10-1)**

| Name | 60-Day Notice | Notice of Public Hearing |
|---|---|---|
| County of Tulare | X | X |
| East Kaweah GSA | X | X |
| Lindsay Strathmore Irrigation District | X | X |
| Lindmore Irrigation District | X | X |

### 10.2.2 Notice to Public

Legal Requirements:

***CWC §10642***

*…Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection…Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code [see below]. 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.*

***Government Code §6066***

*Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.*

The City is committed to encouraging the active involvement of diverse social, cultural, and economic elements of its citizenry. On October 28th, 2023 and November 4th, 2023 the City placed notices in the Sun Gazette stating that it had become an urban water user and was writing an UWMP. It also stated that a public hearing would be conducted to take testimony from members of the community. The Draft 2020 UWMP was made available for public inspection at the City of Lindsay City Clerk's office, located at 251 E. Honolulu St., CA 93247. The notice of public hearing to the public is included in **Appendix A**.

## 10.3 Public Hearing and Adoption

### 10.3.1 Public Hearing

Legal Requirements:

***CWC §10642***

*…Prior to adopting either, the [plan or water shortage contingency plan], 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.*

***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.*

The public hearing was held prior to the adoption of the UWMP and was adopted as prepared. The hearing provided an opportunity for the City's customers, residents, and employees to learn and ask questions about the current and future water supply of the City. _NUMBER OF_ comments were provided at the hearing. The public hearing was held on November 14, 2023.

### 10.3.2 Adoption

Legal Requirements:

***CWC §10642***

*…After the hearing, the plan shall be adopted as prepared or as modified after the hearing.*

The plan adoption by City Council occurred after a public hearing on November 14, 2023. The City Adoption Resolution is included in **Appendix E**.

## 10.4 Plan Submittal

Legal Requirements:

***CWC §10621***

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

***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.*

***CWC §10635***

*(b) 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.*

The following section outlines the submittal of the 2020 UWMP to DWR, the State Library, and Cities and Counties.

### 10.4.1 Submitting an UWMP and WSCP

The 2020 UWMP and WSCP will be submitted to the following agencies and stakeholders within 30 days of adoption, in the format noted, as required.

- *Department of Water Resources (electronically)*
- *California State Library (compact disk)*

- *County of Tulare (electronically)*
- *East Kaweah GSA (electronically)*
- *Lindsay-Strathmore Irrigation District (electronically)*
- *Lindmore Irrigation District (electronically)*

### 10.4.2 Electronic Data Submittal

Legal Requirements:

> ***CWC §10644 (a)(2)***
> *The plan, or amendments to the plan, submitted to the department … shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.*

The 2020 UWMP, WSCP and tabular data will be submitted electronically using the Water Use Efficiency (WUE) data online submittal tool developed by DWR.

## 10.5 Public Availability

Legal Requirements:

> ***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.*

Within 30 days of submitting the UWMP and WSCP to DWR, the adopted plans will be available for public review during normal business hours at the City of Lindsay City Services office. The City will also post a copy of the adopted UWMP and WSCP on its website (https://www.lindsay.ca.us).

## 10.6 Amending an Adopted UWMP or WSCP

Legal Requirements:

> ***CWC §10621***
> *(d) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).*
> ***CWC §10644***
> *(a)(1) 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.*

The plan may be updated at any time when the urban water supplier believes significant changes have occurred in population, land use, and/or water sources that may affect the contents of the plan. If major changes are made to this 2020 UWMP, the City will hold an additional public hearing and City Council will readopt the plan. Copies of amendments or changes to the plan shall be submitted to DWR, the California State Library, Lindsay-Strathmore Irrigation District, Lindmore Irrigation District, East Kaweah GSA, and Tulare County within 30 days of adoption.

# References

Associates, G. &. (1989). *Comprehensive General Plan for the City of Lindsay of California.* Sacramento.

Bettis, S. (2023, August 11). Recharge Basin in Lindsay Gets a New Flow. *The Sun Gazette*.

CA.GOV. (2011). *San Joaquin Valley Groundwater Basin Kaweah Subbasin.* San Joaquin Valley.

California, S. o. (2015). *Bond Accountability*. Retrieved from California Natural Resources Agency: https://bondaccountability.resources.ca.gov/Project.aspx?ProjectPK=50569&PropositionPK=49

*California's Groundwater (Bulletin 118)*. (2023). Retrieved from California Department of Water Resources: https://water.ca.gov/programs/groundwater-management/bulletin-118

Census Bureau, U. S. (2022). *City of Lindsay, California*. Retrieved from Census Bureau Quick Facts: https://www.census.gov/quickfacts/lindsaycitycalifornia

CIMIS. (2023, April 3). *California Irrigation Management Information System.* Retrieved from https://cimis.water.ca.gov/

(2019). *City of Lindsay, 2019 Housing Element.* City of Lindsay: Lindsay City Council.

*City of Lindsay, California*. (n.d.). Retrieved from https://www.lindsay.ca.us/city-services/page/drought-response-alert-city-lindsay-phase-4-water-conservation-plan

(2023). *City of Lindsay, Water Conservation Plan.* City of Lindsay: City of Lindsay.

Council, L. C. (2019, December 10). *2019 Housing Element.* Retrieved from City of Lindsay: https://www.lindsay.ca.us/sites/default/files/fileattachments/planning/page/4141/final-housing-element-adopted-121019.pdf

DOF. (2021, September 2). *California Department of Finance.* Retrieved from E-4 Population Estimates for Cities, Counties and the State, 2010 - 2020: www.dof.ca.gov/Forecasting/Demographics/Projections/

DWR. (2020, November). *California's Groundwater Bulletin 118, Tulare Lake Hydrologic Region, San Joaquin Valley Groundwater Basin, Kaweah Subbasin.* Retrieved from Department of Water Resources: https://data.cnra.ca.gov/dataset/3f87088d-a2f9-4a46-a979-1120069db2c6/resource/d2b45d3c-52c0-45ba-b92a-fb3c90c1d4be/download/calgw2020_full_report.pdf

DWR. (2021, March). *Urban Water Management Plan Guidebook 2020.*

*EKGSA*. (2023). Retrieved from https://ekgsa.org/

Group, Provost & Pritchard Consulting. (2022). *Kaweah Subbasin Annual Monitoring Report.* Greater Kaweah GSA.

GSAs, K. S. (2021, April). *Resources.* Retrieved from Greater Kaweah GSA: https://greaterkaweahgsa.org/wp-content/uploads/2022/08/502211_WY_2021.pdf

Lindsay, C. o. (2022, May 10). Water Conservation Plan.

Provost & Pritchard . (2022). *Water Feasibility Study.* Chico: City of Lindsay.

Resources, C. D. (2021, March). *Urban Water Management Plans*. Retrieved from UWMP 2020 Guidebook - Final Version: https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans

Resources, D. o. (2020, November). *California's Groundwater (Bulletin 118)*. Retrieved from https://data.cnra.ca.gov/dataset/3f87088d-a2f9-4a46-a979-1120069db2c6/resource/d2b45d3c-52c0-45ba-b92a-fb3c90c1d4be/download/calgw2020_full_report.pdf

Service, N. W. (2023, April 3). *NOAA Online Weather Data.* Retrieved from https://www.weather.gov/wrh/Climate?wfo=hnx

(2023). *Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan.* Visalia: Tulare County Office of Emergency Services.

# Appendices

# Appendix A

## Outreach Documents

(Left Blank Until Adoption)

Lindsay
All-America City

City of Lindsay

Enterprise Zone

DEPARTMENT OF CITY SERVICES & PLANNING
P.O. Box 369 — Lindsay, California 93247 — 150 North Mirage Ave.
559 • 562 • 7102 ext 4
559 • 562 • 5748 fax

August 23, 2023

Jason T. Britt
jtbritt@tularecounty.ca.gov
County Administrator
County of Tulare
2800 W. Burrel Ave
Visalia, CA 93291

Dear Mr. Britt,

In accordance with the Urban Water Management Planning Act, California Water Code §10621(b), the City of Lindsay is notifying the County of Tulare that the City of Lindsay has become an Urban Water User. As such, it will be preparing an Urban Water Management Plan and considering amendments or changes to the Plan.

Once a draft is ready for review, it will be sent to your attention electronically and we would be pleased to receive any comments you may have on this update to the Plan. If you need to contact me regarding this matter, I may be reached at (559) 562-7102 Ext. 8040 or NAmezcua@lindsay.ca.us.

