CAMROSA WATER DISTRICT
BUILDING WATER SELF-RELIANCE

Board of Directors
Al E. Fox
Division 1
Jeffrey C. Brown
Division 2
Timothy H. Hoag
Division 3
Eugene F. West
Division 4
Terry L. Foreman
Division 5
General Manager
Tony L. Stafford

NOTICE OF PUBLIC HEARING
URBAN WATER MANAGEMENT PLAN

NOTICE IS HEREBY GIVEN that a Public Hearing with the Camrosa Water District Board of Directors will be held:

---Thursday, June 24, 2021 at 5:00 PM ---

CAMROSA WATER DISTRICT
7385 Santa Rosa Rd. Camarillo, CA. 93012
(805) 482-4677

The purpose of this Public Hearing is to give the public the opportunity to submit written comments regarding the 2020 Urban Water Management Plan (UWMP) for the Camrosa Water District. The UWMP provides a comprehensive assessment of Camrosa's water resource needs for a 20-year planning period and provides the Department of Water Resources with information on present and future water supplies and demands. Copies of the UWMP are available for public review at **www.camrosa.com/uwmp**.

Written comments on the Plan are to be submitted by Monday, June 21, 2021 at 5:00PM to:

Mr. Ian Prichard, Assistant General Manager
IanP@camrosa.com
7385 Santa Rosa Road
Camarillo, CA 93012

2020

Urban Water Management Plan

Camrosa Water District

7385 Santa Rosa Road

Camarillo, California 93012

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

Contents

LIST OF TABLES

LIST OF ACRONYMS

AF	Acre feet
AFD	Acre feet per day
AFY	Acre feet per year
ASR	Aquifer Storage and Recovery
BMP	Best Management Practice
CamSan	Camarillo Sanitation District
CDPH	California Department of Public Health
CIS	Customer Information System
CFS	cubic feet per second
CSUCI	California State University Channel Islands
CVP	Central Valley Project
CUWCC	California Urban Water Conservation Coalition
CWC	California Water Code
CWRF / WRF	Camrosa Water Reclamation Facility
DHS	Department of Health Services
DMM	Demand Management Measures
DWR	California Department of Water Resources
ETo	Evapotranspiration
FCGMA	Fox Canyon Groundwater Management Agency
GIS	Geographic Information System
GPCD	Gallons Per Capita Per Day
GPM	gallons per minute
HCTP	Hill Canyon Wastewater Treatment Plant
HET	High-Efficiency Toilets
ICS	Incident Command System
LAS	Lower Aquifer System
M&I	Municipal & Industrial
MCL	Maximum Containment Level
MGD	Million Gallons per Day
MS	Meter Station
MSA	Metropolitan Statistical Area
MSL	mean sea level
PHG	Public Health Goal
PVB	Pleasant Valley Basin
PVCWD	Pleasant Valley County Water District
PWS	Public Water System
RMWTP	Round Mountain Water Treatment Plant
RO	Reverse Osmosis
RWRMP	*Renewable Water Resource Management Plan*
SEMS	Standard Emergency Management System
SOAR	Save Open Space and Agricultural Resources
SRGMP	Santa Rosa Groundwater Management Plan

SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids
UAS	Upper Aquifer System
ULFT	Ultra Low Flush Toilet
UWMP	*Urban Water Management Plan*
VCOG	Ventura Council of Governments
VC-Rule	Ventura County Regional Urban Landscape Efficiency Program
WBIC	Weather-Based Irrigation Controllers
WSDM	Water Surplus and Drought Management

1 Introduction

The UWMP provides a framework for, and informs the public of, an urban water supplier's plans for long-term resource planning that ensures adequate water supplies for existing and future demands. Over the years, the UWMP Act has evolved in response to State water shortages due to drought and other environmental factors. The Water Conservation Act of 2009, also known as SB X7-7, requires water agencies to establish and report Baseline, 2015 Interim, 2020, and Compliance water use targets that will result in statewide savings of 20 percent by 2020. Urban water suppliers must have a current UWMP on file with DWR in order to be eligible for any State-funded grants or loans. In 2018, Governor Brown singed AB 1668 and SB 606 into law. Known as the Water Conservation and Drought Planning Act, the packaged laws essentially establish a new water management paradigm for the state of California. Among its numerous requirements and stipulations, the Act included additions to the UWMP section of the California Water Code. In particular, the Act expanded sections related to water conservation, increasing the period of analysis for drought supply from three years to five, requiring a new "Drought Risk Assessment," and establishing stricter requirements for the Water Shortage Contingency Plan (discussed in detail in section 7).

The goal of the 2020 Urban Water Management Plan is to report, describe, and evaluate:

- Water system deliveries and uses
- SB X7-7 Baseline and Targets
- Water supply sources
- System Reliability
- the District's Drought Risk Assessment
- the District's Water Shortage Contingency Plan
- Local agency coordination
- Efficient water uses
- Demand management measures

Along with these primary goals, the Camrosa Water District's 2020 UWMP also seeks to:

- Build and update upon the 2015 UWMP
- Provide comprehensive assessment of Camrosa's water resource needs for a 20-year planning period through 2040

Finally, a note regarding the formatting of this document. For clarity, the sections of the District's 2020 Urban Water Management Plan have been aligned to match the sections of the DWR 2020 UWMP Guidelines. The plan follows the outline given in Appendix F (UWMP Checklist) of the guidelines. Except in cases describing flow, volume of water is described in acre feet. Annual data is provided on a fiscal-year basis of July 1 to June 30.

THIS PAGE INTENTIONALLY LEFT BLANK

2 Plan Preparation

LAW

California Water code, Division 6, Part 2.6 Urban Water Management Planning, Section 10617 et seq.

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.

10617.5. "Water shortage contingency plan" means a document that incorporates the provisions detailed in subdivision (a) of Section 10632 and is subsequently adopted by an urban water supplier pursuant to this article.

10618. "Water supply and demand assessment" means a method that looks at current year and one or more dry year supplies and demands for determining water shortage risks, as described in Section 10632.1.

10620 (a). Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

(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.

(c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.

(d) (1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation, efficient water use, and improved local drought resilience.

(2) Notwithstanding paragraph (1), each urban water supplier shall develop its own water shortage contingency plan, but an urban water supplier may incorporate, collaborate, and otherwise share information with other urban water suppliers or other governing entities participating in an areawide, regional, watershed, or basinwide urban water management plan, an agricultural management plan, or groundwater sustainability plan development.

(3) 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.

(e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.

(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.

10621 (a) Each urban water supplier shall update its plan at least once every five years on or before July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update.

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

(c) An urban water supplier regulated by the Public Utilities Commission shall include its most recent plan and water shortage contingency plan as part of the supplier's general rate case filings.

(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).

(e) Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.

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

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of both the plan and the water shortage contingency plan. Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies. Notices by a local public agency pursuant to this section shall be provided pursuant to Chapter 17.5 (commencing with Section 7290) of Division 7 of Title 1 of the Government Code. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing or hearings.

2.1 Basis for Preparation

The Urban Water Management Planning Act of 1983 requires urban water suppliers with 3,000 or more customers or supplying 3,000 or more acre feet of water per year to prepare and submit to the Department of Water Resources (DWR) an Urban Water Management Plan (UWMP) every five years. The 2020 UWMP builds upon the District's previous UWMPs.

In 2020, the Camrosa Water District provided approximately 8,500 active service connections composed of 8,100 potable water and 400 nonpotable and recycled water connections. During the same period, the District produced an average of approximately 7,540 acre feet of potable water and an average of approximately 7,200 acre feet of nonpotable and recycled water for resale to District customers, plus another average of approximately 3,500 AFY to a neighboring agricultural irrigation agency.

Table 2-1 Retail Only: Public Water Systems

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 (AF)
CA5610063	Camrosa Water District	8,121	6,529
	TOTAL	8,121	6,529

NOTES: "Municipal" includes all accounts served by our potable distribution system, including our roughly 200 CII and 300 commercial agricultural accounts. Because all accounts are served off of the same distribution system as municipal/residential, and therefore are reflected in the final "Volume of Water Supplied" column, we have chosen for the purposes of this table to include all potable accounts served by the potable water distribution system in the penultimate "Number of Municipal Connections" column.

2.2 Regional Planning

The Camrosa Water District has chosen to report as an "Individual Urban Water Supplier" for the 2020 UWMP. However, the District continues to be an active participant in other regional planning efforts.

In June 2006, the District adopted the *Integrated Regional Watershed Management Plan for the Calleguas Creek Watershed*, which was updated in 2019. District staff participated as a member of the Watershed Coalition of Ventura County steering committee and as the Calleguas Creek Watershed Management Committee representative on the IRWMP. The Calleguas Creek committee includes the Cities of Thousand Oaks, Camarillo, Moorpark, and Simi Valley; Calleguas Municipal Water District, Ventura County Water Works Districts 1 and 19, Ventura County Resource Conservation District, CalTrans, and Santa Monica Mountains Recreation and Conservation Agency. The WCVC includes similar types of organizations from the other two watersheds in Ventura County. The broader Watershed Plan seeks to reduce reliance on imported water and over-drafted, confined groundwater aquifers by reclaiming poor quality, unconfined groundwater supplies and otherwise expanding water recycling projects.

Camrosa also participates in the working groups associated with the implementation of the various Total Maximum Daily Load (TMDL) requirements of entities within the watershed. When TMDLs were first being implemented, responsible agencies within the Calleguas Creek Watershed proposed to deal with TMDLs on a watershed basis, forming an affiliation, organized under various memoranda of understanding, with subgroups pertaining to specific TMDLs. As a POTW and importer of SWP water, Camrosa participates on the Salts TMDL subcommittee.

In 2020, the Ventura County Board of Supervisors adopted the Ventura County 2040 General Plan. Camrosa participated in the scoping and stakeholder outreach efforts involved in that plan.

Camrosa also participated in the Fox Canyon Groundwater Management Agency's GSPs for the Oxnard and Pleasant Valley Basins. One of the District's Directors chairs the FCGMA and another participated on the multiyear Technical Advisory Group that was integral to the development of the GSPs that were finalized ahead of the January 2020 deadline. Staff participated as one of 15 "core" stakeholders in a yearlong mediated stakeholder process, including a projects subcommittee, to help move along portions of the GSP related to sustainable yield, allocations, and supplemental water.

Calleguas Municipal Water District, Camrosa's wholesaler for imported water, had an interactive process for its UWMP. Camrosa has participated via Calleguas in Metropolitan Water District's ongoing 2020 Integrated Water Resources Plan, which focuses on regional water supply reliability. Calleguas has further developed that effort into a Water Supply Alternatives Study, through which they're identifying and assessing the technical and economic feasibility of building local resources projects to help that agency determine the benefits of investing in purveyors' projects to shave peak demand and/or provide local redundancy in case of imported water outages. Camrosa has worked closely with Calleguas in this effort on potential projects in the District's service area.

2.3 Individual Compliance

As noted in Section 2.2, the Camrosa Water District has chosen to report as an "Individual Urban Water Supplier" for the 2020 UWMP.

Table 2-2: Plan Identification	
X	Individual UWMP
	Regional UWMP (RUWMP)

2.4 Fiscal/Calendar Year and Units of Measure

Table 2-3: Agency Identification	
Type of Agency	
	Agency is a wholesaler
X	Agency is a retailer
Fiscal or Calendar Year	
	UWMP Tables Are in Calendar Years
X	UWMP Tables Are in Fiscal Years
If Using Fiscal Years Provide Month and Day that the Fiscal Year Begins (dd/mm)	
01/07	
Units of Measure Used in UWMP	
Units	Acre feet
NOTES:	

2.5 Coordination and Outreach

Of the approximately 30 square miles within the Camrosa Water District's boundaries, about seven square miles lie within the City of Camarillo city limits, approximately 1.5 square miles lie within the boundaries of the City of Thousand Oaks and 21.5 square miles lie within the unincorporated area of Ventura County.

Camrosa serves two distinct classes of nonpotable water—nonpotable surface water diverted from Conejo Creek and augmented with groundwater, and Title-22 recycled water produced at the Camrosa Water Reclamation Facility (CWRF). While the two waters are regulated differently (as required by California Water Code) and delivered via separate distribution systems in the Camrosa service area, they are combined and sold as Title-22 recycled water to PVCWD. In November 2019, Camrosa began receiving recycled water from the Camarillo Sanitary District (CamSan). CamSan has a recycled water distribution system, but it is not capable of handling the entirety of the plant's effluent. Prior to November 2019, CamSan discharged its excess recycled water to the Conejo Creek. It was in perpetual violation of the TMDL and was under a time schedule order from the Los Angeles Regional Water Quality Contorl Board to improve water quality or cease discharge. Building a pipeline to Camrosa's storage ponds provided a means for CamSan to cease discharging. Camrosa essentially wheels CamSan effluent to PVCWD, in the same pipe we deliver nonpotable creek water and recycled water from the CWRF. If there is no demand for the CamSan recycled water, CamSan is responsible for its discharge, but in the time since Camrosa began receipt of the recycled water, PVCWD has maintained steady demand.

Because of the complexity of the nonpotable/recycled water system(s), and because Conejo Creek water is also composed primarily of tertiary-treated product from a wastewater treatment plant, for the

purposes of this UWMP, the volumes of nonpotable water produced at the CWRF, received from CamSan, and diverted from the Conejo Creek are considered together and referred to collectively, and interchangeably, as recycled water and nonpotable irrigation water.

2.5.1 Wholesale and Retail Coordination

"Building self-reliance" has been the District's primary water resources strategy for 20 years: in 1997, 85 percent of the District's demand was met by imported water supplies; in 2018, just over 25 percent was. Much of this was accomplished by the Conejo Creek project and shifting agricultural and municipal irrigation demand off the potable system, but it has also been accomplished by developing local groundwater resources in the Santa Rosa and Pleasant Valley Basins.

Imported supplies come from the Metropolitan Water District through its wholesale member agency, Calleguas Municipal Water District. While cost is a primary driver for reducing imported water purchases, imported water is a key component of the District's diversified portfolio; in 2020, with several wells down while treatment is built, nearly 70 percent of the District's potable supply was composed of imported water.

Table 2-4 Retail: Water Supplier Information Exchange
The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC 10631.
Wholesale Water Supplier Name
Calleguas Municipal Water District
NOTES:

2.5.2 Coordination with Other Agencies and the Community

Camrosa overlies the eastern portion of the City of Camarillo, a small portion of the City of Thousand Oaks, unincorporated areas of Ventura County, primarily in the Santa Rosa Valley, and state land encompassing California State University Channel Islands (CSUCI). Camrosa overlies the entirety of the Santa Rosa groundwater basin, the majority of the Tierra Rejada Basin, and portions of the Pleasant Valley Basin, Oxnard Subbasin, and Las Posas Basin. Portions of Santa Rosa, Pleasant Valley, and Oxnard also fall under jurisdiction of the Fox Canyon Groundwater Management Agency (FCGMA). The 2014 Sustainable Groundwater Management Act (SGMA) identified the FCGMA as the exclusive groundwater sustainability agency (GSA) for basins within its jurisdiction. Camrosa declared itself the GSA for portions of the Pleasant Valley, Oxnard, and Las Posas basins, and formed a GSA with the County of Ventura to manage the Santa Rosa Basin; the GSA is governed by a six-member board, including Camrosa's five directors and a representative from the County, and staffed by Camrosa employees. The FCGMA is writing the groundwater sustainability plans (GSP) for the entire Pleasant Valley, Oxnard, and Las Posas basins, while the Arroyo Santa Rosa GSA is writing the GSP for the entirety of the Santa Rosa Basin. The Tierra Rejada Basin does not currently have a GSA and, as it is a Very Low Priority basin, does not require one.

Copies of the draft 2020 Urban Water Management Plan have been circulated to the following agencies with direct interests in the District's plan:

- Calleguas Municipal Water District (wholesaler)
- City of Camarillo
- City of Thousand Oaks
- California State University Channel Islands
- County of Ventura

- Pleasant Valley County Water District
- Ventura Local Agency Formation Commission

Table 2.4a below summarizes the efforts Camrosa Water District has taken to include various agencies and citizens in its planning process.

Table 2-4a Coordination with Other Agencies & Community

Coordinating Agencies	Participated in UWMP Development	Contacted for Assistance	Sent Copy of Draft	Commented on the Draft	Sent a Notice of Intention to adopt	Attended public meetings
Wholesaler (Calleguas MWD)		X	X		X	
Retailer (City of Camarillo)			X		X	
Retailer (City of Thousand Oaks)			X		X	
County of Ventura			X		X	
Cal State Univ. Channel Islands			X		X	
General Public			X		X	

In addition to coordination with other agencies, Camrosa Water District has solicited input from a range of District customers and the public at large. In 2019, Camrosa hosted a series of outreach meetings to discuss the 2019 Rate Study ahead of implementing a new five-year rate schedule. This process presented the cost-of-service analysis and basis for rate increases and invited public participation. In addition, Camrosa continues to participate in public meetings of groups of constituents, which include the California State University at Channel Islands, the Santa Rosa Valley Municipal Advisory Committee, the Leisure Village retirement community, various homeowner associations, other local water suppliers, ranchers, and farmers to discuss priorities relative to water quality, reliability, and cost, and to gauge public opinion on issues related to water conservation, recycling, and reuse. Pertinent information from public interface has been used in the preparation of this Plan.

The updated UWMP was adopted by the Board of Directors on June 24, 2021 and submitted to the California Department of Water Resources, the California State Library, the County of Ventura and cities within the District's service area within 30 days of adoption as required by the Urban Water Management Planning Act. This UWMP will be available for public review at Camrosa Water District headquarters during normal business hours. A copy of the resolution adopting the Urban Water Management Plan is attached in Appendix A. This plan includes all information necessary to meet the requirements of California Water Code Division 6, Part 2.6 (Urban Water Management Planning).

This plan relies upon relevant information contained in following plans and studies:

- December 2019, Groundwater Sustainability Plans for the Las Posas Valley Groundwater Basin, the Oxnard Sub-Basin of the Santa Clara River Valley Groundwater Basin and the Pleasant Valley Groundwater Basin
- August 2013, *Santa Rosa Groundwater Management Plan*
  Montgomery, Watson, Harza
- December 2010, *Aquifer Pumping Test of Camrosa Water District University Well*
  Norman N. Brown, PH.D., P.G.
- December 2009, *Groundwater Geology and Yield Analysis of the Tierra Rejada Basin*
  Norman N. Brown, PH.D., P.G.

- April 2005, *Shallow Groundwater of Eastern Pleasant Valley Basin*
  Norman N. Brown, PH.D., P.G.
- 1998, *Hydrogeology of the Tierra Rejada Groundwater Basin*
  J.P. Schaaf's CSU-Northridge MS thesis,

2.5.3 Notice to Cities and Counties

Pursuant to CWC 10621(b), On XXX the District notified by email both the cities of Camarillo and Thousand Oaks, with whom Camrosa provides a portion of these cities' water supplies, with a Notice of Preparation of the District's 2015 Urban Water Management Plan. A copy of this Notice of Preparation is included in Appendix A.

3 System Description

LAW

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

10631 (a). Describe the service area of the supplier, including climate, current and projected population (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.

3.1 General Description

Camrosa Water District, a special district formed under Division 13 of the California Water Code, has been providing water service to eastern Camarillo and the Santa Rosa Valley since 1962. Its original purpose was to supply potable water within its established boundaries, though the District subsequently expanded its boundaries and operations to include wastewater treatment services. Camrosa is now among the largest water districts in Ventura County in number of connections and population served. The District's name has changed twice, first, to the Camrosa County Water District in 1965 and then to its present name in 1987. In 2000, Camrosa absorbed the Santa Rosa Mutual Water Company, which had previously served a small pocket of customers in the Santa Rosa Valley in the center of the District service area. Carmosa built new potable pipelines to serve the new customers and converted the existing distribution system to Camrosa's first nonpotable water distribution system, supplied by local groundwater.

The District is located, as shown in Figure 3-1, in the southeastern portion of Ventura County, surrounded by the cities of Camarillo, Simi Valley, Moorpark, and Thousand Oaks. In terms of geographic features, the District is bounded by Calleguas Creek on the west, the Las Posas Hills on the north, the Simi Hills on the east and the Conejo Hills on the south. Some of these features help define the Terra Rejada, Santa Rosa and Pleasant Valleys. Of the approximately 31 square miles encompassed by the Camrosa Water District's boundaries, about seven square miles are within the City of Camarillo, 22 lie in unincorporated Ventura County, and 1.5 square miles are attached to the City of Thousand Oaks (T.O.). Each of these areas has a general plan with land use and zoning classifications. In addition, CSUCI has full land-use authority over its 750-acre campus at the District's southwestern boundary.

Parcels within the District's service area comprise a broad mix of agricultural and urban uses. To facilitate demand analysis, parcels are grouped into three planning divisions that are generally aligned with the land use and zoning classifications contained in the respective general plans that govern the areas: the Campus Area, the Camarillo Area, and the Unincorporated Area.

Campus Area

The Campus Area is the discontiguous portion of the District south of the Camarillo city limits and east of Lewis Road. Land in this planning division is zoned for Agricultural and Public Use. The CSUCI campus currently consists of 750 acres: 640 acres are on the site of the former California State Hospital, and the remaining 110 acres are comprised of acquired farmland open space. At full build-out, the campus will accommodate 15,000 full-time equivalent students. Ventura County owns several parcels just north of the CSUCI campus that provide institutional housing for individuals within the county social services network. The remainder is agricultural. Camrosa provides potable water service to the County parcels and to CSUCI. The County parcels also receive nonpotable surface

water for irrigation needs. CSUCI and the surrounding agricultural properties receive nonpotable recycled water from the CWRF and/or nonpotable Conejo Creek water.

Camarillo Area

The Camarillo Area includes the portions of the District within the City of Camarillo boundaries, primarily Mission Oaks. The area is composed of low- and medium-density residential housing, master-metered residential housing (Camarillo Springs and Adolfo Camarillo mobile home parks, Leisure Village, some HOAs), some general commercial development, and a large area of light industrial development. There are two golf courses in the area and several landscaped common areas maintained by HOAs and the City of Camarillo. In addition to potable water service provided within this planning division, nonpotable water service is provided to several large agricultural parcels near the Conejo Creek Diversion Structure, to parcels surrounding the industrial park, to city medians, and to Leisure Village. There are four schools in the area: St. John's Seminary, Camarillo High School, Las Colinas Middle School, and Tierra Linda Elementary. The Camarillo Sanitation District (CamSan) provides wastewater service to the area below the freeway; north of the freeway, Camrosa sewers areas within city limits.

Unincorporated Area

A large swath of designated greenbelt covers the southeastern portion of the District, directly east and wholly outside of Camarillo City limits. It extends from the US-101 Highway north to Hilltop road and eastward to Hill Canyon Road on both sides of Conejo Creek. The greenbelt's land use is zoned Agriculture Exclusive and Open Space, and much of it is served nonpotable surface water for irrigation needs.

The Santa Rosa Valley is the unincorporated area of Ventura County extending east from Hill Canyon Road to the intersection of Moorpark Road and Santa Rosa Road, then south and east to Olson Road. The area is rural-residential with lots ranging from 2.0 to 40.0 acres. There is some agriculture in the area, but most operations are small. Approximately 240 parcels encompassing approximately 550 acres in the western portion of this planning division, formerly served by the Santa Rosa Mutual Water Company, absorbed by Camrosa in 2000, have dual service with potable water available for domestic use and nonpotable surface water available for irrigation needs. The Santa Rosa Valley is entirely within the unincorporated limits of the County and relies on permitted septic systems for wastewater disposal.

Most of the Tierra Rejada Valley is also in the unincorporated area of Ventura County. However, a small area, north and east of the intersection of Moorpark Road and Santa Rosa Road, is within the City of Thousand Oak's city limits. This planning division is primarily zoned Open Space and Agriculture, although there is a golf course and a number of rural-residential developments of multi-acre parcels. This area relies on permitted septic systems for wastewater disposal with the exception of the Cornell Ranch tract; Camrosa sewers that area, and operates a lift station that deposits wastewater in the T.O. system. Water use in the portions of T.O. within Camrosa's boundaries is fairly stable, and for the purposes of urban water management planning, they are included in the Unincorporated Area.

Because the SOAR initiatives, all of which were extended in the 2016 election to 2050, and other similar legislation restricting land-use practices dominate Ventura County, the areas of the District's service area zoned for M&I are relatively fixed. The zones are near build-out, and apart from a small number of small- to medium-size developments, which are expected to account for approximately six percent of future residential demands, the District does not expect significant growth in the near term. The larger of those developments will not convert agricultural land, and the reduction of farmed acreage due to smaller developments is expected to be negligible, and it is not expected that the agricultural service area will reduce significantly after that. Population is expected to continue growing, so M&I zones may become denser; such projections are included in Section 3.4. As all new development is subject to supply mitigation, which includes installing dual plumbing and the use of nonpotable water where feasible, any offset of or increase in the volume of water

used on the land being converted is mitigated; land conversion and changes in land-use planning are not anticipated to adversely affect the District. See Section 8.4 for an extended discussion about Camrosa's moratorium on new demand and developer supply mitigation.

3.2 Service Area Boundary Maps

Digital copies of maps, including shape files, will be uploaded to the DWR Web site at the time of submittal. Exhibits are included here for readability.

3.2.1 Service Area

The Camrosa Water District boundary is fixed and requires petition of and approval by LAFCO and Camrosa to be adapted. Only in extraordinary cases would the district entertain such proposals, and changes to the service area boundary are not included in planning projections or strategy.

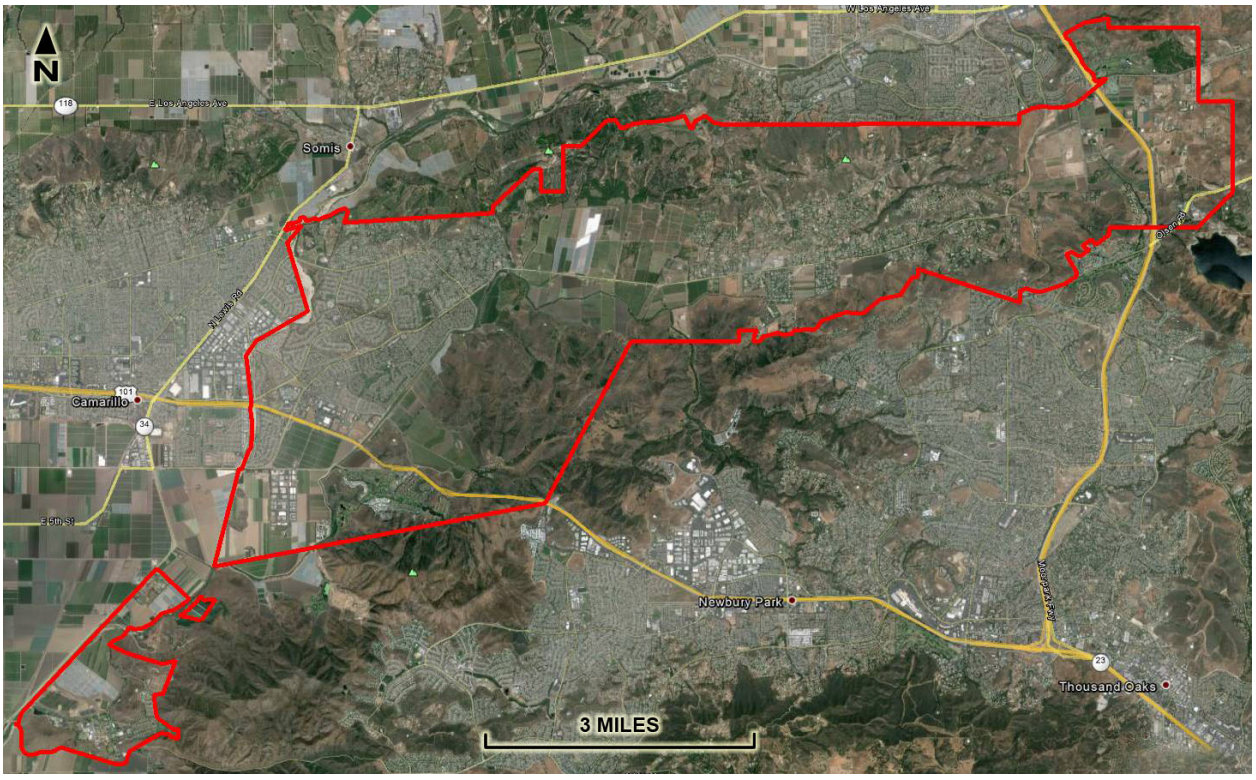

Figure 3-1 Camrosa Water District Service Area

Service was extended by agreement to California State University Channel Islands (CSUCI), located in the discontiguous area southwest of the main District boundaries, in 1981. Water is provided to CSUCI through a master meter located at the CSUCI property line, and CSUCI owns and operates its own storage tanks and distribution system for the campus property.

In 2000, Camrosa acquired the distribution system of the Santa Rosa Mutual Water Company and began providing both potable and nonpotable service to approximately 240 large parcels in Santa Rosa Valley. With the exception of the CSUCI system, Camrosa owns and operates all potable water distribution facilities within the District boundaries.

3.2.2 Nonpotable Water Distribution Systems

Camrosa Water District has two distinct nonpotable water distribution systems; one that distributes tertiary-treated, Title-22 recycled water produced at Camrosa's Water Reclamation Facility (CWRF), and the other that delivers what is termed "nonpotable" water and comprises a blend of nonpotable surface water diverted from Conejo Creek and local groundwater. Due to significant differences in health code regulations and legal definitions between diverted surface water and Title-22 recycled water, the two systems are completely separate within the District; each has its own distribution system and storage facilities. The current service area for Title-22 recycled water from the CWRF is highlighted in purple in Figure 2 below. The service area encompasses all of the parcels adjacent to and surrounding CSUCI, including the campus itself and neighboring farmland, with the exception of the County-owned parcels in the northwest of the Campus Area.

The Conejo Creek Diversion Project was inaugurated in 2000. Nonpotable surface water, originally discharged from the City of Thousand Oaks's Hill Canyon Wastewater Treatment Plant (HCTP) 6.8 miles upstream from the diversion structure, is diverted from Conejo Creek and used for both landscape and agricultural irrigation in the areas highlighted in green in Figure 3.2. In the Santa Rosa Valley, the nonpotable surface water system is augmented with groundwater.

While the two waters are delivered via separate distribution systems in the Camrosa service area, they are combined and sold as Title-22 recycled water to PVCWD. In November 2019, Camrosa began receiving recycled water from the Camarillo Sanitary District (CamSan). CamSan has a recycled water distribution system, but it is not capable of handling the entirety of the plant's effluent. Prior to November 2019, CamSan discharged its excess recycled water to the Conejo Creek. It was in perpetual violation of the TMDL and was under a time schedule order from the Los Angeles Regional Water Quality Contorl Board to improve water quality or cease discharge. Building a pipeline to Camrosa's storage ponds provided a means for CamSan to cease discharging. Camrosa essentially wheels CamSan effluent to PVCWD, in the same pipe we deliver nonpotable creek water and recycled water from the CWRF. If there is no demand for the CamSan recycled water, CamSan is responsible for its discharge, but in the time since Camrosa began receipt of the recycled water, PVCWD has maintained steady demand.