Sincerely,

neyba amezcua

Neyba Amezcua
Director of City Services & Planning

Lindsay
All-America City

City of Lindsay

DEPARTMENT OF CITY SERVICES & PLANNING

P.O. Box 369 — Lindsay, California 93247 — 150 North Mirage Ave.
559 • 562 • 7102 ext 4
559 • 562 • 5748 fax

Enterprise Zone

August 23, 2023

Michael Hagman
mhagman@lindmoreid.com
Executive Director
East Kaweah Groundwater Sustainability Agency
315 E. Lindmore Street
Lindsay, CA 93247

Dear Mr. Hagman,

In accordance with the Urban Water Management Planning Act, California Water Code §10621(b), the City of Lindsay is notifying the East Kaweah Groundwater Sustainability Agency that the City of Lindsay has become an Urban Water User. As such, it will be preparing an Urban Water Management Plan and considering amendments or changes to the Plan.

Once a draft is ready for review, it will be sent to your attention electronically and we would be pleased to receive any comments you may have on this update to the Plan. If you need to contact me regarding this matter, I may be reached at (559) 562-7102 Ext. 8040 or NAmezcua@lindsay.ca.us.

Sincerely,

neyba amezcua
Neyba Amezcua
Director of City Services & Planning

Lindsay
All-America City

City of Lindsay

DEPARTMENT OF CITY SERVICES & PLANNING

P.O. Box 369 — Lindsay, California 93247 — 150 North Mirage Ave.
559 • 562 • 7102 ext 4
559 • 562 • 5748 fax

Enterprise Zone

August 14, 2023

Michael Hagman
mhagman@lindmoreid.com
Executive Director
Lindmore Irrigation District
315 E. Lindmore Street
Lindsay, CA 93247

Dear Mr. Hagman,

In accordance with the Urban Water Management Planning Act, California Water Code §10621(b), the City of Lindsay is notifying the Lindmore Irrigation District that the City of Lindsay has become an Urban Water User. As such, it will be preparing an Urban Water Management Plan and considering amendments or changes to the Plan.

Once a draft is ready for review, it will be sent to your attention electronically and we would be pleased to receive any comments you may have on this update to the Plan. If you need to contact me regarding this matter, I may be reached at (559) 562-7102 Ext. 8040 or NAmezcua@lindsay.ca.us.

Sincerely,

neyba amezcua
Neyba Amezcua
Director of City Services & Planning

Lindsay
All-America City

City of Lindsay

Enterprise Zone

DEPARTMENT OF CITY SERVICES & PLANNING
P.O. Box 369 — Lindsay, California 93247 — 150 North Mirage Ave.
559 • 562 • 7102 ext 4
559 • 562 • 5748 fax

August 14, 2023

Craig Wallace
General Manager
cwallace@lsid.org
Lindsay Strathmore Irrigation District
23260 Round Valley Drive
Lindsay, CA 93247

Dear Mr. Wallace,

In accordance with the Urban Water Management Planning Act, California Water Code §10621(b), the City of Lindsay is notifying the Lindsay Strathmore Irrigation District that the City of Lindsay has become an Urban Water User. As such, it will be preparing an Urban Water Management Plan and considering amendments or changes to the Plan.

Once a draft is ready for review, it will be sent to your attention electronically and we would be pleased to receive any comments you may have on this update to the Plan. If you need to contact me regarding this matter, I may be reached at (559) 562-7102 Ext. 8040 or NAmezcua@lindsay.ca.us.

Sincerely,

neyba amezcua
Neyba Amezcua
Director of City Services & Planning

# Appendix B

## 2020 SBx7-7 Verification & Compliance Tables

# 2020 SBx7-7 Verification Form Tables

| SB X7-7 Table 0: Units of Measure Used in UWMP* *(select one from the drop down list)* |
|---|
| Acre Feet |
| **The unit of measure must be consistent with Submittal Table 2-3* |
| NOTES: |

| SB X7-7 Table 2: Method for Population Estimates | |
|---|---|
| Method Used to Determine Population (may check more than one) | |
| ☑ | 1. Department of Finance (DOF) or American Community Survey (ACS) |
| ☐ | 2. Persons-per-Connection Method |
| ☐ | 3. DWR Population Tool |
| ☑ | 4. Other<br>DWR recommends pre-review |
| NOTES: Department of Finance Estimates were used for area corresponding with city boundary; additional area populations were added to DOF estimates. | |

| SB X7-7 Table-1: Baseline Period Ranges | | | |
|---|---|---|---|
| Baseline | Parameter | Value | Units |
| 10- to 15-year baseline period | 2008 total water deliveries | | Acre Feet |
| | 2008 total volume of delivered recycled water | - | Acre Feet |
| | 2008 recycled water as a percent of total deliveries | | See Note 1 |
| | Number of years in baseline period[1, 2] | 10 | Years |
| | Year beginning baseline period range | 2000 | |
| | Year ending baseline period range[3] | 2009 | |
| 5-year baseline period | Number of years in baseline period | 5 | Years |
| | Year beginning baseline period range | 2005 | |
| | Year ending baseline period range[4] | 2009 | |

*[1] If the 2008 recycled water delivery is less than 10 percent of total water deliveries, then the 10-15year baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater of total deliveries, the 10-15 year baseline period is a continuous 10- to 15-year period.*

*[2] The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.*

*[3] The ending year for the 10-15 year baseline period must be between December 31, 2004 and December 31, 2010.*

*[4] The ending year for the 5 year baseline period must be between December 31, 2007 and December 31, 2010.*

NOTES:

| SB X7-7 Table 3: Service Area Population | | |
|---|---|---|
| Year | | Population |
| 10 to 15 Year Baseline Population | | |
| Year 1 | 2000 | 11,463 |
| Year 2 | 2001 | 11,481 |
| Year 3 | 2002 | 11,530 |
| Year 4 | 2003 | 11,715 |
| Year 5 | 2004 | 11,894 |
| Year 6 | 2005 | 12,106 |
| Year 7 | 2006 | 12,203 |
| Year 8 | 2007 | 12,185 |
| Year 9 | 2008 | 12,608 |
| Year 10 | 2009 | 12,792 |
| *Year 11* | | |
| *Year 12* | | |
| *Year 13* | | |
| *Year 14* | | |
| *Year 15* | | |
| 5 Year Baseline Population | | |
| Year 1 | 2005 | 12,106 |
| Year 2 | 2006 | 12,203 |
| Year 3 | 2007 | 12,185 |
| Year 4 | 2008 | 12,608 |
| Year 5 | 2009 | 12,792 |
| NOTES: | | |

| SB X7-7 Table 4: Annual Gross Water Use * | | | | | | |
|---|---|---|---|---|---|---|
| Baseline Year *Fm SB X7-7 Table 3* | | Volume Into Distribution System *This column will remain blank until SB X7-7 Table 4-A is completed.* | Deductions | | | |
| | | | Exported Water | Change in Dist. System Storage (+/-) | Indirect Recycled Water *This column will remain blank until SB X7-7 Table 4-B is completed.* | Water Delivered for Agricultural Use |
| 10 to 15 Year Baseline - Gross Water Use | | | | | | |
| Year 1 | 2000 | 2,271 | - | - | - | - |
| Year 2 | 2001 | 2,197 | - | - | - | - |
| Year 3 | 2002 | 2,386 | - | - | - | - |
| Year 4 | 2003 | 2,703 | - | - | - | - |
| Year 5 | 2004 | 2,491 | - | - | - | - |
| Year 6 | 2005 | 2,748 | - | - | - | - |
| Year 7 | 2006 | 2,582 | - | - | - | - |
| Year 8 | 2007 | 2,443 | - | - | - | - |
| Year 9 | 2008 | 2,718 | - | - | - | - |
| Year 10 | 2009 | 2,884 | - | - | - | - |
| *Year 11* | 0 | - | - | - | - | - |
| *Year 12* | 0 | - | - | - | - | - |
| *Year 13* | 0 | - | - | - | - | - |
| *Year 14* | 0 | - | - | - | - | - |
| *Year 15* | 0 | - | - | - | - | - |
| 10 - 15 year baseline average gross water use | | | | | | |
| 5 Year Baseline - Gross Water Use | | | | | | |
| Year 1 | 2005 | 2,748 | - | - | - | - |
| Year 2 | 2006 | 2,582 | - | - | - | - |
| Year 3 | 2007 | 2,443 | - | - | - | - |
| Year 4 | 2008 | 2,800 | - | - | - | - |
| Year 5 | 2009 | 2,884 | - | - | - | - |
| 5 year baseline average gross water use | | | | | | |

* Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Tabl

NOTES:

| | Acre Feet |
|---|---|
| Process Water *This column will remain blank until SB X7-7 Table 4-D is completed.* | Annual Gross Water Use |
| | |
| - | 2,271 |
| - | 2,197 |
| - | 2,386 |
| - | 2,703 |
| - | 2,491 |
| - | 2,748 |
| - | 2,582 |
| - | 2,443 |
| - | 2,718 |
| - | 2,884 |
| - | - |
| - | - |
| - | - |
| - | - |
| - | - |
| | 2,542 |
| | |
| - | 2,748 |
| - | 2,582 |
| - | 2,443 |
| - | 2,800 |
| - | 2,884 |
| | 2,691 |

le 2-3.

| SB X7-7 Table 4-A: Volume Entering the Distribution System(s)<br>Complete one table for each source. | | | | |
|---|---|---|---|---|
| Name of Source | Surface Water Treatment Plant | | | |
| This water source is: | | | | |
| ☐ | The supplier's own water source | | | |
| ☐ | A purchased or imported source | | | |
| Baseline Year<br>*Fm SB X7-7 Table 3* | | Volume Entering Distribution System[1] | Meter Error Adjustment [2]<br>*Optional*<br>*(+/-)* | Corrected Volume Entering Distribution System |
| 10 to 15 Year Baseline - Water into Distribution System | | | | |
| Year 1 | 2000 | 1,532 | | 1,532 |
| Year 2 | 2001 | 939 | | 939 |
| Year 3 | 2002 | 2,117 | | 2,117 |
| Year 4 | 2003 | 2,133 | | 2,133 |
| Year 5 | 2004 | 2,066 | | 2,066 |
| Year 6 | 2005 | 1,938 | | 1,938 |
| Year 7 | 2006 | 1,581 | | 1,581 |
| Year 8 | 2007 | 1,389 | | 1,389 |
| Year 9 | 2008 | 1,831 | | 1,831 |
| Year 10 | 2009 | 2,154 | | 2,154 |
| *Year 11* | 0 | | | - |
| *Year 12* | 0 | | | - |
| *Year 13* | 0 | | | - |
| *Year 14* | 0 | | | - |
| *Year 15* | 0 | | | - |
| 5 Year Baseline - Water into Distribution System | | | | |
| Year 1 | 2005 | 1,938 | | 1,938 |
| Year 2 | 2006 | 1,581 | | 1,581 |
| Year 3 | 2007 | 1,389 | | 1,389 |
| Year 4 | 2008 | 1,913 | | 1,913 |
| Year 5 | 2009 | 2,154 | | 2,154 |

[1] *Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.*

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

NOTES:

| SB X7-7 Table 4-A: Volume Entering the Distribution System(s)<br>Complete one table for each source. | |
|---|---|
| Name of Source | Groundwater Wells |
| This water source is: | |

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

| Baseline Year *Fm SB X7-7 Table 3* | | Volume Entering Distribution System [1] | Meter Error Adjustment [2] *Optional (+/-)* | Corrected Volume Entering Distribution System |
|---|---|---|---|---|
| 10 to 15 Year Baseline - Water into Distribution System | | | | |
| Year 1 | 2000 | 739 | | 739 |
| Year 2 | 2001 | 1258 | | 1,258 |
| Year 3 | 2002 | 269 | | 269 |
| Year 4 | 2003 | 570 | | 570 |
| Year 5 | 2004 | 425 | | 425 |
| Year 6 | 2005 | 810 | | 810 |
| Year 7 | 2006 | 1001 | | 1,001 |
| Year 8 | 2007 | 1054 | | 1,054 |
| Year 9 | 2008 | 887 | | 887 |
| Year 10 | 2009 | 730 | | 730 |
| Year 11 | 0 | | | 0 |
| Year 12 | 0 | | | 0 |
| Year 13 | 0 | | | 0 |
| Year 14 | 0 | | | 0 |
| Year 15 | 0 | | | 0 |
| 5 Year Baseline - Water into Distribution System | | | | |
| Year 1 | 2005 | 810 | | 810 |
| Year 2 | 2006 | 1001 | | 1,001 |
| Year 3 | 2007 | 1054 | | 1,054 |
| Year 4 | 2008 | 887 | | 887 |
| Year 5 | 2009 | 730 | | 730 |

[1] *Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.*

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

NOTES:

**SB X7-7 Table 4-A: Volume Entering the Distribution System(s)**
Complete one table for each source.

| Name of Source | Enter Name of Source 3 |
|---|---|
| This water source is: | |
| ☐ | The supplier's own water source |
| ☐ | A purchased or imported source |

| SB X7-7 Table 5: Baseline Gallons Per Capita Per Day (GPCD) | | | | |
|---|---|---|---|---|
| Baseline Year *Fm SB X7-7 Table 3* | | Service Area Population *Fm SB X7-7 Table 3* | Annual Gross Water Use *Fm SB X7-7 Table 4* | Daily Per Capita Water Use (GPCD) |
| 10 to 15 Year Baseline GPCD | | | | |
| Year 1 | 2000 | 11,463 | 2,271 | 177 |
| Year 2 | 2001 | 11,481 | 2,197 | 171 |
| Year 3 | 2002 | 11,530 | 2,386 | 185 |
| Year 4 | 2003 | 11,715 | 2,703 | 206 |
| Year 5 | 2004 | 11,894 | 2,491 | 187 |
| Year 6 | 2005 | 12,106 | 2,748 | 203 |
| Year 7 | 2006 | 12,203 | 2,582 | 189 |
| Year 8 | 2007 | 12,185 | 2,443 | 179 |
| Year 9 | 2008 | 12,608 | 2,718 | 192 |
| Year 10 | 2009 | 12,792 | 2,884 | 201 |
| *Year 11* | 0 | - | - | |
| *Year 12* | 0 | - | - | |
| *Year 13* | 0 | - | - | |
| *Year 14* | 0 | - | - | |
| *Year 15* | 0 | - | - | |
| 10-15 Year Average Baseline GPCD | | | | 189 |
| 5 Year Baseline GPCD | | | | |
| Baseline Year *Fm SB X7-7 Table 3* | | Service Area Population *Fm SB X7-7 Table 3* | Gross Water Use *Fm SB X7-7 Table 4* | Daily Per Capita Water Use |
| Year 1 | 2005 | 12,106 | 2,748 | 203 |
| Year 2 | 2006 | 12,203 | 2,582 | 189 |
| Year 3 | 2007 | 12,185 | 2,443 | 179 |
| Year 4 | 2008 | 12,608 | 2,800 | 198 |
| Year 5 | 2009 | 12,792 | 2,884 | 201 |
| 5 Year Average Baseline GPCD | | | | 194 |
| NOTES: | | | | |

# 2020 SBx7-7 Compliance Tables

| SB X7-7 Table 0: Units of Measure Used in 2020 UWMP*<br>*(select one from the drop down list)* |
| --- |
| Acre Feet |
| **The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.* |
| NOTES: |

| SB X7-7 Table 2: Method for 2020 Population Estimate | |
|---|---|
| Method Used to Determine 2020 Population (may check more than one) | |
| ☑ | 1. Department of Finance (DOF) or American Community Survey (ACS) |
| ☐ | 2. Persons-per-Connection Method |
| ☐ | 3. DWR Population Tool |
| ☑ | 4. Other DWR recommends pre-review |
| NOTES: DOF Estimates were used for area corresponding with city boundary; additional area populations were added to DOF estimates. | |

| SB X7-7 Table 3: 2020 Service Area Population | |
|---|---|
| 2020 Compliance Year Population | |
| 2020 | 13,901 |
| NOTES: | |

| SB X7-7 Table 4: 2020 Gross Water Use | | | | | | | |
|---|---|---|---|---|---|---|---|
| Compliance Year 2020 | 2020 Volume Into Distribution System *This column will remain blank until SB X7-7 Table 4-A is completed.* | 2020 Deductions | | | | | 2020 Gross Water Use |
| | | Exported Water * | Change in Dist. System Storage* (+/-) | Indirect Recycled Water *This column will remain blank until SB X7-7 Table 4-B is completed.* | Water Delivered for Agricultural Use* | Process Water *This column will remain blank until SB X7-7 Table 4-D is completed.* | |
| | 2,329 | - | - | - | - | - | 2,329 |
| * Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3. | | | | | | | |
| NOTES: | | | | | | | |