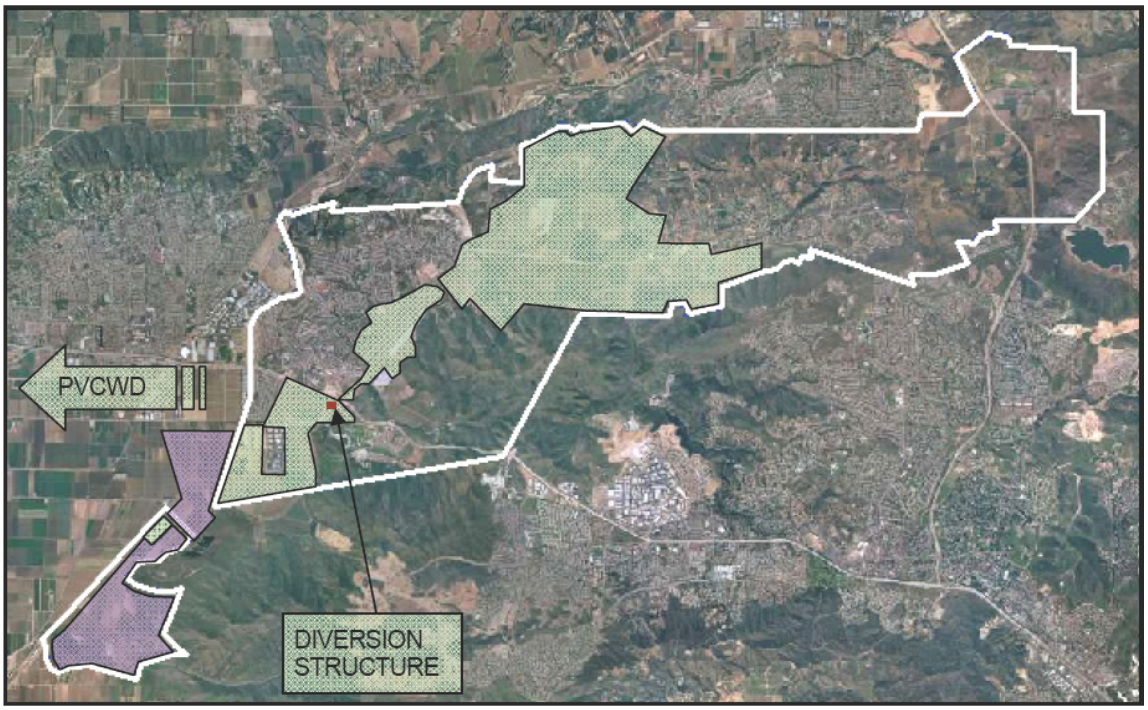

Figure 3-2 Nonpotable (green) and Recycled (purple) Water Systems

While Conejo Creek water is unregulated, the fact that the majority of the creek originates as recycled water makes it, like the CWRF and CamSan sources, particularly reliable, even during periods of low rainfall. During the height of the 2014-2018 drought, mandated urban water conservation resulted in reduced recycled water effluent; Conejo Creek flows decreased by approximately 25 percent between 2014 and 2016. Demand within the distict increased, which caused deliveries of creek water to PVCWD to fall off sharply over the drought period.

3.2.3 Wastewater Collection and Treatment within Camrosa Boundaries

Wastewater service areas for the Camrosa Water District and the City of Camarillo are the result of an agreement negotiated between the agencies more than 50 years ago. Both City and District boundaries have changed several times in the intervening years, resulting in service areas which do not necessarily comport to political boundaries (see Figure 3-3). In the portions of Camrosa that fall within the City of Camarillo boundaries, Camrosa collects wastewater and sends it to the Camrosa Water Reclamation Facility (CWRF), while in the portions of the Camrosa service area within Camarillo city limits south of US Highway 101, wastewater is collected by the Camarillo Sanitary District (CamSan) and treated at their facility, which is located within Camrosa boundaries. Camrosa provides wastewater services to CSUCI and surrounding areas.

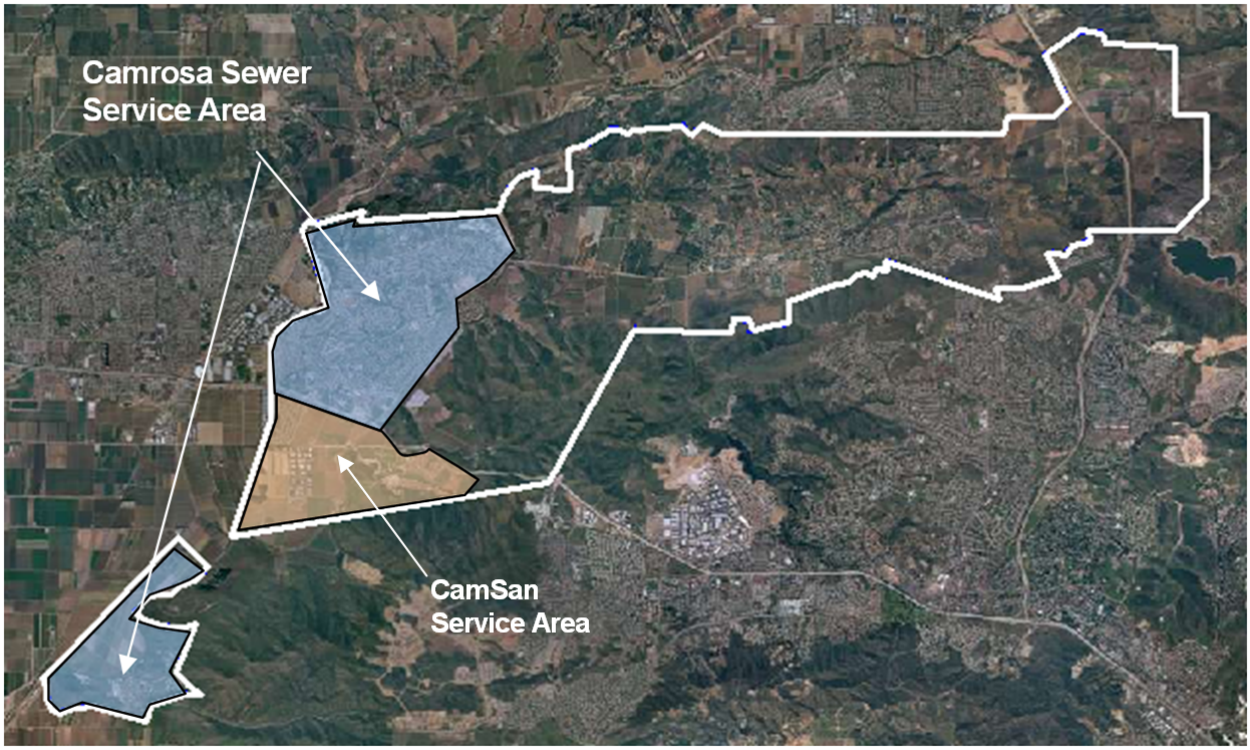

Figure 3-3 Camrosa and Camarillo Sanitation District Service Areas

See Chapter 6.5 for detailed descriptions of the wastewater treatment plant and distribution systems.

3.3 Service Area Climate

Camarillo has a temperate coastal southern California/Mediterranean climate, with approximately 275 sunny days a year, mild summers and winters, and moderate rainfall. On average, more than 90 percent of the

annual rainfall occurs during the six-month period extending from October through March. The average temperature fluctuates between an average low of about 42 degrees (January) and an average high of about 78 degrees (August). Weather data in the following tables is taken from the California Irrigation Management Information System (CIMIS) station located within the Camrosa service area.

Table 3-1 Summary Climate Characteristics, 2000-2020

Climate Characteristic	Value
Avg. Annual Precipitation (inches)	10.74
Annual Min. Precipitation (inches)	2.60
Annual Max. Precipitation (inches)	25.90
Avg. Annual Min. Temp. (°F)	49.59
Avg. Annual Max. Temp. (°F)	72.31

Table 3-2 Detailed Climate Characteristics Averages, 2000-2020

Month/Time	Avg. Precip. (in)	Avg. ET (in)	Avg. Max Temp. (°F)	Avg. Min. Temp. (°F)
Jan	2.26	2.47	68.11	44.40
Feb	2.20	2.65	67.12	43.68
Mar	1.67	3.82	68.60	45.42
Apr	0.77	4.57	69.90	46.86
May	0.26	5.20	71.21	50.11
Jun	0.03	5.27	73.55	54.28
Jul	0.08	5.88	77.44	57.40
Aug	0.01	5.49	78.24	56.91
Sep	0.04	4.36	78.39	54.92
Oct	0.62	3.46	76.08	51.38
Nov	0.76	2.64	72.33	46.43
Dec	2.04	2.21	66.91	43.20
Wet Season	1.59	2.86	69.86	45.75
Dry Season	0.20	5.13	74.79	53.41
* Wet Season is Oct-Mar; Dry Season is Apr-Sep. Values are monthly average over each season.				

3.4 Service Area Population and Demographics

3.4.1 Demographic Factors

Since the City of Camarillo's inception in 1964, the number of connections and volume of water served within the District has grown steadily. Ventura County was predominantly an agricultural area when the District was formed and has struggled to maintain a viable agricultural economy in spite of pressures to develop agricultural acreage into more intensive urban uses. Primarily in response to these pressures, the voters of Ventura County and the City of Camarillo approved separate Save Open Space and Agricultural Resources (SOAR) initiatives designed to protect and preserve the community's agricultural and greenbelt resources. The SOAR establishes "City Urban Restrict Boundary (CURB) lines around the city and requires the city councils to get approval of the city voters before they can urbanize the city's CURB line. In 2016, the residents of Ventura County voted to renew all nine of the SOAR initiatives that were set to expire in 2020. In accordance with the initiatives and the resulting adopted ordinances, any lands designated as Agricultural,

Open Space or Rural within the Ventura County's General Plan or within the City of Camarillo General Plan Map will remain so designated at least until December 31, 2050, unless the redesignation is approved by a vote of the people. Within Camrosa Water District, SOAR will have its greatest impact by preserving the Santa Rosa Valley and Tierra Rejada greenbelts. This UWMP assumes that existing zoning designations and land uses will continue through the year 2050; in the unlikely event that the SOAR initiative lapses, existing land use and zoning designations are not likely to change appreciably in the 30 years between 2020 and 2050.

Development within the City of Camarillo and Unincorporated Ventura County

In 1981, voters in the City of Camarillo approved a ballot measure limiting residential development to 400 units per year. Overall, the growth rate for the City of Camarillo is projected by the *Ventura Cities and County 2040 Population Forecast* (Appendix G) to average approximately 1.2 percent per year through 2025, falling off significantly after that, once it reaches build-out, to less than a quarter of a percent a year. Camarillo demonstrates slightly faster growth than the unincorporated areas of the County of Ventura that make up the remainder of the District service area, excepting the Campus Area discussed below; the unincorporated areas of the county are expected to grow about an average of 0.40 percent per year between now and 2040.

Table 3-3 City of Camarillo and Unincorporated Ventura County Population Projections*

	2020	2025	2030	2035	2040
Camarillo	76,218	77,011	77,805	78,598	79,391
Growth rate (5-year)	6.33%	1.04%	1.03%	1.02%	1.01%
Unincorporated County	101,255	103,603	105,950	108,298	110,645
Growth rate (5-year)	1.64%	2.32%	2.27%	2.22%	2.17%

*Fields in blue are provided in *Ventura Cities and County 2040 Population Forecast*; 2025 and 2035 are interpolated.

While projected growth rate within the city limits is bound by the city's growth ordinance, as a practical matter few parcels remain to be developed in that portion of the city that lies within the District service area, and it is assumed that those parcels will be fully developed within the timeline of this UWMP. Six small- to medium-sized developments are currently in conceptual stages: Shea Homes, Wildwood Preserve, Comstock/Mission Oaks, Pegh Investments, New Urban West, and CSUCI Phase 2. Yearly demand, based on maximum-day potable demand, for these six developments is projected to be 631 AFY, which is less than ten percent of Camrosa's annual average potable deliveries.

As mentioned in section 3.1, between fixed zoning boundaries within Camrosa and projected growth within the city, urban portions of the District are expected to become denser. Potable water demands projected in Section 6 are based off growth projections provided in this section.

Population Growth at the Campus Area

California State University at Channel Islands (CSUCI) will continue to increase its student count as the institution reaches full build out over the next 10-15 years. While the university's students do not factor into official population projections, they are considered as part of CSUCI's total water demand when estimating future usage. Table 3-4 below forecasts the tentative student headcount up to academic year 2029-30.

A housing development is in planned east of campus. The development is called University Glen and is currently in its second phase of development awaiting approval for construction. If approved, the project would introduce 598 additional residences that could come online as soon as late 2022 and could be fully populated by 2025.

Table 3-4 CSUCI Population Projections									
	2021-22	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**	**2027-28**	**2028-29**	**2029-30**
Population Estimate	7,650	7,790	7,950	8,130	8,370	8,450	8,520	8,600	8,980

District Population Projections

Starting with a 2020 population estimate of 32,700, using DWR's WUE population tool, and combining growth rates in the City of Camarillo and unincorporated Ventura County with projections from CSUCI, Camrosa has developed the following population projections.

Table 3-5 Camrosa Population Projections					
	2020	**2025**	**2030**	**2035**	**2040**
District Blended Growth Rate (5-year)		1.45%	1.43%	1.40%	1.38%
Population Estimate	32,700	33,174	33,648	34,119	34,590

3.5 Land Uses within Service Area

Within the Camrosa service area, the current land use consists of residential, commercial, industrial, agriculture, public institution, and open area. The projected land use is not expected to change significantly, as the SOAR initiative and other similar legislation restrict land-use practices to minimize urbanization. The open area and agricultural land use will be relatively fixed until 2050 unless the SOAR initiative or similar legislation is lifted.

4 Water Use Characterization

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

10631 (e) (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; and (I) Agricultural.

10631 (2). The water use projections shall be in the same 5-year increments described in subdivision (a).

10631 (J). Distribution system water loss.

10631 (3)(A). For the 2015 urban water management plan update, the distribution system water loss shall be quantified for the most recent 12-month period available. For all subsequent updates, the distribution system water loss shall be quantified for each of the five years preceding the plan update.

10631 (3)(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.

4.1 Non-Potable Versus Potable Water Use

The District's potable water is composed of a blend of State Water Project (SWP) water imported from its wholesaler, Calleguas Municipal Water District, and raw well water from a number of local water basins and aquifers. Raw well water is chlorinated and blended with SWP water typically to reduce chlorides, nitrates, and other constituents exceeding or nearing maximum contamination levels (MCLs) in order to meet drinking water standards. Blending is not effective on all contaminants. Some contaminants, such as TCP, require a more advanced treatment process. The District does not use any Conejo Creek or recycled water in their potable distribution system, but has separate distribution systems for nonpotable surface water and recycled effluent. The nonpotable distribution system is supplied from surface water originating from the City of Thousand Oaks's Hill Canyon Wastewater Treatment Plant (HCTP) and diverted from the Conejo Creek, while the recycled distribution system is supplied by effluent from the District's Water Reclamation Facility (CWRF). In Table 4-3 below, "Recycled Water" is the only CWC option available for reporting quantities of nonpotable water delivery, thus for reporting purposes the District has combined its nonpotable surface and recycled effluent water deliveries and presented the sum in Table 4-3 as "Recycled Water."

As described in section 2.5, since November 2019 Camrosa has received excess recycled water from CamSan. Camrosa stores that water in one of its storage ponds dedicated to PVCWD deliveries, where CWRF water and nonpotable Conejo Creek water are combined prior to being delivered in a single pipe to PVCWD.