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

Complete one table for each source.

| Name of Source | Surface Water Treatment Plant |
|---|---|
| This water source is *(check one)* : | |
| ☑ | The supplier's own water source |
| ☐ | A purchased or imported source |

| Compliance Year 2020 | Volume Entering Distribution System [1] | Meter Error Adjustment [2] *Optional* (+/-) | Corrected Volume Entering Distribution System |
|---|---|---|---|
| | 1,257 | - | 1,257 |

*[1] Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.* *[2] Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES

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

Complete one table for each source.

| Name of Source | Well 14 |
|---|---|
| This water source is *(check one)* : | |
| ☑ | The supplier's own water source |
| ☐ | A purchased or imported source |

| Compliance Year 2020 | Volume Entering Distribution System [1] | Meter Error Adjustment [2] *Optional* (+/-) | Corrected Volume Entering Distribution System |
|---|---|---|---|
| | 332 | | 332 |

*[1] Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.* *[2] Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

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

Complete one table for each source.

| Name of Source | Well 15 |
|---|---|

| This water source is *(check one)* : | |
|---|---|
| ☑ | The supplier's own water source |
| ☐ | A purchased or imported source |

| Compliance Year 2020 | Volume Entering Distribution System [1] | Meter Error Adjustment [2] *Optional* (+/-) | Corrected Volume Entering Distribution System |
|---|---|---|---|
| | 740 | | 740 |

*[1] Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.* *[2] Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

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

Complete one table for each source.

| Name of Source | Enter Name of Source 4 |
|---|---|

| This water source is *(check one)* : | |
|---|---|
| ☐ | The supplier's own water source |
| ☐ | A purchased or imported source |

| Compliance Year 2020 | Volume Entering Distribution System [1] | Meter Error Adjustment [2] *Optional* (+/-) | Corrected Volume Entering Distribution System |
|---|---|---|---|
| | | | 0 |

*[1] Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.* *[2] Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

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

Complete one table for each source.

| Name of Source | Enter Name of Source 5 |
|---|---|

| This water source is *(check one)* : | |
|---|---|
| ☐ | The supplier's own water source |
| ☐ | A purchased or imported source |

| SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD) | | |
|---|---|---|
| 2020 Gross Water *Fm SB X7-7 Table 4* | 2020 Population *Fm SB X7-7 Table 3* | 2020 GPCD |
| 2,329 | 13,901 | 150 |
| NOTES: | | |

| SB X7-7 Table 9: 2020 Compliance | | | | | | | |
|---|---|---|---|---|---|---|---|
| Actual 2020 GPCD[1] | Optional Adjustments to 2020 GPCD<br>Enter "0" if Adjustment Not Used<br>Extraordinary Events[1] | Weather Normalization[1] | Economic Adjustment[1] | TOTAL Adjustments[1] | Adjusted 2020 GPCD [1] *(Adjusted if applicable)* | 2020 Confirmed Target GPCD [1, 2] | Did Supplier Achieve Targeted Reduction for 2020? |
| 150 | - | - | - | - | 150 | 151 | YES |

[1] *All values are reported in GPCD*

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

NOTES:

# Appendix C

## Water Shortage Contingency Plan

# Appendix D

## UWMP Checklist

| 2020 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Subject | 2020 UWMP Location |
|---|---|---|---|---|
| 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 | Section 1 |
| 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 | Executive Summary |
| 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 |
| Section 2.6 | 10620(d)(2) | Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable. | Plan Preparation | Section 2.4 |
| 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 2.4<br>Section 10.2<br>Section 10.3 |
| 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 2.4 |
| Section 3.1 | 10631(a) | Describe the water supplier service area. | System Description | Section 3.1 |
| Section 3.3 | 10631(a) | Describe the climate of the service area of the supplier. | System Description | Section 3.3 |
| Section 3.4 | 10631(a) | Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045. | System Description | Section 3.4 |

| 2020 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Subject | 2020 UWMP Location |
|---|---|---|---|---|
| Section 3.4.2 | 10631(a) | Describe other social, economic, and demographic factors affecting the supplier's water management planning. | System Description | Section 3.2<br>Section 3.4 |
| Sections 3.4 and 5.4 | 10631(a) | Indicate the current population of the service area. | System Description and Baselines and Targets | Section 3.4 |
| Section 3.5 | 10631(a) | Describe the land uses within the service area. | System Description | Section 3.5 |
| Section 4.2 | 10631(d)(1) | Quantify past, current, and projected water use, identifying the uses among water use sectors. | System Water Use | Section 4.2 |
| 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 4.2.3 |
| 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 |
| 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 4.2.5 |
| 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 4.2.3 |
| 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 4.3 |
| Section 4.5 | 10635(b) | Demands under climate change considerations must be included as part of the drought risk assessment. | System Water Use | Section 4.2.6<br>Section 4.4 |
| 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 | Section 5 |
| Chapter 5 | 10608.24(a) | Retail suppliers shall meet their water use target by December 31, 2020. | Baselines and Targets | Section 5.1.6 |

| 2020 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Subject | 2020 UWMP Location |
|---|---|---|---|---|
| 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 5.1.3<br>Section 5.1.1 |
| 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 5.1.4<br>Section 5.1.5 |
| 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 | Section 5.1.6<br>Appendix B |
| 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 7.3 |
| 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, *including changes in supply due to climate change.* | System Supplies | Section 6.2.10 |
| 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 | Section 6.2 |
| Section 6.1.1 | 10631(b)(3) | Describe measures taken to acquire and develop planned sources of water. | System Supplies | N/A |
| 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 6.2.9 |
| Section 6.2 | 10631(b) | Indicate whether groundwater is an existing or planned source of water available to the supplier. | System Supplies | Section 6.2.2<br>Section 6.2.9 |

| 2020 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Subject | 2020 UWMP Location |
|---|---|---|---|---|
| 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 6.2.2.2 |
| Section 6.2.2 | 10631(b)(4)(B) | Describe the groundwater basin. | System Supplies | Section 6.2.2.1 |
| 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 | N/A |
| 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 6.2.2.1 |
| 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 6.2.2.5 |
| 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 6.2.9.1 |
| 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 6.2.7 |
| 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 6.2.5.2 |
| Section 6.2.5 | 10633(c) | Describe the recycled water currently being used in the supplier's service area. | System Supplies (Recycled Water) | Section 6.2.5.3 |
| 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 6.2.5.4 |

| 2020 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Subject | 2020 UWMP Location |
|---|---|---|---|---|
| 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 6.2.5.4 |
| 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 6.2.5.5 |
| 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 6.2.5.4 |
| Section 6.2.6 | 10631(g) | Describe desalinated water project opportunities for long-term supply. | System Supplies | Section 6.2.6 |
| 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 6.2.5.2 |
| 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 | Section 6.2.8 |
| 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 6.3 |
| 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 7.1.3 |
| 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 7.3.4 |

| 2020 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Subject | 2020 UWMP Location |
|---|---|---|---|---|
| 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 7.3 |
| 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 7.4 |
| 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 7.4.1 |
| 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 7.4.2 |
| 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 7.4.3 |
| 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 | Section 7.4.1 |
| Chapter 8 | 10632(a) | Provide a water shortage contingency plan (WSCP) with specified elements below. | Water Shortage Contingency Planning | Section 8, Appendix C |
| 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 C, Section 2.1 |

| 2020 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Subject | 2020 UWMP Location |
|---|---|---|---|---|
| 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 C, Section 11 |
| 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 C, Section 3 |
| 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 C, Section 3.1 |
| 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 C, Section 5.1 |
| 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 | N/A |
| 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 C, Section 5.2 |
| Section 8.4 | 10632(a)(4)(B) | Specify locally appropriate demand reduction actions to adequately respond to shortages. | Water Shortage Contingency Planning | Appendix C, Section 5.1 |
| Section 8.4 | 10632(a)(4)(C) | Specify locally appropriate operational changes. | Water Shortage Contingency Planning | Appendix C, Section 5.1 |
| 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 C, Section 5.1 |

| 2020 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Subject | 2020 UWMP Location |
|---|---|---|---|---|
| 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 C, Table 5-1 |
| Section 8.4.6 | 10632.5 | The plan shall include a seismic risk assessment and mitigation plan. | Water Shortage Contingency Plan | Appendix C, Section 5.5 |
| 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 C, Section 6 |
| 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 C, Section 6 |
| 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 C, Section 7 |
| 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 C, Section 8 |
| 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 C, Section 8 |
| 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 C, Section 8 |
| 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 C, Section 9.1 |
| 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 C, Section 9.2 |
| 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 C, Section 9.3 |

| 2020 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Subject | 2020 UWMP Location |
|---|---|---|---|---|
| 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 C, Section 10 |
| 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 C, Section 12 |
| 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 C, Section 13.3 |
| 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 C, Section 13.4 |
| 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 |
| 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 | Section 9 |
| 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 |

| 2020 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Subject | 2020 UWMP Location |
|---|---|---|---|---|
| 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 10.2.1 |
| 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 |
| 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 10.2 |
| 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 |
| Section 10.3.2 | 10642 | Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified. | Plan Adoption, Submittal, and Implementation | Appendix E, Appendix C (Appendix A) |
| 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 |
| 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 |
| 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 |

| 2020 Guidebook Location | Water Code Section | Summary as Applies to UWMP | Subject | 2020 UWMP Location |
|---|---|---|---|---|
| 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 |
| 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 |
| 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 |
| 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 E

## Adopting Resolution

(Left Blank Until Adoption)

# Appendix F

## DWR Submittal Tables

(Left Blank Until Adoption)

# Appendix G

## Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP) 2023 (Excerpt)

## Annex D- City of Lindsay

# Annex D City of Lindsay

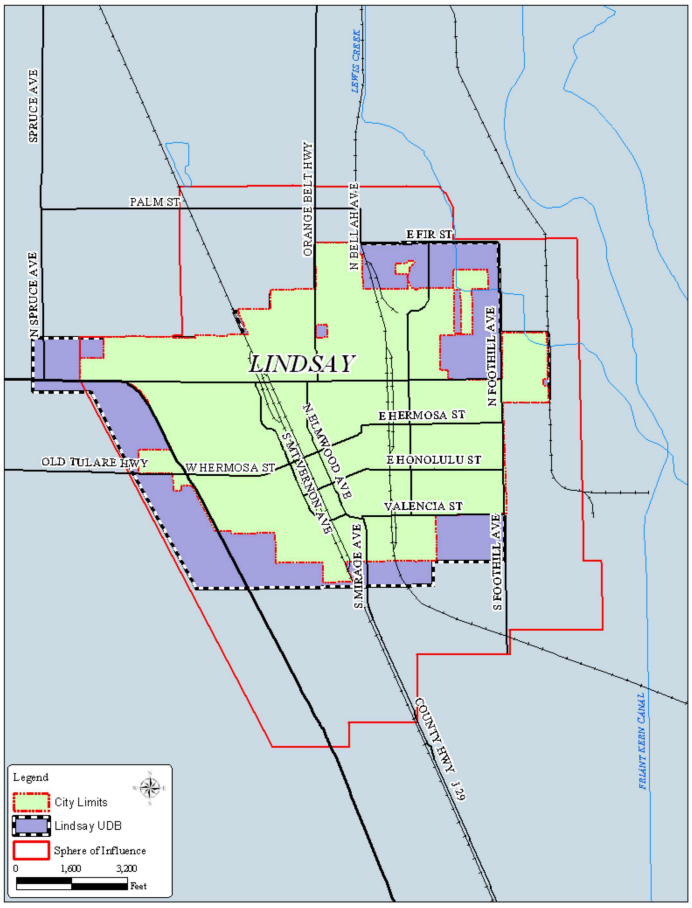
The City of Lindsay was founded in 1889 and incorporated in 1910. The City provides the following services:

- Public safety (police and fire protection, ambulance)
- Highways and streets
- Wastewater collection, treatment, and disposal
- Domestic water
- Storm drainage

The City contracts for solid waste collection and disposal.

**Figure D-1** provides a map of Lindsay.

**Figure D-1: Lindsay Map**



## D.1 Community Profile

**Geography and Climate:** The city has a total area of 2.6 square miles. The City is relatively flat with an elevation of approximately 387 feet above sea level. Lindsay's climate can be described as dry Mediterranean. The summers are hot and dry, and winters are characterized by moderate temperatures and light precipitation. Temperatures and rainfall for Lindsay are typical of that of the rest of the valley floor portion of the County.

**Government:** Lindsay operates as a council-manager form of municipal government which is comprised of five council members serving four-year overlapping terms. The mayor is elected separately.

**Population and Demographics:** The 2010 U.S. Census reported that Lindsay had a population of 11,768. The population density was 4,509.4 people per square mile (1,741.1/km²). The racial makeup of Lindsay was 6,480 (55.1%) White; 85 (0.7%) African American; 128 (1.1%) Native American; 267 (2.3%) Asian; 4 (0.0%) Pacific Islander; 4,367 (37.1%) from other races; and 437 (3.7%) from two or more races. Hispanic or Latino of any race were 10,056 persons (85.5%). The Census reported that 11,672 people (99.2% of the population) lived in households, no one (0%) lived in non-institutionalized group quarters, and 96 people (0.8%) were institutionalized.

There were 3,014 households, out of which 1,890 (62.7%) had children under the age of 18 living in them, 1,719 (57.0%) were opposite-sex married couples living together, 578 (19.2%) had a female householder with no husband present, 233 (7.7%) had a male householder with no wife present. There were 242 (8.0%) unmarried opposite-sex partnerships, and 19 (0.6%) same-sex married couples or partnerships. 401 households (13.3%) were made up of individuals and 210 (7.0%) had someone living alone who was 65 years of age or older. The average household size was 3.87. There were 2,530 families (83.9% of all households); the average family size was 4.21

**Housing:** There were 3,193 housing units at an average density of 1,223.5 per square mile, of which 1,526 (50.6%) were owner-occupied, and 1,488 (49.4%) were occupied by renters. The homeowner vacancy rate was 2.0%; the rental vacancy rate was 6.2%. 5,909 people (50.2% of the population) lived in owner-occupied housing units and 5,763 people (49.0%) lived in rental housing units.

**Economy:** Lindsay serves primarily as a bedroom town. Local commerce is composed of mostly small, family-owned businesses. The economy of Lindsay is largely based on agriculture and food production.

**Land use:** Lindsay is located along State Highway 65 approximately midway between the community of Strathmore and the City of Exeter (approximately 5 miles north of Strathmore and 7 miles south of Exeter).

Major transportation routes serving Lindsay include State Highway 65, State Highway 137, State Route 63, State Highway 99, and State Highway 198. Lindsay's close vicinity to these major transportation routes provides an attractive location for industrial activity and trucking related operations. Lindsay has reached a threshold where its greatest challenge is to attract and sustain economic growth that will be beneficial to its citizens, while enhancing the physical and cultural character of the community. While residents of

Lindsay enjoy the slow pace of a small rural community, the City has aggressively pursued economic development opportunities through new industrial and commercial projects.

The Lindsay planning area is dominated by residential, commercial and industrial use, with supporting public and semi-public facilities such as schools, parks, government offices, churches, hospital and public utilities. The City is surrounded by agricultural land which is mostly devoted to orange and olive groves, with some irrigated pasture and field crops to the north. In comparison with other cities in Tulare County, the Lindsay urban area is compact with relatively little developed area within the unincorporated fringe.

**Development trends:** The City plans for future growth through the implementation of policies and standards set forth in its General Plan which states that development is to occur only within the incorporated City Limits with certain exceptions. **Table D-1** provides a projection for population growth in Lindsay.

**Table D -1: Lindsay Historic and Projected Population Growth**

| Year | Tulare County | Lindsay | % of Total County Population |
|---|---|---|---|
| 1990 | 311,921 | 8,338 | 2.7% |
| 2000 | 368,021 | 10,297 | 2.8% |
| 2010 | 442,179 | 11,768 | 2.7% |
| 2025 | 594,719 | 16,391 | 2.8% |
| 2030 | 650,466 | 18,098 | 2.8% |

*Notes: 1) 1990 to 2010 population data based on U.S. Census Data*
*2) 2025 to 2030 population projection based in 1990 to 2010 average annual growth rates*

**Development in hazard prone areas:**
Because population growth was less than two percent per year since approval of the 2011 MJLHMP, there has been no development in hazard prone areas that has affected overall vulnerability of the County. Development that did occur, was primarily infill in urban areas where vulnerabilities are well understood and described.