4.2 Past, Current, and Projected Water Use by Sector

4.2.1 Water Use Sectors Listed in Water Code

The District's entire potable water use tracks with the definitions used by DWR for each of the water sectors listed in the CWC. Namely:

- Single-family residential: A single-family dwelling unit; a lot with a free-standing building containing one dwelling unit that may include a detached secondary dwelling
- Multi-family: multiple dwelling units contained within one building or several buildings within one complex
- Commercial: a water user that provides or distributes a product or service
- Industrial: a water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System (NAICS) code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development
- Landscape: water connections supplying water solely for landscape irrigation; such landscapes may be associated with multi-family, commercial, industrial, or institutional/governmental sites, but are considered a separate water use sector if the connection is solely for landscape irrigation
- Agricultural: water used for commercial agricultural irrigation

4.2.2 Water Use Sectors in Addition to Those Listed in Water Code

Other water demand sectors not specifically listed in, nor required by the CWC include Exchanges, Surface Water Augmentation, Transfers, Wetlands or Wildlife Habitat, and other uses that may not be adequately described by the water sectors defined above. In 2014, the District entered into an agreement with the Fox Canyon Groundwater Management Authority (Appendix H1 - FCGMA Resolution 2014-01) for the transfer of Pleasant Valley County Water District's (PVCWD) pumping allocations in the northeast Pleasant Valley Basin in exchange for Conejo Creek surface water, on a one-for-one basis, for a term of forty years (recycled deliveries to PVCWD do not accrue credits). The District has a historical allocation of 806.36 AFY within the basin, but concurrently with the development of a groundwater sustainability plan, the FCGMA initiated a new allocation system in October 2020. Camrosa's new allocation is 690.04 AFY. Camrosa has petitioned for a variance due to the well being down for repairs and rehabilitation for 18 months during the baseline period used to establish the new allocation. Camrosa submitted its variance request for a new allocation of 791.35 AFY in May 2020; as of this writing, the variance is still under consideration at the FCGMA. Whatever the final allocation comes out to be, Camrosa uses its historical allocation first, then draws down the credits received as part fo the Conejo Creek Pumping Program. As of December 31, 2020, Camrosa has delivered 22,071 AF of creek water to PVCWD, accruing a commensurate number of credits; in the same period, Camrosa has used 924.87 AF of credits. A new well is being constructed in the Pleasant Valley Basin to take advantage of Camrosa's accrued credits; it came online in September 2020, outside the scope of this UWMP.

4.2.3 Past Water Use

Past water use is included in Table 4-1c: Baseline Demand for Projection: Average Demand FY 2016-2020.

4.2.4 Distribution System Water Losses

As outlined in the DWR Water Audit Manual, Appendix L of the 2020 UWMP Guidebook, water loss takes into account both apparent and real losses. Examples of apparent losses are unauthorized use, customer meter inaccuracies, and bill handling errors. Real loss involves leakages on mains, service lines and storage leaks and overflows. Using the American Water Works Association (AWWA), water audit software, the sum of real and apparent potable water loss was calculated to be 638 AF or 8.4 percent of the total usage for all demand sectors in 2020 and is presented in Table 4-4 below. All authorized usage has been classified as

"Billed Meter" consumption on the Reporting Worksheet as the District has no components of "Billed Unmetered" or "Unbilled Metered" consumption. Billed metered consumption for 2020 was 6,900 AF. Camrosa has determined "Unbilled Unmetered" consumption to be 19 AF.

In accordance with the 2020 UWMP Guidebook reporting requirements, a completed copy of the AWWA Water Audit Reporting Worksheet has been electronically submitted using DWR's online submittal tool and is also available for review in Appendix L.

Table 4-4: Retail: Last Five Years of Water Loss Audit Reporting

Reporting Period Start Date (mm/yyyy)	Volume of Water Loss [1,2]
07/2019	638
07/2018	485
07/2017	607
07/2016	328
07/2015[3]	927

[1] Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.
*[2] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*
[3] Camrosa was not required to submit a WLA to DWR until FY2017; FY2016 water loss is from internal analysis

4.2.5 Current Water Use

The District's total (AWWA adjusted) potable water supplied in 2020, including water loss and un-billed / un-metered supply, was 7,580 acre feet. The District's total water use was 6,942 acre feet. Camrosa serves potable water to a number of different water use sectors including residential, commercial & industrial, agricultural, institutional, and governmental. Within these different sectors there are various categories ranging from high-density residential condominiums and apartments to low-density, large estate-style homes, master-metered communities, business parks, and agricultural growers. Table 4-1 below provides a breakdown of usage for each potable water class served by the District in 2020.

Table 4-1 Retail: Demands for Potable Water – Actual			
Use Type	2020 Actual		
May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool	Additional Description *(as needed)*	Level of Treatment When Delivered	Volume
Single-family residential		Drinking water	4,150
Multifamily		Drinking water	397
Commercial and industrial		Drinking water	546
Institutional and governmental		Drinking water	265
Landscape		Drinking water	688
Agricultural		Drinking water	896
Distribution System Losses – Real and Apparent Losses		Drinking water	638
		TOTAL	**7,580**
NOTES:			

4.2.6 Projected Water Use

Future demands in the District for 2020 through 2040 were projected based on an evaluation of existing zoning, planning data and land use maps for the various areas within the District, population projections, and discussions with City, County, and Camrosa Board directives. Anticipated land use changes from current zoning were incorporated into the analysis. It must be noted that the demand projections depend on the long-term accuracy of the available planning documents. If the Cities, County, or special districts, significantly revise their land use maps or general plans, the population projections and corresponding demands may also change significantly.

It was assumed land designated on current land-use maps for commercial or residential use would be fully developed over the next 20 years and would reflect the population projections contained in Table 3-4 above. It was assumed that parcels currently in agricultural but zoned for M&I use would be developed over the next 20 years.

It was assumed that parcels currently zoned agricultural will remain in agriculture during the planning period, primarily due to the impacts of SOAR and the apparent desire of the community to maintain the greenbelt and agricultural aspect of the undeveloped land within the District. There is little undeveloped land suitable for agricultural use within the District boundaries and there is little likelihood there will be significant increases to the base irrigation demands. The current water use for 2020 is presented in Table 4-1.

Projections that were given through 2035 in the 2015 UWMP are expected to change due to a number of factors. A large development consisting of mixed commercial/residential use which was scheduled to start prior to 2020 has stalled and the future of the project is now uncertain. It was anticipated that the Conejo Creek Development project, a 2,500 single and multifamily residential and commercial development would have added an additional 439 acre feet of potable demand and at the same time produce a net decrease of 756 AFY in nonpotable demand as agricultural land was converted to urban use. The City of Camarillo, however, halted the project due to environmental concerns.

Another factor affecting projections made in the 2015 UWMP is a change of methodology in the District's goal of achieving water self-reliance. In 2010, much emphasis was placed on expansion of the District's nonpotable distribution system. Customer outdoor irrigation demands would be moved from the potable system thereby decreasing dependence on state water. In 2010 it was planned to transfer 2,658 AFY from potable to nonpotable use by 2035. In 2011, an analysis of the nonpotable system indicated that while an abundance of nonpotable surface water is available during the winter months, a shortage in supply exists during the summer months making expansion of the nonpotable system unfeasible without additional storage capability or the development of additional supply. Further, the analysis concluded expansion of the system was cost-prohibitive.

With the same goal of water self-reliance, direction shifted away from expansion of the nonpotable system and focused on increasing pumping of local groundwater supplies and the exchange of lower-quality water for drinking water. As described above, in 2014 the District entered into an agreement with the FCGMA for the transfer of Pleasant Valley County Water District's (PVCWD) pumping allocations in the northeast Pleasant Valley Basin in exchange for Conejo Creek surface water, on a one-for-one basis for a term of forty years. Additionally, the District is investigating recharge in the Arroyo Santa Rosa basin and potential attendant treatment to increase the blend of local groundwater into its potable distribution system, decrease SWP imports, and improve groundwater quality. It should be noted that the while the blend ratio of raw groundwater to imported water will increase, the net change in demand for potable water should stay relatively constant over the planning horizon.

a. Residential Demand Projections

Six developments that are expected to move forward in the foreseeable future are shown in Worksheet 4-1a along with their estimated completion dates and potable use. These demand estimates have been included in the projections for 2020's Single and Multifamily Residential Use in Table 4-2 below. Details are below.

Worksheet 4-1a: Planned Developments Within the District

Development	Type	Completion Date	Annual Demand (AF) (based on average day demand)
Mission Oaks	Multifamily Residential	2025	67
Wildwood Estates	Single Family Estates	2025	15
Shea Homes	Multifamily Residential	2023	211
Pegh Investment	Limited Manufacturing	2025	148
CSUCI Phase 2	Multifamily Residential	2024	54
CamSprings golf course/ New Urban West	Low-Medium Density Residential	2026	136
		TOTAL NEW AV	**631**

b. CSUCI Campus Projections

California State University at Channel Islands (CSUCI) will continue to increase its student count as the institution reaches full build out over the next 10-15 years. While the university's students do not factor into official population projections, they are considered as part of CSUCI's total water demand when estimating future usage. However, over the past several years starting in 2010, CSUCI has shown a gradual decrease in potable demand while at the same time a gradual increase in recycled water demand as shown in Table 4.1b. These trends demonstrate the university's commitment to both reducing their potable water use and to shifting demand, where possible, to recycled water.

The projected water usage is shown in Table 4-2b. The water demand is only projected until the year 2030 since the University could not reliably forecast beyond that year. For potable water usage, the campus uses an average of 8 CCF per person per year (14.3 to 16.4 GPCD) to forecast usage. This number has been trending down, though, from a high of 11 CCF per person per year (22.5 GPCD) in 2015-16 to a low of 6 CCF per person per year (12.3 GPCD).

A housing development is planned east of campus. The development is called University Glen and is currently in its second phase of development awaiting approval for construction. If approved, the project would introduce 598 additional residences that could come online as soon as late 2022 and could be fully populated by 2025. The forecasted usage from University Glen is 38.7 CCF per housing unit per year.

Table 4-2b: CSUCI Potable Water Demand - Projected

Water Type	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Potable	140	196	199	202	207	208	210	211	218

CSUCI's average potable usage makes up for more than one-half of the total average Institutional and Governmental water demand and it is anticipated that most fluctuations in this use sector will be attributed to the university.

c. Water Loss Projections

Historically, water loss has averaged approximately 4.8 percent of production, but it approached 8.4 percent in 2020. In 2015 the District initiated an internal leak survey program that evaluated several pressure zones within the District. The District completed a systemwide leak detection survey in 2019 and plans to complate another in 2021. In FY2020, Camrosa contracted a water loss control gap assessment that will help prioritize water loss control efforts in a comprehensive water loss control program. Loss for future years has been projected at about five percent and is included in table 4-2. In addition to increasing its detection program, Camrosa is also systematically reconciling production/sales disparities and instituting a meter-calibration program on both the production and delivery sides.

d. Baseline for Demand Projections

In order to assume a realistic baseline demand to more accurately project growth, the previous five years' demands were averaged. The FY2016-2020 period started in the middle of a historic drought; 2013-2017 proved to be five of the driest consecutive years in recent history. In 2015, the California Irrigation Management System (CIMIS) rain gauge station in the District's area recorded 4.01 inches of rain; 2016, 8.89 inches; 2017, 6.24 inches; 2018, 9.88 inches. Then in 2019, the area received 24.54 inches of rain and in 2020, 10.08 inches. The District experienced some demand rebound after drought regulations were scaled back, but also expects some permanent hardening of demand. As the state enters another dry period and

the statewide conservation apparatus clicks into gear in the summer of 2021, it is unlikely that demand will reach pre-drought levels before the institution of Water Use Objectives in 2023.

Table 4-2c: Baseline Demand for Projection: Average Demand FY 2016-2020

Potable Use Type	2016	2017	2018	2019	2020	**AVERAGE**
Single-family residential	3,830	4,206	4,479	4,014	4,150	**4,133**
Multifamily	282	367	363	345	397	**350**
Commercial and Industrial	550	562	582	526	546	**553**
Institutional and Governmental	336	332	368	286	265	**317**
Landscape	571	668	790	657	688	**674**
Agricultural	899	927	1,018	828	896	**913**
Distribution System Losses	834	196	660	383	638	**542**
TOTAL POTABLE	**7,302**	**7,258**	**8,260**	**7,039**	**7,580**	**7,483**
Recycled Water Demand	**6,399**	**7,525**	**8,148**	**6,520**	**5,985**	**6,916**

Demand projection can be derived for various usage sectors by taking into account the number of connections per sector, average persons per connection (PPC), GPCD, and population projections. Using the online Water Use Efficiency (WUE) data tool provided by DWR, the District's average number of people per connection for 2020 was estimated to be 2.94 people per connection. Additionally, it was assumed that all growth in potable demand for Single Family Residential, Multifamily Residential, and Commercial & Industrial sectors would stem from population increases within the District's service area that overlap with either the City of Camarillo boundaries or Unincorporated Areas of Ventura County. Growth in the eastern area of the District that overlaps with the City of Thousand Oaks was assumed to be negligible for Single and Multifamily Residential use sectors and very small for Commercial & Industrial. Service connections within the District were tallied for each of these two areas and factored in with the 2020 PPC (2.94) for each usage sector to yield the District's 2020 Single Family Residential, Multifamily Residential, and Commercial & Industrial populations within the City of Camarillo or Unincorporated Area of Ventura County. Population growth rates from Ventura County's General Plan (see Appendix G) for these two areas were then factored in with the 2020 GPCD (203) to yield the projected increases in demand for these three use sectors. Most of the fluctuation in demand for Institutional and Governmental use will come from the California State University Channel Islands as they reach full build out of student dormitories. While CSUCI shows a recent trend in reduction of potable demand, it is assumed CSUCI's potable demand will increase at a modest one percent annually throughout the planning period. Finally, it is assumed that Landscape and Agricultural use will remain fairly constant over the planning horizon. Demand projections are shown in Table 4-2 and 4-3 below.

Table 4-2 Retail: Demands for Potable Water - Projected					
Use Type	Additional Description *(as needed)*	Projected Water Use *Report To the Extent that Records are Available*			
May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool		2025	2030	2035	2040
Single-family residential		4,188	4,240	4,519	4,572
Multifamily		369	387	406	424
Commercial and Industrial		555	556	558	559
Institutional and Governmental		317	317	317	317
Landscape		675	675	675	675
Agricultural		913	913	913	913
Distribution System Losses		548	553	577	582
TOTAL		7,564	7,642	7,965	8,042
NOTES:					

Table 4-3 Retail: Total Water Use, Potable and Nonpotable					
	2020	2025	2030	2035	2040
Potable and Raw Water *From Tables 4-1 and 4-2*	7,580	7,564	7,642	7,965	8,042
Recycled Water Demand *From Table 6-4*	5,948	7,410	7,41	7,510	7,510
TOTAL WATER DEMAND	13,528	14,974	15,052	15,475	15,552
NOTES: Future water savings are included in these projections. See section 4.4 below.					

4.2.7 Characteristic Five-Year Water Use

In the next five years, the total water demand is expected to increase nearly 15 percent, which is primarily due to the increase in recycled water demand as Conejo Creek water availability returns to normal levels. The potable and raw water demand experiences a slight increase in demand because of the projected population growth of 1.45 percent by 2025. The projections of the water demand in Table 4-3 do not consider the effects of a drought, as the Drought Risk Assessment will address it in more detail in Section 7.

4.3 Worksheet Reporting Table

4.3.1 DWR 2020 UWMP Submittal Table

The Submittal Table compiles all the tables displayed in the 2020 UWMP into one workbook. Alongside the 2020 UWMP for Camrosa Water District, the 2020 UWMP Submittal Table will be submitted to the WUE Data Portal. The data from the tables will be utilized by the DWR to evaluate regional and statewide water use information.