The new MJLHMP addresses the new hazard of climate change. This hazard impacts the entire City. Development in the City, the State and globally with increased carbon emissions will result in increasing overall vulnerabilities to its impacts.

## D.2 Hazards Identification and Analysis

**Hazards:** Lindsay faces many of the hazards that are present in the County. **Table D-2** below provides a summary of hazards. Hazards in the City with unlikely frequency, limited extent, limited magnitude and low significance were not included. These include dam failure, wild fire, earthquake liquefaction - subsidence, civil unrest and terrorism/cyber terrorism.

| Table D–2: Lindsay Summary of Hazards | | | | | |
|---|---|---|---|---|---|
| **Hazard** | **Frequency** | **Extent** | **Magnitude** | **Significance** | **Location** |
| Climate Change | Highly | Extensive | Catastrophic | High | Entire City |
| Drought | Likely | Extensive | Catastrophic | High | Entire City |
| Earthquake: Shaking | Occasional | Extensive | Limited | Low | Entire City |
| Flood | Likely | Extensive | Critical | High | Map B-12 depicts |
| Energy Emergency | Occasional | Extensive | Critical | Medium | Entire City |
| Extreme Heat | Highly | Extensive | Critical | High | Entire City |
| Fire | Unlikely | Limited | Limited | Low | Entire City |
| Fog | Likely | Extensive | Limited | Low | Entire City |
| Hazardous Materials | Likely | Limited | Limited | Low | Entire City |
| Levee Failure | Occasional | Limited | Limited | Medium | Entire City |
| Pandemic and Vector Borne Disease | Likely | Extensive | Critical | Medium | Entire City |
| Severe Storms and High Winds | Highly Likely | Significant | Limited | Medium | Entire City |

**Guidelines for Hazard Rankings**
**Frequency of Occurrence:**

| | |
|---|---|
| Highly Likely | Near 100% probability in next year |
| Likely | Between 10 and 100% probability in next year or at least one chance in ten years |
| Occasional | Between 1 and 10% probability in next year or at least one chance in next 100 years |
| Unlikely | Less than 1% probability in next 100 years |

**Spatial Extent:**

| | |
|---|---|
| Limited | Less than 10% of planning area |
| Significant | 10-50% of planning area |
| Extensive | 50-100% of planning area |

**Potential Magnitude:**

| | |
|---|---|
| Catastrophic | More than 50% of area affected |
| Critical | 25 to 50% of area affected |
| Limited | 10 to 25% of area affected |
| Negligible | Less than 10% |

**Significance (subjective):**
low, medium, high

## D.3 Risk Assessment

The intent of this section is to assess Lindsay's vulnerability separate from that of the Operational Area as a whole, which has already been assessed in **Section 5.3 Risk Assessment** in the base plan. This risk assessment analyzes the population, property, and other assets vulnerable to the hazards ranked of medium or high significance that may vary from other parts of the planning area. For more information about how hazards affect the County as a whole **see Section 5** of the base plan.

**Infrastructure and Values at Risk:**
The following data was provided by the Director of City Services. This data should only be used as an estimate to determine overall values in the City as the information has some limitations. Generally, the land itself is not a loss. **Table D-3** shows the 2016 inventory for the City.

| Table D-3: Lindsay 2016 Asset Inventory | | | |
|---|---|---|---|
| **Name** | **Address** | **Value** | **Hazard Vulnerability** |
| CCPI Discharge Line-3 booster pumps | 23620 Road 180 | $1,500,000 | Earthquake, 500-Year Floodplain, Dam Flood, Fog |
| City Park | Parkside Avenue and E. Alameda Street | $3,000,000 | Earthquake, 500-Year Floodplain, Fog |
| City Services Department | 150 N. Mirage Avenue | $150,000 | Earthquake, Fog |
| F.M. Moore Building | Honolulu Street | $20,000 | Earthquake, 500-Year Floodplain, Fog |
| Friant Kern Canal | E. Honolulu Street | $500,000 | Earthquake, 500-Year Floodplain, Fog |
| Harvard Park | N. Harvard Avenue | $500,000 | Earthquake, 100-Year Floodplain, Fog |
| Harvard Ponding Basin | N. Harvard Avenue and E. Tulare Rd | $500,000 | Earthquake, 100-Year Floodplain, Fog |
| Hickory Lift Station | Hickory/Tulare Road | $250,000 | Earthquake, Fog |
| Kaku Park | N. Olive Avenue and W. Samoa Street | $200,000 | Earthquake, Fog |
| Lindsay Chamber of Commerce/Sierra Vista Plaza | 133 W. Honolulu Street | $150,000 | Earthquake, Fog |
| Lindsay City Hall | 251 E. Honolulu Street | $1,000,000 | Earthquake, Fog |
| Lindsay Corporation Yard | 476 N. Mount Vernon Avenue | $250,000 | Earthquake, Fog |
| Lindsay Department of Public Safety | 185 N. Gale Hill Avenue | $250,000 | Earthquake, Fog |
| Lindsay Historical Museum | Gale Hill Avenue | $100,000 | Earthquake, 500-Year Floodplain, Fog |
| Lindsay Library | 157 N. Mirage Avenue | $500,000 | Earthquake, Fog |
| Lindsay Library | 157 N. Mirage Avenue | $500,000 | Earthquake, Fog |
| Lindsay Municipal Golf Course | 801 N. Elmwood Avenue | $500,000 | Earthquake, 500-Year Floodplain, Fog |
| Lindsay School District Transportation Yard | 250 N. Harvard Avenue | $1,000,000 | Earthquake, 100-Year Floodplain, Fog |
| Lindsay Sewer Treatment Facility | 23611 Rd. 196 | $30,000,000 | Earthquake, Fog |
| Lindsay Wellness Center/Aquatic Center | 740 N. Sequoia Avenue | $2,500,000 | Earthquake, 500-Year Floodplain, Fog |
| Lindsay/Strathmore Memorial Building | 775 N. Elmwood Avenue | $350,000 | Earthquake, 500-Year Floodplain, Fog |
| Mariposa Ponding Basin | 10 Acres Mariposa/Hwy 65 | $150,000 | Earthquake, Fog |
| Mason House Museum and Gallery | 147 N. Gale Hill Avenue | $125,000 | Earthquake, Fog |
| McDermont Field House & Sports Facility | 365 N. Sweetbrier Avenue | $18,000,000 | Earthquake, Fog |
| McGregor building | 130 N. Sweetbrier Avenue | $75,000 | Earthquake, Fog |
| Mt. Whitney Building | 181 E. Honolulu Street | $500,000 | Earthquake, Fog |
| Old Jail | S. Sweetbrier Avenue and W. Honolulu Street | $5,000 | Earthquake, Fog |

| Table D-3: Lindsay 2016 Asset Inventory | | | |
|---|---|---|---|
| **Name** | **Address** | **Value** | **Hazard Vulnerability** |
| Olive Bowl Baseball stadium | S. Olive Avenue and W. Apia Street | $700,000 | Earthquake, Fog |
| Parking lot | E. Elmwood Avenue and E. Honolulu Street | $100,000 | Earthquake, Fog |
| Lindsay Community Center | 911 N. Parkside Avenue | $250,000 | Earthquake, 500-Year Floodplain, Fog |
| Sequoia Lift Station | Sequoia/Hickory | $500,000 | Earthquake, Fog |
| Sequoia Ponding Basin | Sequoia Avenue and E. Alameda Street | $250,000 | Earthquake, 500-Year Floodplain, Fog |
| Sweet Brier Plaza | 195 N Sweetbriar Avenue | $2,000,000 | Earthquake, Fog |
| Well # 11 | W. Mariposa Street | $1,500,000 | Earthquake, Fog |
| Well # 14 | Avenue 242 | $1,500,000 | Earthquake, Fog |
| Well # 15 | Rd 188 | $2,000,000 | Earthquake, Fog |

**Critical Facilities:** The City has identified the following infrastructure in **Table D-4** as critical facilities:

| Table D-4: Lindsay Critical Facilities | | |
|---|---|---|
| **Facility** | **Address** | **Value** |
| CCPI Discharge Line-3 booster pumps | 23620 Road 180 | $1,500,000 |
| City Services Department | 150 N. Mirage Avenue | $150,000 |
| Friant Kern Canal | E. Honolulu Street | $500,000 |
| Harvard Ponding Basin | N. Harvard Avenue and E. Tulare Rd | $500,000 |
| Hickory Lift Station | Hickory/Tulare Road | $250,000 |
| Lindsay City Hall | 251 E. Honolulu Street | $1,000,000 |
| Lindsay Corporation Yard | 476 N. Mount Vernon Avenue | $250,000 |
| Lindsay Department of Public Safety | 185 N. Gale Hill Avenue | $250,000 |
| Lindsay School District Transportation Yard | 250 N. Harvard Avenue | $1,000,000 |
| Lindsay Sewer Treatment Facility | 23611 Rd. 196 | $30,000,000 |
| Lindsay Wellness Center/Aquatic Center | 740 N. Sequoia Avenue | $6,100,000 |
| Mariposa Ponding Basin | 10 Acres Mariposa/Hwy 65 | $150,000 |
| Lindsay Community Center | 911 N. Parkside Avenue | $250,000 |
| Sequoia Lift Station | Sequoia/Hickory | $500,000 |
| Sequoia Ponding Basin | Sequoia Avenue and E. Alameda Street | $250,000 |
| Well # 11 | W. Mariposa Street | $1,500,000 |
| Well # 14 | Avenue 242 | $1,500,000 |

**Vulnerabilities and Potential Losses:**

A risk assessment determines the vulnerability of assets within the City by evaluating the inventory of City owned existing property and the population exposed to a hazard. A quantitative vulnerability assessment is limited to the exposure buildings, and infrastructures to the identified hazards. This risk assessment includes only those hazards that are natural.

**Populations and Businesses at Risk**

Residential population data for the City was obtained from the State of California Department of Finance E-1 Population Estimates for Cities, Counties, and the State — January 1, 2016/2017. The population is estimated to be 12,980 in an area of 2.6 square miles. The estimate is 3,575 residential units with a 2016 median value of $134,559. The most common employment sectors for those who live in Lindsay are agriculture, retail trade, and manufacturing.

**Economic Risks**

The economy of Lindsay is largely based on agriculture and food production. The City serves mostly as a commuter town with many residents having to travel to larger population centers to seek employment. Local commerce is composed of mostly small, family-owned businesses.

**Vulnerability and Potential Losses**

FEMA requires that an estimation of loss be conducted for the identified hazards to include the number of potential structures impacted by the hazards and the total potential costs. The analysis of potential losses calculated in **Table D-5** used the best data currently available to produce an understanding of potential loss. These estimates may be used to understand relative risk from hazards and potential losses. There are uncertainties in any loss estimation method, resulting from lack of scientific study and the exact result of hazard effects on the built environment, and from the use of approximations that are necessary for a comprehensive analysis.

**Table D-5: Summary of Vulnerabilities and Potential Loss**

| Hazard Type | Impacts/Costs |
|---|---|
| Climate Change | Impacts: Climate change will cause multiple effects to infrastructure and community public health. Warmer weather associated with climate change will result in more heat related illness. Drier weather will place increasing demands on imported and well water, and may lead to long lasting draughts that result in water rationing.<br><br>Costs: Climate change costs are difficult to specify. They will occur and accrue over centuries. As temperatures rise, additional costs for climate control such as air conditioning will occur. Less precipitation may result in depletion of stored and ground water reserves with potential for increased water costs and rationing. Much of these costs will be borne by individuals and families. Increased costs will also affect businesses and government owned facilities. Researchers at UC Berkeley (Science, May 2017) concluded that for every 1-degree Fahrenheit increase in global temperatures, the U.S. economy stands to lose about 0.7 percent of its Gross Domestic Product, with each degree of warming costing more than the last. |

| | |
|---|---|
| Drought | Impacts: Drought produces a variety of impacts that span many sectors of the economy. Reduced crops productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality; and rationing are a few examples of direct impacts. These problems can result in increased prices for food and lumber, unemployment, reduced tax revenues, increased crime, and foreclosures on bank loans to farmers and businesses, and migration. Populations that rely on or are affected by a lack of water or annual rainfall are most directly affected by droughts. The City is dependent on imported water for most of its needs. During prolonged droughts, water rationing is possible resulting in potentially higher water costs and loss of private and public landscaping.<br><br>Costs: Potential costs from drought to the City and its communities are difficult to quantify and are dependent upon drought duration and severity. In addition to increased costs for water, prolonged draught may result in reduced property values, loss of tax revenues and migration, all of which will cause economic losses. |
| Extreme Heat | Impacts: Extreme heat events, present serious health risks to the City's most vulnerable populations. The effects of extreme heat (over 84°F) on human health are well documented. Increased temperature or extended periods of elevated temperatures can increase heat-related mortality, cardiovascular-related mortality, respiratory mortality, and heart attacks, while increasing hospital admissions and emergency room visits. Extreme heat can also affect a person's ability to thermo-regulate, causing heat stress and sometimes leading to death.<br><br>Costs: Extreme heat results in increased electricity usage and additional health care costs. While additional power costs affect both commercial and residential properties, added health care costs impact individuals and families. Extreme heat may reduce economic activity if prolonged. |
| Flood | Impacts: Flooding occurs in the City during periods of heavy rain due to inadequate drainage. The flat geography also contributes to ponding.<br><br>Costs: There are no accurate costs values associated with past flood events. Future flood incidents will likely result in structural damage and lost economic activity. Flood cost could be in excess of $100,000,000. |

Based upon previously occurring incidents and the risk assessment, the following hazards are most likely to affect Lindsay:

- Climate Change
- Drought
- Extreme heat
- Flood

These hazards which may impact agriculture, the economic driver of the city, represent critical vulnerabilities. In addition, these are hazards that represent vulnerabilities to infrastructure.

## D.4 Capabilities Assessment

**FEMA REGULATION CHECKLIST: CAPABILITY ASSESSMENT**

**Capability Assessment**

**44 CFR § 201.6(c)(3):** – The plan must include mitigation strategies based on the jurisdiction's "existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools."

**Elements**

**C1.** Does the plan document the jurisdiction's existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs? 44 CFR § 201.6(c)(3)

**C2.** Does the Plan address the jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? 44 CFR § 201.6(c)(3)(ii)

Source: FEMA, *Local Mitigation Plan Review Tool*, March 2013.

***Note:*** **For coverage of Elements C3 – C5, see Section 8, Mitigation Strategies. For coverage of Element C6, see Section 9, Plan Maintenance.**

The reason for conducting a capability assessment is to identify Lindsay's capacity to successfully implement mitigation activities. Understanding internal and external processes, resources and skills forms the basis of implementing a successful HMP. Understanding strengths and weaknesses also helps ensure that goals and objectives are realistic and attainable.

The planning team conducted an assessment of the City's capabilities that contribute to the reduction of long-term vulnerabilities to hazards. The capabilities include authorities and policies, such as legal and regulatory resources, staff, and fiscal resources. Staff resources include technical personnel such as planners/engineers with knowledge of development and land management practices and an understanding of natural or human-caused hazards. The planning team also considered ways to expand on and improve existing policies and programs with the goal of integrating hazard mitigation into the day-to-day activities and programs of the City. In carrying out the capability assessment, several areas were examined:

- Planning and regulatory capabilities
- Administrative and technical resources
- Fiscal resources including grants, mutual aid agreements, operating funds and access to funds
- Technical and staff resources to assist in implementing/overseeing mitigation activities
- Previous and Ongoing Mitigation Activities

**Tables D-6** through **D-9** provide a list of the City's capabilities**.**

**Planning and Regulatory Capabilities:** These include local ordinances, policies and laws to manage growth and development. Examples include land use plans, capital improvement plans, transportation plans, emergency preparedness and response plans, building codes and zoning ordinances.