4.4 Water Use for Lower-Income Households

Camrosa Water District boundaries overlap with four jurisdictions: the City of Camarillo, unincorporated areas of Ventura County, the City of Thousand Oaks, and CSUCI. Of the approximately 31 square miles encompassed by the Camrosa Water District's boundaries, about 7 square miles are within the City of Camarillo, 22 square miles lie in unincorporated Ventura County, and 1.5 square miles are attached to the City of Thousand Oaks. Each of these municipalities has a general plan with housing element classifications.

Ventura County, the City of Camarillo, and the City of Thousand Oaks all use the Department of Housing and Urban Development income criteria for the Oxnard–Thousand Oaks–Ventura Metropolitan Statistical Area (MSA) in determining eligibility for affordable housing programs. Senate Bill 1087 requires that water use projections of a UWMP include the projected water use for single-family and multi-family residential housing for lower income households as identified in the housing element of any city, county, or city and county in the service area of the supplier. None of the housing elements of the General Plans of Ventura County, the City of Camarillo and the City of Thousand Oaks identifies the number or specific location of low-income households in the City. Nor do the housing elements in any of these plans project the number or location of low-income households in the future. For this reason, it is not possible to project water use for lower-income households separate from overall residential demand. The District will not deny or condition approval of water services applied for by a proposed development that includes low-income affordable housing units, unless one of the following occurs:

- the District specifically finds that it does not have sufficient water supply
- the District is subject to a compliance order issued by the State Department of Health Services that prohibits new water connections
- the applicant has failed to agree to reasonable terms and conditions relating to the provision of services.

Within the Camrosa Water District boundaries, there are currently no single or multi-family residential tracts designated as low-income housing. There are seven developments scheduled for completion by 2025. Of the residential tracts that are planned for development, none are designated as low-income housing.

Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook)	YES
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc… utilized in demand projections are found.	CWD Resolution 12-14
Are Lower Income Residential Demands Included In Projections?	YES
NOTES: Housing Elements pass through from the Cities (Camarillo & Thousand Oaks) or unincorporated areas of Ventura County which Camrosa services. There are no low-income housing developments planned within the District's boundaries for these municipalities. See discussion in Section 4.4 of Camrosa's 2020 UWMP above.	

4.5 Climate Change Considerations

According to the Department of Water Resources' *Handbook for Regional Water Planning*, the next 100 years will see a specific set of worsening climate conditions that will, in turn, have significant impacts on water resources across the state. The assumed higher temperatures are expected to lead to increases in water use from agriculture, industrial, and municipal users. The more frequent and prolonged droughts the state's climate models project could result in less surface water available and affect future groundwater conditions. Given these expectations, the state requires that climate change impacts be considered in UWMPs.

With the rise in temperature, there is an increased rate of evapotranspiration, which may affect the water demand. Evapotranspiration is the process of water being evaporated from the soil and through transpiration from plants. In Ventura County, the rate of evapotranspiration is expected to increase 5 to 10 percent by 2040, according to the *Projected Changes in Ventura County* (see Appendix M). Higher rates of evapotranspiration lead to higher irrigation demands from agriculture and landscape.

Climate change is also anticipated to increase the risk and extent of wildfires. The rising temperatures indicated by the state's climate projections would dry out the soil, making vegetation more flammable, leading to more severe wildfires that burn more acres and cause major destruction. Wildfires pose a risk to water supplies because they increase the susceptibility of watersheds to both flooding and erosion. Increased wildfire risk may also require greater storage and conveyance capacity. Ventura County is vulnerable to seasonal wildfires and maintains an Emergency Response Plan to ensure the safety of the residents and water supply.

THIS PAGE INTENTIONALLY LEFT BLANK

5 SB X7-7 Baselines and Targets

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

10631 (e) (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; and (I) Agricultural.

10631 (2). The water use projections shall be in the same 5-year increments described in subdivision (a).

10631 (J). Distribution system water loss.

10631 (3)(A). For the 2015 urban water management plan update, the distribution system water loss shall be quantified for the most recent 12-month period available. For all subsequent updates, the distribution system water loss shall be quantified for each of the five years preceding the plan update.

10631 (3)(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.

Achieving 20% by 2020

Camrosa remains far ahead of its "20% by 2020" goal established by the Water Conservation Act of 2009 and adjusted by the Water Conservation and Drought Planning Act of 2018. The District's 2020 target was 261 residential gallons per capita per day (R-GPCD): the District's 2020 actual R-GPCD was 203.

State Water Resources Control Board Resolution 15-0032, implementing Governor Brown's Executive Order B-29-15, established what it terms "Residential Gallons per Capita per Day" (R-GPCD), for each of California's 429 urban potable water suppliers. The methodology used to develop the R-GPCD on the Urban Water Supplier Reporting Tool for submittal to the Drinking Water Information Clearinghouse (DRINC) to evaluate compliance with the conservation targets established by the SWRCB, despite similar terminology to the DWR per-capita water-use evaluation criteria, is significantly different. Among the differences is population estimates; while the DWR WUE tool taps directly into Census data, the DRINC methodology allows for adjustments based on master-metered and transient populations. Considering the large master-metered communities in the District service area the student population at CSUCI, adjusted populations in the DRINC report vary significantly from the Census-based population estimates used here.

5.1 Guidance for Wholesale Suppliers

Not Applicable

5.2 Updating Calculations from 2015 UWMP to the 2020 UWMP

> 10608.20 (g) An urban retail water agency may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).

5.2.1 Update of Target Method

Camrosa's 2010 UWMP developed its baseline, current, and target GPCD based off of gross water use, which was determined to be all potable water that entered the potable distribution system, including agricultural deliveries. Method One, a water use target of 80 percent of the water supplier's baseline per capita water use, was used to establish Camrosa's SBx7-7 2020 GPCD target. In the 2020 UWMP, Camrosa again uses this 80-percent method, though by employing the DWR WUE tool and attendant official 2010 census numbers, the baseline, current, and target GPCD numbers have changed slightly.

5.2.2 SB X7-7 Verification Forms (Appendix E)

As the SB X7-7 Verification Form tables were not available for the 2010 UWMP, Camrosa developed its own tables to calculate baseline, current, and target GPCD, employing Target Method One. For Camrosa's 2020 UWMP, utilizing DWR's standardized SB X7-7 tables is required to demonstrate compliance with the Water Conservation Act of 2009. Data will be uploaded through DWR's WUE tool, but are also reproduced below.

5.3 General Requirements for Baseline and Targets

> 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 . . . along with the bases for determining those estimates, including references to supporting data.
>
> (g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).

Camrosa chose the same ten-year baseline period for the 2020 UWMP as was used in the 2015 UWMP: 1998-2007.

5.3.1 Determination of the 10-15 Year Baseline Period (Baseline GPCD)

10608.12 (b) "Base daily per capita water use" means any of the following:

(1) The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

(2) For an urban retail water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of a continuous 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

Camrosa met 31.35 percent of its total demands with recycled water in 2008, and is therefore qualified to use a 15-year baseline, but has chosen to use a ten-year baseline.

SB X7-7 Table-0: Units of Measure Used in UWMP
Acre Feet

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	17,478	Acre Feet
	2008 total volume of delivered recycled water	5,480	Acre Feet
	2008 recycled water as a percent of total deliveries	31.35%	Percent
	Number of years in baseline period[1]	10	Years
	Year beginning baseline period range	1998	
	Year ending baseline period range[2]	2007	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range[3]	2007	

5.3.2 Determination of the 5-Year Baseline Period (Target Confirmation)

10608.12 (b) (3) For the purposes of Section 10608.22, the urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.

Camrosa's 5-Year Baseline Period will be 2003-2007.

5.4 Service Area Population

> 10608.20 (e) An urban retail water supplier shall include in its urban water management plan due in 2010…the baseline per capita water use…along with the bases for determining those estimates, including references to supporting data.
>
> (f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.
>
> 10644 (a)(2) The plan…shall include any standardized forms, tables or displays specified by the department.

Using DWR's WUE tool, which overlays a shape file of the District service area on the 2000 and 2010 Census Data sets, Camrosa obtained an estimate of District population of 32,700.

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population (may check more than one)	
☐	**1. Department of Finance** (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
☐	2. Persons-per-Connection Method
☑	3. DWR Population Tool
☐	**4. Other** DWR recommends pre-review

SB X7-7 Table 3: Service Area Population		
Year		Population
10 to 15 Year Baseline Population		
Year 1	1998	25,687
Year 2	1999	25,888
Year 3	2000	25,221
Year 4	2001	25,798
Year 5	2002	26,346
Year 6	2003	26,899
Year 7	2004	27,459
Year 8	2005	28,024

Year 9	2006	28,594
Year 10	2007	29,170
5 Year Baseline Population		
Year 1	2003	26,899
Year 2	2004	27,459
Year 3	2005	28,024
Year 4	2006	28,594
Year 5	2007	29,170
2020 Compliance Year Population		
2020		32,700

5.4.1 Persons-Per-Connection

5.1.1 DWR Population Tool

The service area population was calculated by using the methods in the DWR population tool. The population tool utilizes U.S. census data and GIS to accurately calculate the population of the service area. The population tool combines 1990, 2000, 2010 census data with service area maps to determine the population for each census year and calculates a person-per-connection for each of the census year. The population in the non-census years is calculated by interpolating the persons-per-connection from the census year. As of 2020, the 2020 census data has not been released so the population could only be estimated based on the total number of service connections in 2020.

5.5 Gross Water Use

10608.12 (g) "Gross Water Use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

(1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier

(2) The net volume of water that the urban retail water supplier places into long term storage

(3) The volume of water the urban retail water supplier conveys for use by another urban water supplier

(4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.

California Code of Regulations **Title 23 Division 2 Chapter 5.1 Article Section 596 (a)** An urban retail water supplier that has a substantial percentage of industrial water use in its service area is eligible to exclude the process water use of existing industrial water customers from the calculation of its gross water use to avoid a disproportionate burden on another customer sector.

Gross water use is considered all of the potable water that enters the potable distribution system. Recycled water, including, as discussed in Section 4.4, the nonpotable distribution system and the Title-22 recycled water produced at the CWRF, is excluded from the gross water calculation. Camrosa does not place any water into long-term storage. While Camrosa does convey surplus Conejo Creek water to Pleasant Valley County Water District, that water is not counted as part of Camrosa's gross water use to begin with, nor is PVCWD an urban water supplier (they serve exclusively agricultural parcels). The volume of water delivered for agricultural purposes is also excluded from gross water calculations, as noted in SB X7-7 Table 4. Camrosa does not account for process water.

5.5.1 Gross Water Tables

SB X7-7 Table 4: Annual Gross Water Use *								
	Baseline Year *Fm SB X7-7 Table 3*	**Volume Into Distribution System** *Fm SB X7-7 Table(s) 4-A*	**Deductions**					**Annual Gross Water Use**
			Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water *Fm SB X7-7 Table 4-B*	Water Delivered for Agricultural Use	Process Water *Fm SB X7-7 Table(s) 4-D*	
10 to 15 Year Baseline - Gross Water Use								
Year 1	1998	9,356			0	2,125	0	7,231
Year 2	1999	12,394			0	2,947	0	9,447
Year 3	2000	12,663			0	3,152	0	9,511
Year 4	2001	11,951			0	3,022	0	8,929
Year 5	2002	13,983			0	3,504	0	10,479
Year 6	2003	12,145			0	3,342	0	8,803
Year 7	2004	13,444			0	2,265	0	11,179
Year 8	2005	12,156			0	1,706	0	10,450
Year 9	2006	12,619			0	2,056	0	10,563
Year 10	2007	14,309			0	2,263	0	12,046
10 - 15 year baseline average gross water use								**10,004**
5 Year Baseline - Gross Water Use								
Year 1	2003	12,146			0	3,342	0	8,804
Year 2	2004	13,445			0	2,265	0	11,180
Year 3	2005	12,157			0	1,706	0	10,451
Year 4	2006	12,620			0	2,056	0	10,564
Year 5	2007	14,310			0	2,263	0	12,047
5 year baseline average gross water use								**10,609**
2020 Compliance Year - Gross Water Use								
2020		8,264			0	819	0	7,445
NOTES:								

SB X7-7 Table 4-A(1): Volume Entering the Distribution System(s)				
Name of Source		Imported SWP Water		
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	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1998	6,665		6,665
Year 2	1999	8,613		8,613
Year 3	2000	9,084		9,084
Year 4	2001	8,626		8,626
Year 5	2002	10,169		10,169
Year 6	2003	7,956		7,956
Year 7	2004	9,118		9,118
Year 8	2005	8,540		8,540
Year 9	2006	8,964		8,964
Year 10	2007	10,369		10,369
5 Year Baseline - Water into Distribution System				
Year 1	2003	7,956		7,956
Year 2	2004	9,118		9,118
Year 3	2005	8,540		8,540
Year 4	2006	8,964		8,964
Year 5	2007	10,369		10,369
2020 Compliance Year - Water into Distribution System				
2020		5,873		5,873

SB X7-7 Table 4-A(2): Volume Entering the Distribution System(s)				
Name of Source	Groundwater			
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	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1998	2,692		2,692
Year 2	1999	3,782		3,782
Year 3	2000	3,580		3,580
Year 4	2001	3,326		3,326
Year 5	2002	3,815		3,815
Year 6	2003	4,190		4,190
Year 7	2004	4,327		4,327
Year 8	2005	3,617		3,617
Year 9	2006	3,656		3,656
Year 10	2007	3,941		3,941
5 Year Baseline - Water into Distribution System				
Year 1	2003	4,190		4,190
Year 2	2004	4,327		4,327
Year 3	2005	3,617		3,617
Year 4	2006	3,656		3,656
Year 5	2007	3,941		3,941
2020 Compliance Year - Water into Distribution System				
2020		2,391		2,391

5.5.2 Indirect Recycled Water Use Deduction

Camrosa does not use indirect recycled water.

5.5.3 Process Water Use Deduction

Camrosa does not account for process water.

5.6 Baseline Daily Per Capita Water use

SB X7-7 Tables 5 and 6 establish Camrosa's baseline GPCD.

SB X7-7 Table 5: 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	1998	25,687	7,231	251
Year 2	1999	25,888	9,447	326
Year 3	2000	25,221	9,511	337
Year 4	2001	25,798	8,929	309
Year 5	2002	26,346	10,479	355
Year 6	2003	26,899	8,803	292
Year 7	2004	27,459	11,179	363
Year 8	2005	28,024	10,450	333
Year 9	2006	28,594	10,563	330
Year 10	2007	29,170	12,046	369
10-15 Year Average Baseline GPCD				**326**
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	2003	26,899	8,804	292
Year 2	2004	27,459	11,180	363
Year 3	2005	28,024	10,451	333
Year 4	2006	28,594	10,564	330
Year 5	2007	29,170	12,047	369
5 Year Average Baseline GPCD				**337**
2020 Compliance Year GPCD				
2020		32,700	7,445	203
NOTES:				

SB X7-7 Table 6: Gallons per Capita per Day *Summary From Table SB X7-7 Table 5*	
10-15 Year Baseline GPCD	326
5 Year Baseline GPCD	337
2020 Compliance Year GPCD	203
NOTES:	

5.7 2020 Compliance Daily Per-Capita Water Use (GPCD)

SB X7-7 Tables 7 through 9 below establish Camrosa's 2020 actual (203), 2015 interim target (294), and 2020 target (261) GPCD. As can be seen in Table 9, Camrosa is ahead of its interim and 2020 targets. Camrosa's steadily decreasing GPCD is due in part to the transfer of potable demand off onto our nonpotable and recycled water systems, and in part to increased awareness and water consciousness among our customers. Like many urban water suppliers across the state, Camrosa has seen significant increases in efficiency—and reductions in deliveries—each of the years since the 2010 UWMP, in large part because a pattern of dry weather has evolved into drought. 2015 in particular was an exceptionally low water-demand year, as Governor Brown instituted the first-ever statewide mandatory reduction in urban potable water production. While some rebound has occurred since statewide emergency regulations were lifted, it is expected that some demand reduction will persist long term.

SB X7-7 Table 7: 2020 Target Method *Select Only One*		
Target Method		Supporting Documentation
☑	Method 1	SB X7-7 Table 7A

SB X7-7 Table 7-A: Target Method 1 20% Reduction	
10-15 Year Baseline GPCD	2020 Target GPCD
326	261

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target			
5 Year Baseline GPCD From SB X7-7 Table 5	Maximum 2020 Target*	Calculated 2020 Target	Confirmed 2020 Target
337	321	261	261
** Maximum 2020 Target is 95% of the 5 Year Baseline GPCD.*			

SB X7-7 Table 8: 2015 Interim Target GPCD		
Confirmed 2020 Target	10-15 year Baseline GPCD	2015 Interim Target GPCD
261	326	294

SB X7-7 Table 9: 2020 Compliance								
Actual 2020 GPCD	2015 Interim Target GPCD	Optional Adjustments *(in GPCD)*					2020 Confirmed Target GPCD	Did Supplier Achieve Targeted Reduction for 2020?
		Extraordinary Events	Weather Normalization	Economic Adjustment	TOTAL Adjustments	Adjusted 2020 GPCD (Adjusted if applicable)		
203	294	From Methodology 8 (Optional)	From Methodology 8 (Optional)	From Methodology 8 (Optional)	0	203.2558917	261	YES

5.8 Regional Alliance

Camrosa Water District is not participating in a Regional Alliance for preparation of the 2020 UWMP.

6 System Supplies

6.1 Water Supply Analysis Overview

California Water Code (Water Code) Section 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]1 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.

Water Code 10631 (h)

An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b),

6.1.1 Specific Analysis of Water Supply Sources

The existing water supply is currently composed of imported water, groundwater, recycled water, and desalinated brackish groundwater. To further develop the local water, the District is investigating plans for future water projects to recharge the groundwater, construct additional groundwater wells, and provide more storage for non-potable irrigation. The projected water supply in 2025 will be 26,250 AF while the supply between 2030 and 2040 is projected to be 29,630 AF.

The availability of the water supply during a normal year with average precipitation is expected to maintain reliability. Similarly, the water supply in a single dry year is projected to have 100 percent reliability, which was based on the 2011 dry year. Both the normal year and single dry year have a supply surplus, which meets all the water demands of the service area. The conditions of the five-year drought consider a 10-percent decrease in water supply from the previous year. The five-year drought also considers the effects of the state's projected increase in evapotranspiration due to climate change. Although there is a decrease in water supply and slight increase in water demand following these assumptions, the water supply is still projected to maintain reliability because of the application of the Water Shortage Contingency Plan, demonstrating that Camrosa's water supply can successfully meet water demands in a variety of water conditions.

Camrosa monitors the groundwater levels and quality of all its wells to maintain the health and sustainability of the groundwater supply. The District overlays five basins: the Pleasant Valley Basin, Oxnard Subbasin, the Arroyo Santa Rosa Basin, Tierra Rejada Basin, and a sliver of the Las Posas Basin. Portions of the Pleasant Valley, Oxnard, Santa Rosa, and Las Posas basins are within the jurisdiction of the Fox Canyon Groundwater Management Agency (FCGMA), while portions outside the GMA also fall within the Camrosa service area. The portions of the Oxnard and Las Posas basins within Camrosa boundaries are very small; the Arroyo Santa Rosa Basin, on the other hand, lies entirely withing Camrosa boundaries.

The University Well, the source for the District's brackish groundwater desalination facility, the Round Mountain Water Treatment Plant, its lies within the DWR boundary of the Pleasant Valley Basin, but outside the jurisdiction of the FCGMA. The Fox Canyon Aquifer does not exist in that portion of the Pleasant Valley Basin; it is instead characterized by loosely connected shallow zones.

As of this writing, the main production wells in the Santa Rosa Basin, collectively referred to as the Conejo Wellfield, are offline due to the presences of 1,2,3—trichloropropane, for which the Californai Department of Drinking Water established an MCL in 2018. A granular activated carbon treatment plant is under design and expected to be constructed in 2022.

Another major source of water supply for irrigation is recycled water. The Camrosa Water Reclamation Facility distributes non-potable irrigation as a water supply for agriculture and landscape. Recycled water is stored in Camrosa's surface storage ponds. Creek water is stored in separate ponds to keep the two waters distinct. As described above, the Camarillo Sanitary District also delivers water to Camrosa that is stored in one of Camrosa's ponds before delivery to PVCWD; that pond, dedicated to PVCWD, also receives CWRF water and creek water.

6.2 Water Supply Characterization

6.2.1 Purchased or Imported Water

Camrosa depends exclusively upon Calleguas Municipal Water District, a Metropolitan Water District wholesaler, for its imported potable water supply. Most of the water Calleguas delivers is State Water Project from the Sacramento-San Joaquin Delta, though Colorado River water is blended in when SWP supplies are low. While the quantity of imported State Water Project water Camrosa relies on to meet normal-year demands has been significantly reduced from historical levels over the last 20 years due to the development of local resources, as of 2020, SWP deliveries still constitute an important part of the District's supply portfolio. Camrosa's primary strategy of reducing demand on imported water has reduced that dependence and has a goal to reduce dependence further to a goal of less than 40 percent by 2025.

Since 1991, Metropolitan has made significant investments in conservation, water recycling, storage and improved supplies. Groundwater storage programs with Semitropic Water Storage District and Arvin-Edison Water Storage District increase Metropolitan's out-of-region storage capacity of state water project water by 600,000 AF. Additional groundwater storage programs have been established with the San Bernardino Valley MWD, and Kern-Delta Water District that will expand that capacity further. The completion of Diamond Valley Reservoir has added 800,000 AF of supply to southern California's mix of resources available to meet dry year needs. In addition, Metropolitan is a strong proponent of the California Water Fix, the latest development in plans to reroute Sierra Nevada mountain runoff around (in this case, under) the Delta to increase reliability of State Water Project supplies. During the 2015 drought, Metropolitan instituted its Water Supply Allocation Plan, instituting on Calleguas and its member agencies a 16.5-percent reduction in imported water allocations. In May 2016, allocation restrictions were terminated due to improved imported water conditions.

Also since 1991, Calleguas Municipal Water District has implemented a strategy for meeting rising water demands in its service area by implementing both regional and local supply-augmentation and demand-management programs. The Las Posas Aquifer Storage and Recovery Project has been an ongoing project that, according to Calleguas's 2020 Urban Water Management Plan, has the goal of maintaining at least 20,000 AF of water in storage in the Las Posas Basin, with an estimated extraction capacity of approximately 70 cubic feet per second (CFS). Currently, Calleguas has 12,000 AF of groundwater stored in the East Las Posas Basin. The Lake Bard filtration plant has a treatment capacity ranging from 30 to 100 cfs. At high flow, it would empty Lake Bard in 5.5 weeks, at low flow in four months.

Despite these investments, recent allocation reductions and the ongoing drought demonstrate that improvements at the regional and local levels of the SWP distribution system only go so far, and reinforce

that the primary threat to Camrosa's supply of potable water is the relative health of the Sacramento-San Joaquin Delta and the SWP's vulnerability to legislative rulings, climatic variations, and catastrophic interruptions of service. As such, and as discussed throughout this plan, Camrosa's primary strategy is to develop local alternatives to imported SWP water.

The District's imported water purchases peaked in the drought year of 1990 at 11,479 AF. Faced with dramatically rising water costs, several large agricultural customers shifted from Camrosa to alternative sources such as private wells or surface water diversion, and Camrosa began developing projects to increase its self-reliance; an effort that persists today as the driving force of the District's strategic plan.

Over the last ten fiscal years, Camrosa has purchased an average of 5,338 AFY from Calleguas, with imports as high as 6,942, in FY2014, and as low as 3,709, in FY2017. The majority of the water Camrosa imports from Calleguas goes to customers in the M&I sector; over the last seven years, since the majority of agricultural customers who were able to transfer their demand to the nonpotable system, approximately 15 percent of the water Camrosa imports from Calleguas goes to agricultural customers.

Actual and future imported water demands are provided in Tables 6-8 and 6-9, respectively.

6.2.2 Groundwater

The District overlays five basins: the Pleasant Valley Basin, Oxnard Subbasin, the Arroyo Santa Rosa Basin, Tierra Rejada Basin, and a sliver of the Las Posas Basin. Portions of the Pleasant Valley, Oxnard, Santa Rosa, and Las Posas basins are within the jurisdiction of the Fox Canyon Groundwater Management Agency (FCGMA), while portions outside the GMA also fall within the Camrosa service area. The portions of the Oxnard and Las Posas basins within Camrosa boundaries are very small; the Arroyo Santa Rosa Basin, on the other hand, lies entirely within Camrosa boundaries.

Eight wells draw from the Santa Rosa Basin: five that are connected to the potable system and three that contribute to the nonpotable system. Camrosa operates no wells within the Las Posas Basin or the Oxnard Subbasin (though the RMWTP and CWRF are geographically located within the Oxnard Subbasin boundary).

Camrosa has one potable well in the Tierra Rejada Basin; two potable wells in the main Fox Canyon Aquifer of the PV Basin. The University Well, the source for the District's brackish groundwater desalination facility, the Round Mountain Water Treatment Plant, lies within the DWR boundary of the Pleasant Valley Basin, but outside the jurisdiction of the FCGMA. The Fox Canyon Aquifer does not exist in that portion of the Pleasant Valley Basin; it is instead characterized by loosely connected shallow zones.

The Fox Canyon Aquifer portions of the PV Basin, Oxnard Subbasin, and the western Santa Rosa Basin (a portion approximately 20 percent of the basin's area west of the Bailey Fault) fall under the jurisdiction of the Fox Canyon Groundwater Management Agency (FCGMA). Camrosa has pumping rights in the Fox Canyon area of the PV Basin under a historical allocation, and accrues additional pumping credits, on a one-to-one basis, for each acre foot of Conejo Creek water delivered to Pleasant Valley County Water District, as codified in FCGMA Resolution 2014-01. Camrosa operates no wells in the FCGMA portion of the Santa Rosa Basin.

(1) Basin Descriptions

> 10631 (b) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:
>
> (2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater.

Pleasant Valley Basin

At 21,600 acres, the Pleasant Valley basin is one of the larger basins in the county, and is one of the seven major basins within FCGMA's jurisdiction. The northeastern portion of the PV Basin underlies the western portion of the Camrosa Water District, in general the Mission Oaks area of the City of Camarillo. The Pleasant Valley Groundwater Basin underlies Pleasant Valley in southern Ventura County. The basin is bounded on the north by the Camarillo and Las Posas Hills and the south by the Santa Monica Mountains. The eastern boundary is formed by a constriction in Arroyo Santa Rosa. The basin is bounded on the west by the Oxnard subbasin of the Santa Clara River watershed. Ground surface elevations range from about 15 feet in the west to about 240 feet above sea level in the east. The upper stratum of the Pleasant Valley Basin is composed of recent and Upper Pleistocene alluvial sands, gravels, silts and clays. The aquifers in this zone are generally unconfined and vary in thickness from a few feet to several hundred feet. The permeable lenses yield little water to wells owing to rapid thinning and predominance of fine-grained materials. The shallow aquifers in the Pleasant Valley Basin are equivalent, but not connected with, the Oxnard aquifer lying to the West. Underlying the Pleasant Valley area at depths from 400 to 1,500 feet is a prominent zone of marine sands and gravels known as the Fox Canyon Aquifer. The Fox Canyon Aquifer is the lower most member of the Pleistocene San Pedro formation and forms the major producing zone of the Pleasant Valley Ground water Basin. The aquifer is confined and is 100 to 300 feet thick. Permeable deposits within the upper Santa Barbara Formation underlie the Sand Pedro Formation and contain fresh groundwater of only minor importance.

Camrosa operates two wells, the Lynnwood and Woodcreek Wells, within the basin. In 1975, DWR estimated the total groundwater storage capacity of the Pleasant Valley Basin to be 1,886,000 AF. Between 198,000 and 247,000 AF are recoverable. Although the perennial yield of this basin has not yet been determined, in 1999 it was estimated the applied water recharge of the basin to be approximately 11,400 AF while the average annual extractions was estimated at 18,500 AF.

The Fox Canyon GMA's allocation for the District's Pleasant Valley wells was initially based on an allowance for the residential development overlying the Fox Canyon Aquifer at a rate of one acre foot per acre of land developed. The District had a historical allocation of 806.36 AFY within the basin, but concurrently with the development of a groundwater sustainability plan, the FCGMA initiated a new allocation system in October 2020. Camrosa's new allocation is 690.04 AFY. Camrosa has petitioned for a variance due to the well being down for repairs and rehabilitation for 18 months during the baseline new allocation plan went into effect in October 2020. Camrosa submitted its variance request for a new allocation of 791.35 AFY in May 2020; as of this writing, the variance is still under consideration at the FCGMA. Whatever the final allocation comes out to be, Camrosa uses its historical allocation first, then draws down the credits received as part of the Conejo Creek Pumping Program (described in detail in Section 6.3 and Appendix H1). As of December 31, 2020, Camrosa has delivered 22,071 AF of creek water to PVCWD, accruing a commensurate number of credits; in the same period, Camrosa has used 924.87 AF of credits. A new well is being constructed in the Pleasant Valley Basin to take advantage of Camrosa's accrued credits; it came online in September 2020, outside the scope of this UWMP.

The District operated the Woodcreek Well as an aquifer storage and recovery facility for a brief period when surplus state water was available during the winter months at a reduced price. The decrease in water quality resulting from storing imported water in the PV Basin and the unlikelihood of that program returning renders resuming injection unlikely.

The shallow upper zones from which the Round Mountain Water Treatment Plant draws its supply, is part of a collection of the uppermost water-bearing units overlying the eastern Pleasant Valley Basin in hydraulic connection with the surface and associated stream flow of Calleguas and Conejo Creeks. The area is outside the FCGMA boundary, where the Fox Canyon Aquifer does not exist. Water levels in the shallow zone fluctuate according to surface flows and precipitation, and as such, the zone's exact extent is difficult to judge. It grew increasingly salty over the latter half of the 20th century and wasn't used or monitored regularly for several decades prior to Camrosa's development of the resource in 2014. The usable capacity of the area is based on the pumping test results carried out on a specific well (the University Well) for a specific project (the RMWTP), and is not meant to apply to the entire shallow system. Due to the fact that the area has not been

used as a source to supply significant volumes of water for over thirty years, it is difficult to know how the area will respond to renewed extraction at the proposed volumes. However, based on the *Aquifer Pumping Test of Camrosa Water District's University Well* (Brown 2010; Appendix K1), the most recent hydrogeologic investigation, extractions are planned at a level that can be sustained indefinitely.

Santa Rosa Basin

The Santa Rosa Groundwater Basin underlies about 3,800 acres (5.9 square miles) and is wholly contained within the District boundaries. It is a broad, elliptical, and flat-bottomed valley. The dominant structural element of the basis is the Santa Rosa Syncline, a downward trending fold lying east to west and extending from the east end of Tierra Rejada Valley westward into Pleasant Valley. Several major faults occur in the Santa Rosa Basin, the largest of the geologic strata of 500 to 5,000 feet along the northern edge of the basin. The other major fault, the Bailey Fault, runs northeast to southwest near the western end of the basin, and separates the northwestern third of the basin from the rest of the basin. The Bailey Fault is geologic and political boundary within the basin.