**Table D-6 Lindsay Planning and Regulatory Capabilities**

| Name | Description (Effect on Hazard Mitigation) | Hazards Addressed | Updated since 2010 (if yes, identify parts applicable to mitigation) | Capability Type (Regulatory, Administrative, Technical, or Financial) If known |
|---|---|---|---|---|
| General Plan | The City's General Plan provides a policy base to guide future growth within the City. It was created by planners, engineers and technical staff with knowledge of land development, land management practices, as well as human-caused and natural hazards. The General Plan:<br>• Develops and maintains the General Plan, including the Safety Element.<br>• Develops area plans based on the General Plan, to provide more specific guidance for the development of more specific areas.<br>• Reviews private development projects and proposed capital improvements projects and other physical projects involving property for consistency and conformity with the General Plan.<br>• Anticipates and acts on the need for new plans, policies, and Code changes.<br>Applies the approved plans, policies, code provisions, and other regulations to proposed land uses.<br><br>The MJLHMP may be adopted as part of the Safety Element by the City Counsel. As the Safety Element is updated, revised hazard analysis from the MHLHMP will be incorporated. Safety Element actions will be aligned with MJLHMP mitigation measures. | All | Requires update | Planning |
| California Building Code Enforcement | The California Building Standards Code, Title 24 serves as the basis for the design and construction of buildings in California including housing, public buildings and maintenance facilities. Improved safety, sustainability, maintaining consistency, new technology and construction methods, and | Earthquake, Fire, Floods, Severe winter storm/high winds | | Regulatory |

| Table D-6 Lindsay Planning and Regulatory Capabilities | | | | |
|---|---|---|---|---|
| **Name** | **Description (Effect on Hazard Mitigation)** | **Hazards Addressed** | **Updated since 2010 (if yes, identify parts applicable to mitigation)** | **Capability Type (Regulatory, Administrative, Technical, or Financial) If known** |
| | reliability are paramount to the development of building codes during each Triennial and Intervening Code Adoption Cycle.<br><br>California's building codes are published in their entirety every three (3) years. Amendments to California's building standards are subject to a lengthy and transparent public participation process throughout each code adoption cycle. The California Seismic Safety Commission provides access to an array of regulatory and advisory information at: http://www.seismic.ca.gov/cog.html | | | |
| Capital Improvement Program (CIP) | The City's CIP provides a foundation and planning tool to assist in the orderly acquisition of municipal facilities and to assure that service needs for the future are met. The CIP provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.<br><br>The MJLHMP will be used to select potential projects for the CIP. As the CIP is updated, additional mitigation measures will be analyzed and included in the Lindsey section of the MJLHMP. Funding for CIP projects identified in the MJLHMP will be reviewed for mitigation grant program eligibility. | Dam Failure, Earthquake, Fire, Floods, Landslides, Levee failure, Severe winter storm/high winds | | Planning |
| Tulare County Municipal Service Review (MSR) | MSRs are intended to provide a comprehensive analysis of service provision by each of the special districts and other service providers within the legislative authority of the (LAFCo) of a city. This analysis focuses on service providers within the City of Lindsay and makes determinations in each area of evaluation. The MSR considers and makes recommendations based on the following information:<br>• Present and planned land uses in the area.<br>• Present and probable need for services in the area. | All | | Planning |

| Table D-6 Lindsay Planning and Regulatory Capabilities | | | | |
|---|---|---|---|---|
| **Name** | **Description (Effect on Hazard Mitigation)** | **Hazards Addressed** | **Updated since 2010 (if yes, identify parts applicable to mitigation)** | **Capability Type (Regulatory, Administrative, Technical, or Financial) If known** |
| | • Present ability of each service provider to provide necessary services.<br>• The fiscal, management, and structural health of each service provider.<br>• The existence of any social or economic communities of interest in the area. | | | |
| City Code of Ordinances | The purpose of this code is to establish the minimum requirements to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation and energy conservation, and safety to life and property from fire and other hazards attributed to the built environment; to regulate and control the demolition of all buildings and structures, and for related purposes.<br><br>The MJLHMP will provide both hazard descriptions and mitigation actions that may address energy conservation, fire protection and development in hazard prone areas. The maps of Lindsey related hazards will be used to augment other mapping products to protect public health and safety when updating City Code. | Earthquake,<br>Fire,<br>Flooding, | | Regulatory |

**Administrative and Technical:** These capabilities include community (including public and private) staff and their skills and tools used for mitigation planning and implementation. They include engineers, planners, emergency managers, GIS analysts, building inspectors, grant writers, and floodplain managers.

**Table D-7: Lindsay Administrative and Technical Capabilities**

| Name | Description (Effect on Hazard Mitigation) | Hazards Addressed | Updated since 2010 (if yes, identify parts applicable to mitigation) | Capability Type (Regulatory, Administrative, Technical, or Financial) If known |
|---|---|---|---|---|
| City Public Works Department | Maintains and operates a wide range of local equipment and facilities as well as provides assistance to members of the public. Services include providing sufficient potable water, reliable waste water services, street maintenance, storm drainage systems, street cleaning, street lights and traffic signals. | All | | Technical |
| Procurement Department | Provides a full range of municipal financial services, administers several licensing measures, and functions as the plan participant's Procurement Services Manager. | All | | Technical |
| City Fire Department | The City of Lindsay currently has three full time firefighters that operate the single fire station in the City. The remaining fire rescue crew consists of volunteers. | All | | Technical |

**Fiscal:** These capabilities include general funds, property sales, bonds, development impact fees, or other fees.

**Table D-8: Lindsay Fiscal Capabilities**

| Name | Description (Effect on Hazard Mitigation) | Hazards Addressed | Updated since 2010 (if yes, identify parts applicable to mitigation) | Capability Type (Regulatory, Administrative, Technical, or Financial) If known |
|---|---|---|---|---|
| General Fund | Program operations and specific projects. | All | | Financial, Financial Services Department |

**Education and Outreach:** The capabilities include programs in place such as fire safety programs, hazard awareness campaigns, public information or communications offices.

**Table D-9 Lindsay Education and Outreach Capabilities**

| Name | Description (Effect on Hazard Mitigation) | Hazards Addressed | Updated since 2010 (if yes, identify parts applicable to mitigation) | Capability Type (Regulatory, Administrative, Technical, or Financial) If known |
|---|---|---|---|---|
| Tulare County Association of Governments (TCAG) | TCAG is committed to improving the quality of life for residents and visitors throughout the County. They address traffic congestion, coordinate regional transit programs to make getting around easy and convenient, work to improve air quality and strive to continue to meet national standards. TCAG addresses current and future rail needs and possibilities and gathers data which is used by the census and the public to properly forecast housing and transit needs. | All | | Education and Outreach |
| Lindsay Website http://www.lindsay.ca.us/ and other social media | Provides easily accessible conduit to information about planning and zoning, permits and applications and programs that address hazard mitigation such as clean energy efforts<br><br>The updated MJLHMP will be posted to City media sites. As the planned is reviewed annually and new updates made, information on the planning process will be included on web sites and announced on social media. | All | | Education and Outreach |

| Table D-10: Lindsay-Specific Mitigation Actions | | | | | | |
|---|---|---|---|---|---|---|
| **No.** | **Selected (Y/N)** | **Description** | **Prioritization Criteria** | **Facility to be Mitigated (if known)** | **Department or Agency** | **Status** |
| 3 | Y | Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency. | A,D,E | Public Safety Building | Police/Fire | Ongoing – Mitigation Action 1 in 2017 MJLHMP |
| 15 | Y | Develop a free annual tree chipping and tree pick-up day that encourages residents living in wind hazard areas to manage trees and shrubs at risk at risk to falling on nearby structures. | A,C,E | Not Applicable | Public Works | Ongoing – Mitigation Action 2 in 2017 MJLHMP |
| 16 | Y | Bolt down the roofs of critical facilities in wind gust hazard areas in order to prevent wind damage. | A,C,E | Unknown | Public Works | Ongoing – Mitigation Action 3 in 2017 MJLHMP |

| Table D-12: Lindsay - Mitigation Actions | | | | | |
|---|---|---|---|---|---|
| **Action Number** | **Mitigation Strategy** | **Department** | **Cost** | **Priority** | **Timeframe** |
| 1 | Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency. | Public Works | Unknown | Medium | 5 or more years |
| 2 | Develop a free annual tree chipping and tree pick-up day that encourages residents living in wind hazard areas to manage trees and shrubs at risk at risk to falling on nearby structures. | Public Works / Parks and Rec | Unknown | Medium | 5 or more years |

| | | | | | |
|---|---|---|---|---|---|
| 3 | Bolt down the roofs of critical facilities in wind gust hazard areas in order to prevent wind damage. | All | Unknown | High | 2-5 years |