Groundwater in the Santa Rosa Basin is extracted from sediments of Holocene, Pleistocene, Upper Pleistocene, and Miocene age. There are four major water-bearing zones within the basin; conglomerate beds within the Conejo Volcanics, conglomerate and sandstone within the Santa Margarita Formation, sand and gravel in the Saugus Formation, and alluvium. Structurally, the Conejo Volcanics underlie the basin and form the base on which the formations lie. The Santa Margarita Formation is peculiar to the area of the basin lying east of the Bailey Fault and lies atop the Conejo Volcanics. Over the Santa Margarita Formation lies a confining layer and over that, the alluvium. The area west of the Bailey Fault consists primarily of the Saugus Formation, a combination of Fox Canyon and San Pedro Formations. The Saugus Formation evident within the Santa Rosa Basin is the result of an outcropping of the larger Fox Canyon and San Pedro Formations west of the valley. This outcropping pinches off at the western end of the valley and then fans out into the valley, stopping at the Bailey Fault barrier. Due to the pinching off of the Saugus Formation, the Santa Rosa Groundwater Basin is considered to be a confined basin, separate from the larger western water bearing zones.

In 1975, the California Department of Water Resources (DWR) estimated the total groundwater storage capacity of the Santa Rosa Basin to be 94,000 AF. The voluntary AB 3030 Santa Rosa Groundwater Management Plan (SRGMP) completed in 2014 estimates safe yield at 3,320 AFY. The Arroyo Santa Rosa Basin Groundwater Sustainability Agency (ASRGSA, described in detail below) began work on a groundwater sustainability plan; an updated sustainable yield will be an outcome of the GSP, anticipated to be complete in 2022.

The presence of nitrates above acceptable drinking water regulations require that Santa Rosa Basin groundwater be blended with imported water at an average ratio of between 1:1 and 2:1 (imported:local) to improve its quality before being injected into the potable distribution system; the blend over the last five years has averaged just over 1:1. As described above, since 2019 the wells have been offline due to the presence of 1,2,3,--trichloropropane, a regulated contaminant as of 2018. Once the GAC plant currently under design is complete, the Conejo Wellfield will return to service; it will still have to be blended to control for nitrates as GAC is not a nitrate treatment method.

While Camrosa Water District does not have any wells in the portion of the Santa Rosa Basin west of the Bailey Fault, private well owners there report extractions to the GMA semiannually. Because high penalties are applied to extractions above allowed levels, pumpers normally stay within their allocations.

Pumping in the Santa Rosa Basin varies significantly year to year, from a low of 1,924 in 1998 to a high of 3,931 in 2013. Besides the eight active wells in the Santa Rosa Basin, Camrosa is currently rehabilitating an additional potable water well, the Penny Well. This potable water well was taken offline in the late 1990s in an abundance of caution when trace pesticide contamination was detected (at levels far below the MCLs) in the well product. It was originally conceived, once rehabilitated, as a nonpotable-system well, but quality testing in 2014 indicated that the contamination plume has passed, and the well was returned to potable service in FY2017, producing approximately 190 AFY; production has been limited by the continued presence

of entrained air, which leads to aesthetic impairments. Camrosa has attempted in-house adjustments to the rate and timing of production in hopes of decreasing the air issue, but as of this writing it remains an issue and the District plans to engage outside services for help rectifying the issue. As current pumping capacity exceeds the 3,320 AFY established as safe yield by the SRGMP, the addition of the Penny Well did not immediately increase production in the Santa Rosa Basin so much as provide pumping flexibility and redundancy. Should the GSP indicate a higher sustainable yield, however, the Penny Well may contribute to increased annual production from the basin.

Tierra Rejada Basin

According to *California's Groundwater Bulletin 118*, the Tierra Rejada Basin has a surface area of approximately 4,390 acres.

Rainfall provides about 85 percent of basin water supply. The peripheral drainage area is underlain by non-water bearing rocks or sediments. Groundwater is stored primarily in sandstones and conglomerates with a matrix predominantly composed of volcanic rock of the Topanga Formation, and in fractured basalts and basalt breccias of the Conejo Volcanics. Bedrock formations of marine and non-marine origin present in the basin area include the Saugus Formation, Las Posas Sand, Monterey Shale, Topanga or Calabasas Formation, Conejo Volcanic, and Sespe Formation. Surficial deposits generally overlay the bedrock formations in the basin and include alluvium, and colluvium. The rock sequence in which fresh groundwater is present ranges in age from Oligocene (38 million years ago) to Recent.

Within the basin, the oldest Sespe Formation is water-bearing and known to generally underlie the Conejo Volcanics. The Sespe Formation outcrops on the northern and southern ridges. The compacted formation is mostly sandstone of various colors and contains metavolcanic and quartzitic rocks. This base formation is estimated to be a mile thick. The Conejo Volcanics underlie the entire basin south of the Simi Fault and were formed during the Miocene (25 to 5 million years ago) period. Thickness estimates range from 1,000 to 2,000 feet, with deeper wells penetrating fractured upper layers providing ample rates of water extraction. The upper portion has been described as predominantly andesitic-basaltic flows and breccias; gray, maroon-gray and brown aphantic porphyritic rocks, vaguely stratified, flows range from platy to massive, coherent but much fractured; deposited as flows and breccias; contain some epiclastic volcanic sediments and minor reddish, scoriaceous pyroclastic horizons; probably emplaced sub aerially" (Dibblee, 1992).

Camrosa's well encountered the fractured volcanics at 290-foot depth where brown sandstones of the overlying Topanga formation ends and the gray Conejo Volcanics begins. The well is sealed to 300 feet and produces water from 300 to 620 feet below the surface.

The Topanga Formation overlying the Conejo Volcanics was deposited during the same era. Rocks of the formation were deposited during a period of marine exposure and consist mainly of medium to course grained sandstone and volcanic pebble conglomerate. Marine influence is also seen in Monterey shale outcrops in the hills south of the basin and along the Semi fault within the northwest area of the basin. Some Los Posas sand of marine origin lies on the south side of the fault. Also in contact with the fault is the Saugus formation which runs toward the northwest. Finally, the main basin is covered by younger sediments of Holocene era (10,000 years ago to the present), with recent alluvium accumulation along stream courses with a maximum thickness of 50 to 80 feet in the central basin.

The water table elevation decreases from approximately 600 feet mean sea level (MSL) in the eastern portion of the basin to 450 feet in the western portion of the basin. The saturated thickness increases from east to west across the basin. In the north central portion of the basin the aquifer reaches a maximum thickness of approximately 700 to 800 feet.

In December 2009, Norman N. Brown, PhD, P.G., conducted a second analysis of the Tierra Rejada Basin, *Groundwater Geology and Yield Analysis of the Tierra Rejada Basin*, on behalf of the District. Brown concluded:

- Groundwater levels observed over a long-term base period including two wet-dry climatic cycles shows that the average groundwater production was within the basin yield over the period 1944-1996;
- Current and recent conditions indicate that existing production and possibly new production can be managed within basin yield. It is unknown if production from a proposed new District well would result in total basin production greater than or less than the historic average over the base period 1944-1996;
- An increase in basin yield may be possible by active management of basin storage and pumping distribution;
- Limited water quality data for the basin show increases in TDS, chloride and sulfate during the last 10 years; concentrations are within drinking water standards. Nitrates concentrations in 2008 exceeded the drinking water standards for four wells in the central portion of the basin.

Inflows and outflows for the Tierra Rejada Basin currently total about 6,200 AF in an average rainfall year. The Tierra Rejada Well's production gradually declined from 2006 to 2015, when it was taken offline for rehabilitation. The rehab resulted in a short period of increased production when the well was returned to service in 2016, but it has since fallen off again. As of this writing, the intention is to lower the bowls and pump from an additional 100 or so feet deeper in order to increase production.

(2) Groundwater Management

> 10631 (b) ...If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:
>
> (1) A copy of any groundwater management plan adopted by the urban water supplier…or any other specific authorization for groundwater management.
>
> (2) …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.

Camrosa's groundwater basins are its primary resource for reducing reliance on imported SWP water; their health and sustainability is in the District's best interest, and they are managed accordingly. Camrosa monitors and records water levels, both static and running, of all its wells, and performs routine quality monitoring, all on a monthly basis.

Pleasant Valley Basin

The Pleasant Valley Basin west of the Bailey Fault is under the jurisdiction of the Fox Canyon Groundwater Management Agency. Camrosa reports groundwater extractions from its two wells that produce out of the Fox Canyon Aquifer portion of the PV basin (Woodcreek and Lynnwood Wells) on a semiannual basis.

As of the 2014 Sustainable Groundwater Management Act, the FCGMA is the exclusive GSA for the areas of the basins within its jurisdiction. The FCGMA is writing the GSP for the entirety of the PV Basin as defined by DWR's Bulletin 118. The FCGMA submitted the GSP to DWR in 2020, and the GSP is included by electronic reference in Appendix L.

The areas outside FCGMA boundaries and within the Camrosa Service Area are part of the Camrosa Water District GSA—Pleasant Valley Basin. The Camrosa GSA did not elect to write its own plan and instead is party to the FCGMA GSP, though the management plan for the area outside the GMA has not been developed. Camrosa and the FCMGA intend to jointly study the hydrogeology of the shallow zones where the University Well that feeds the RMWTP is located to determine whether—and if so,

how—that extraction facility fits into the joint management of the areas of the basin outside the Fox Canyon Aquifer and outside the FCGMA boundaries.

In the spring of 2014, Camrosa renewed agreements for the sale of Conejo Creek water to Pleasant Valley County Water District. In order to accommodate the transfer of PVCWD FCGMA pumping credits in the PV Basin in exchange for Conejo Creek surface water (see Section 6.3 for details), the Conejo Creek Water Pumping Program was created. This program, codified under FCGMA Resolution 2014-01, stipulates that PVCWD retire, and Camrosa accrue, one acre foot of pumping allocations for each acre foot of nonpotable Conejo Creek surface water Camrosa delivers to PVCWD, up to 4,500 AFY. The term of the agreement is forty years, and pumping allocations do not expire. Camrosa is required to submit an annual report detailing deliveries to PVCWD, pumping allocations accumulated and retired, and the balance of pumping allocations remaining. Camrosa and FCGMA staff meet annually to review the report, and discuss any concerns. As of December 31, 2020, Camrosa had accumulated 22,072 AF under the Conejo Creek Water Pumping Program, and exercised 925 AF of its earned credits. The agreement stipulates that Camrosa's historical allocation is to be extracted first.

Santa Rosa Basin

Camrosa commissioned a voluntary AB3030 groundwater management plan on the Santa Rosa Basin, which was completed as the Santa Rosa Basin Groundwater Management Plan in 2013. Originally, the basin was listed as a medium-priority basin by CASGEM under SGMA, at which point a GSA was formed between Camrosa and the County of Ventura, which has land-use jurisdiction over the unincorporated county area that overlies the basin. In DWR's reprioritization, Santa Rosa was characterized as a very-low priority basin, removing the urgency of completing a GSP. The ASRGSA does intend to carry through with a GSP, and as of this writing has begun work on it. It is anticipated the GSP will be complete in 2022.

Santa Rosa is currently Camrosa's primary groundwater-producing basin, and the wells there, including the Penny Well which has been rehabilitated as of 2017, have design capacities of approximately 7,200 AFY (original design information is missing on three wells acquired by the District with the Santa Rosa Mutual Water Company in 2000; for those wells, pump tests and/or historical production averages have been substituted). Production, however, is limited by the safe yield, established by the 2014 Santa Rosa Basin Groundwater Management Plan, of 3,320 AFY. This safe yield will be addressed by the Santa Rosa GSP, currently under development.

Three of the Santa Rosa Basin wells are currently dedicated to the non-potable system, leaving approximately 4,700 AFY of potable pumping capacity in the Santa Rosa Basin. Because Santa Rosa Basin groundwater is impacted by nitrates, Camrosa has to blend imported water at several of its sites, further reducing the functional capacity of wells dedicated to the potable system to approximately 2,300 AFY over the last 15 years. As described above, a 2018 MCL for 1,2,3,--trichloropropane forced four of the District's wells offline. A GAC treatment plant is expected to be online in 2022. Combined with Penny Well improvements, Camrosa hopes to increase production and operational flexibility in the Santa Rosa Basin soon.

Worksheet 6.2.2 demonstrates the current capacity of the Santa Rosa Basin, safe yield, and the required groundwater recharge to accommodate groundwater production at full capacity.

Worksheet 6.2.2. Santa Rosa Basin Pumping Capacity and Recharge Requirements	
Well	**AFY**
Conejo 2	700
Conejo 3	1,300
Conejo 4	1,100
Santa Rosa 3	1,000
Santa Rosa 8*	1,100
Santa Rosa 9†	550
Santa Rosa 10‡	950
Penny Well	500
Total Santa Rosa Pumping Capacity	**7,200**
Safe Yield	3,320
Recharge requirement to accommodate production at full capacity	**3,380**
Design capacity not available for the following wells; capacity based on: * SR8: 15-year average since acquisition of well † SR9: 7-year average since rehabilitation of well ‡ SR10: Pump test	

Tierra Rejada Basin

Camrosa had plans to develop a voluntary AB3030 groundwater management plan on the Tierra Rejada Basin, but after the passage of the Sustainable Groundwater Management Act, only a GSP can be written. The Tierra Rejada Basin is listed as a low-priority basin in the 2014 CASGEM Basin Prioritization Results, so a GSP is not required, but should a groundwater management plan be written on the basin, it would need to conform to the GSP requirements of SGMA. The basin is small, and there are few other pumpers, all of whom are agricultural producers and have a long history of sustainable self-management. The Tierra Rejada Basin responds predictably to precipitation and the behavior of other pumpers, and Camrosa adjusts its extractions accordingly.

(3) Overdraft Conditions

> 10631 (b)(2) For basins that have not been adjudicated, (provide) information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, 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 eliminate the long-term overdraft condition.

The Pleasant Valley Basin and Oxnard Subbasin are in critical overdraft; the areas from which the District's wells operate, however, do not appear to be impacted by or to exacerbate this overdraft. Though an initial GSP has been written by the FCGMA for the PV and Oxnard basins, sustainable yield, rampdown, and accompanying allocation plans have not been finalized.

(4) Historical Groundwater Pumping

> 10631 (b) ...If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(3) 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.

Groundwater provides between approximately 30-60 percent of Camrosa's potable water supply; the rest is met by imported SWP water. Fluctuations in the ratio of imported water occur due to water quality, well operation/maintenance needs, and the changing regulatory environment. Groundwater acts as a buffer against the unreliability and increasing cost of SWP supplies, but given the vulnerabilities specific to Camrosa's local resources and the current limitations on our ability to move groundwater throughout the distribution system, SWP water is a critical component of the District's supply portfolio. Maintaining groundwater production is critical to Camrosa's primary supply strategy to "build self-reliance" and keep imports low.

The RMWTP, a 1 MGD reverse-osmosis brackish groundwater desalination facility, was completed in 2014. Its highest production year has been approximately 870 AF, which represents 10-15 percent of the water Camrosa imports from Calleguas.

The Woodcreek Well, Camrosa's longest-running well in the Pleasant Valley Basin, consistently produces between 800-900 AFY. The Lynnwood Well, Camrosa's second well in the Fox Canyon Aquifer of the PV Basin, has been online since September of 2020 and is outside the scope of this UMWP. It is anticipated that the Lynnwood Well will increase Camrosa's annual production from the PV Basin by 600-800 AFY; as described above, increased production will utilize credits accrued as part of the Conejo Creek Pumping Program.

As Table 6-1 indicates, pumping in the Santa Rosa Basin, Camrosa's primary source of groundwater, increased dramatically in 2013 and 2014, as the drought intensified; this aligns with Camrosa's strategy of relying on the basin in times of drought and/or reduced imported supply. In 2015, Camrosa experienced operational difficulties at some of its wells in the Santa Rosa Basin, and pumping dropped off. Production increased again 2016-2018, until the Wellfield was taken offline due to 1,2,3,--TCP contamination.

The Tierra Rejada Well in the Tierra Rejada Basin has for many years consistently produced 400-500 AFY. Towards the end of 2015, the well was taken offline for some much-needed rehabilitation, and extraction over the last five years has greatly reduced to an average of 223 AFY as of FY2020. The Tierra Rejada Basin is a predictable basin that responds well to recharge. It is anticipated that rehabilitation of Tierra Rejada will increase production again.

Table 6-1 Retail: Potable Groundwater Volume Pumped

Groundwater Type	Location or Basin Name	2016	2017	2018	2019	2020
Alluvial Basin	Pleasant Valley Basin: Shallow Zone (RMWTP)	868	674	2	363	566
Alluvial Basin	Pleasant Valley Basin: Fox Canyon Aquifer	972	777	902	827	825
Alluvial Basin	Santa Rosa Basin	1,403	1,971	2,994	1,416	832
Alluvial Basin	Tierra Rejada Basin	36	164	350	278	287
	TOTAL	3,279	3,586	4,248	2,884	2,510

6.2.3 Surface Water

Camrosa has been putting Conejo Creek water to beneficial use for nearly twenty years, providing a drought-resistant alternative to both imported water and scarce groundwater for municipal and agricultural irrigation. The City of Thousand Oaks discharges tertiary-treated effluent from its Hill Canyon Wastewater Treatment Plant (HCTP) into the Conejo Creek. Approximately seven miles downstream, just south of the US Highway 101 overpass and through an agreement with the City of Thousand Oaks, Camrosa exercises the city's water right and diverts the creek, returning a minimum of 6 CFS via bypass pumps for downstream beneficial uses, including habitat for the southwestern pond turtle. From the diversion, creek water is pumped to Camrosa's storage ponds, then back up into the District for agricultural and landscape irrigation. Water surplus to Camrosa's needs is delivered to Pleasant Valley County Water District, an adjoining agricultural water district. This project was first conceived in the mid 1990s, as a response to the severe drought earlier that decade. Construction was complete in 2002, and operation began in 2003. Camrosa, in conjunction with Calleguas Municipal Water District, received Local Resource Program funding from Metropolitan Water District for ten years, through 2013. When that program ended, Calleguas withdrew from the agreement, and Camrosa, Thousand Oaks, PVCWD, and the Fox Canyon Groundwater Management Agency entered into new, separate agreements to extend the diversion program 40 years and provide for the transfer of PVCWD's groundwater pumping allocations in the FCGMA to Camrosa in exchange for Conejo Creek surface water Camrosa delivers to PVCWD, on a one-to-one basis. For details of the Conejo Creek Pumping Program, see the "Agreement between T.O. and Camrosa for the beneficial use of water (Contract #10116-2013)" (Appendix J) and FCGMA Resolution 2014-01 (Appendix H1).

Through the end of FY 2020, Camrosa had delivered over 81,000 AF of nonpotable water to PVCWD, offsetting demand that would have otherwise met by pumping groundwater.

When agreements were initially made for Conejo Creek water, it was generally assumed that the City of Thousand Oaks would eventually discharge 15,000 AFY of effluent from the HCTP into Conejo Creek. Historically, Camrosa has only twice diverted more than 10,000 AFY from the creek. In the earliest years of the project, nearly all the water diverted from the creek went to PVCWD, as Camrosa's nonpotable distribution system was limited. As more accounts transferred demand to the nonpotable system, in particular some of the larger agricultural users and Leisure Village, a retirement community that uses approximately 500 AFY of nonpotable water for landscape and golf-course irrigation, the amount we sent to PVCWD and the amount we kept began to even out. As can be seen in Worksheet 6.3a, this is likely due to City of Thousand Oaks conservation directly linked to the drought, but the longevity and continuity of the trend suggests that reduced water use has become a way of life in the City of Thousand Oaks. Thus, Camrosa is planning on diverting only 9,000 AFY from the creek.

While the use of nonpotable Conejo Creek surface water within in the Camrosa service area increased steadily after the Conejo Creek project came on line and customers began transferring demand off the potable system and onto that system, Camrosa does not expect that trend to continue. The capacity of Camrosa's nonpotable distribution system has reached the limit of what we can reliably deliver to all our customers, throughout the year. On an annual basis, it would appear that Camrosa has plenty of water to expand the nonpotable distribution system, but as that water is received steadily over the year, independent of the exaggerated annual landscape-irrigation demand curve, in the hottest, driest, and therefore highest-use months of the year, Camrosa uses all the water available in Conejo Creek, sometimes going weeks without transferring so much as a gallon to PVCWD. Expanded storage (likely surface storage akin to the surface ponds Camrosa currently operates) is needed to capture water in the winter and other low-demand periods.

Camrosa expects a small rebound from current reduced levels of water use in Thousand Oaks to bring the available water in Conejo Creek back up, but, in keeping with the average annual diversion over the last ten years (8,825 AFY), we are not expecting to divert any more than 9,000 AFY at any time in the near future. Despite slightly higher use in 2014, 2015, and 2,018 due in all likelihood to a minimal precipitation, Camrosa estimates our landscape and agricultural irrigation customers will continue to average 5,000 AFY of nonpotable Conejo Creek surface water once drought conditions subside and precipitation rates return to normal. Thus, we plan on having 4,000 AFY of surplus creek water to deliver to PVCWD.

This latter projection is, however, predicated on a return to normal precipitation, for as Worksheet 6.3a, below, demonstrates, PVCWD is the entity that sees the real consequences of decreased HCTP/Conejo Creek supply availability. While Camrosa has continued to be able to divert as much as its customers can use in the last two years, decreased diversions due to decreased HCTP flows have translated to decreased transfers to PVCWD.

In addition to the nonpotable water Camrosa delivers to areas within the Fox Canyon Groundwater Management Agency area via PVCWD, we also deliver an average of 5,158 AFY to areas under FCGMA jurisdiction within Camrosa boundaries.

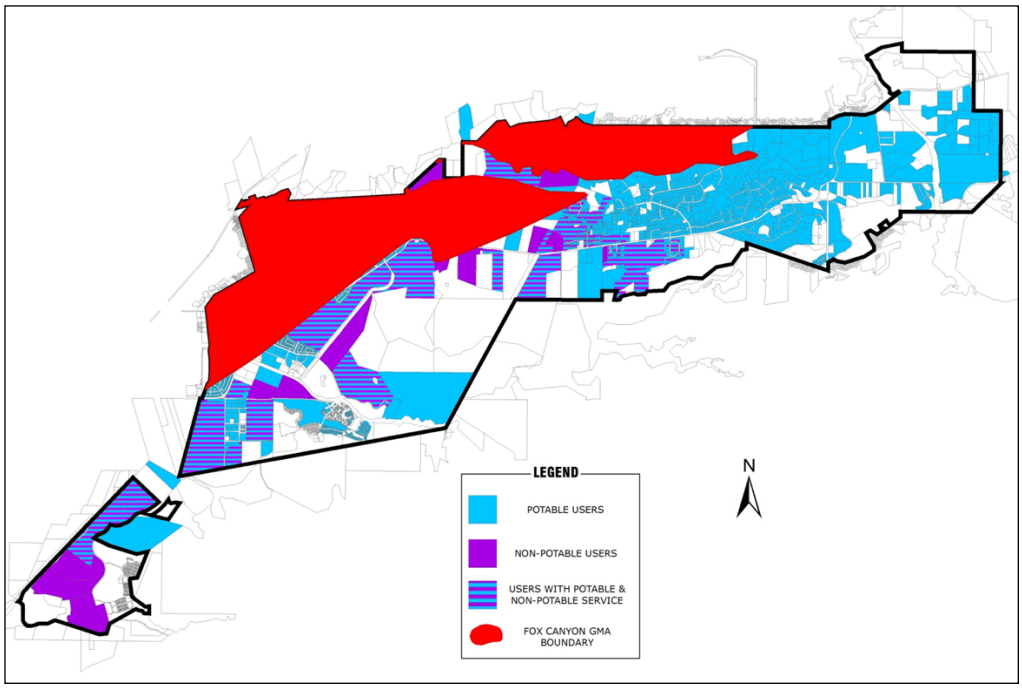

Figure 4. FCGMA area within Camrosa boundaries

Between 2008 and 2020, Camrosa imported 118,308 AF (approximately 9,101 AFY) of water into the FCGMA area, approximately 57 percent of which is delivered within the Camrosa boundaries, while the remainder is delivered to PVCWD (see Section III.F for details of the transfer and exchange program); see Worksheet 6.3b for further breakdown. Starting in FY2020, Camrosa began delivering recycled water from CamSan and CWRF to PVCWD along with Conejo Creek water. While recycled water does not accrue pumping credits as creek water does under the Conejo Creek Pumping Program (FCGMA Resolution 2014-01), recycled imports to the FCGMA area are included in this table.

Over the same period of time, Camrosa has extracted only 9,763 AF (744 AFY on average) from the FCGMA are of the PV Basin (see Table 6.1 for historical groundwater pumping details). Through FY2020, Camrosa's only extraction well in the FCGMA was Woodcreek Well; in September 2020, Camrosa added the Lynnwood Well, which will increase extractions from the FCGMA in the years ahead.

Worksheet 6.3a: Transfers and Exchanges of Water (AF)

Nonpotable surface water diverted from Conejo Creek and transferred to PVCWD

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Diverted from Conejo Creek	6,110	8,436	6,769	8,810	10,027	8,405	7,789	8,906	9,462	10,229	8,701	8,351	8,397	7,457	8,259	9,604	9,091	8,700
Used in Camrosa	136	1,852	2,326	2,567	3,241	3,154	4,025	4,475	3,744	4,061	4,930	5,736	5,109	4,962	4,988	5,849	4,373	3,988
Sent to PVCWD[1]	6,218	6,518	4,756	6,561	6,802	5,590	3,561	4,273	5,610	6,112	3,563	2,107	2,759	1,878	2,973	3,450	4,062	4,508

[1]Volumes reported here limited to nonpotable Conejo Creek water; does not include recycled water added to PVCWD in FY2020.

Worksheet 6.3b. Camrosa Imports into the FCGMA (AF)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Sum	Avg.
Nonpotable Deliveries within FCGMA	6,359	4,234	5,041	6,301	6,725	4,294	2,946	3,531	2,475	3,713	4,215	4,773	6,123	**60,730**	**4,672**
Deliveries to FCGMA Area within Camrosa	769	673	768	691	613	731	839	772	597	740	765	711	802	**9,471**	**729**
Deliveries to FCGMA Area within PVCWD[2]	5,590	3,561	4,273	5,610	6,112	3,563	2,107	2,759	1,878	2,973	3,450	4,062	5,321	**51,259**	**3,943**
Potable Deliveries to FCGMA (within Camrosa)	6,308	5,561	4,655	4,329	4,443	4,849	4,914	4,206	3,693	3,407	4,252	3,403	3,557	**57,577**	**4,429**
TOTAL	12,666	9,796	9,695	10,631	11,168	9,144	7,860	7,737	6,168	7,120	8,467	8,176	9,680	**118,308**	**9,101**
Ag	7,789	5,280	5,840	6,907	7,383	5,076	3,533	4,014	1,515	1,384	1,742	1,199	1,356	**53,018**	**4,078**
M&I	4,878	4,517	3,857	3,726	3,790	4,072	4,333	3,730	2,775	2,763	3,276	2,916	3,003	**47,636**	**3,664**
Camrosa Extractions from FCGMA	820	807	862	775	567	0	735	810	972	777	902	827	819	**9,673**	**744**

[2]Volumes reported here DO include recycled water deliveries to PVCWD beginning in FY2020.

Although the FCGMA does not account for imports into the basins under its jurisdiction, and the GSPs for the Pleasant Valley, Oxnard, and Las Posas basins do not adequately account for return flows and deep percolation/aquifer recharge, the District contends that deliveries to customers within the FCGMA boundaries contribute to the reliability of the basins.

6.2.4 Stormwater

Stormwater runoff in the westernmost portion of the District flows to the Calleguas Creek, while the rest of the District drains to the Conejo Creek. To the extent that rainfall does not overwhelm the Conejo Creek diversion structure, Camrosa captures stormwater runoff from the Santa Rosa Valley and points south, but the facility is often shut down during rain events, in part because demand falls to zero, and in part because the creek, draining the Santa Rosa Valley and much of the Conejo Valley, is flashy, and the diversion is often inundated, even after relatively low-volume rain events.

The District is in conversation with the County of Ventura's Watershed Protection District, and other interested parties, in developing stormwater capture programs at various points in the District, primarily along the Conejo Creek in Santa Rosa Valley, but as of 2020, stormwater does not constitute a source of supply.

6.2.5 Wastewater and Recycled Water

> 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.
>
> (a) (Describe) 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.
>
> (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.

As described above, Camrosa Water District has two separate nonpotable distribution systems, one that serves solely Title-22 recycled water directly from the Camrosa Water Reclamation Facility (CWRF), and the other which distributes nonpotable water comprising primarily surface water diverted from Conejo Creek.

(5) Recycled Water from Camrosa Water Reclamation Facility (CWRF)

Camrosa Water District owns and operates the 1.5 MGD Camrosa Water Reclamation Facility (CWRF). The tertiary-treated product is delivered directly to CSUCI and to surrounding growers as recycled irrigation supply before being sent for storage to Camrosa's storage ponds, which have a storage capacity of 300 AF.

The CWRF produces approximately 1,500 AF of tertiary-treated recycled water a year. Influent averages about 1.4 MGD. About two thirds of the tertiary-treated Tittle-22 water produced at the CWRF is delivered to agricultural customers, and the rest is delivered to California State University Channel Islands (CSUCI). In addition, Camrosa provides surplus recycled water to properties outside the District boundaries. It is Camrosa's goal that all recycled water produced by the CWRF be put to beneficial use and that none be disposed of in any other way, and Camrosa has been so successful in this that the District has had to discharge to the Calleguas Creek only once since 2000; approximately 90 AF were discharged during the severe storms of winter 2005.

It is expected that moderate growth in wastewater flows will continue on campus over the next 20 years, until the campus reaches full build-out, and that there will be modest increases in flows as the sewered area of the District continues to grow. Accordingly, forecasts for recycled water contained in this document project a recycled water availability of 1,570 AFY through 2035.

In October 2019, the Los Angeles Regional Water Quality Control Board amended the District's waste discharge requirements (WDR) permit to rerate the CWRF as a 2.25 MGD facility (with peak flows at 3.24 MGD). The last of the facility modifications necessary prior to rerating was, originally, the expansion of the chlorine contact chambers. Camrosa's water quality department, however, proposed expanding the existing contact chambers' capacity by reducing the contact-time requirement. Disinfection regulations currently assume the use of chloramines, which require longer contact times, and the District's intention is to demonstrate the effectiveness of the facility, which employs free chlorine, to meet recycled water disinfection standards at a higher flow rate, eliminating the need to expand. To this end, the water quality department carried out a study to demonstrate equivalent 5-log removal of MS-2 bacteriophage virus at the existing and proposed rerated capacity, and to define an operating strategy for the plant suitable for capacities up to 3.24 MGD as required by DDW. This study consisted of three phases of testing to accomplish the objective:

1. *Tracer Testing* to measure the actual modal contact time at different flow rates;

2. *Chlorine Demand Testing* to define the relationship between chlorine dose and free chlorine residual in the contactor at different flow rates; and

3. *Virus Seeding Tests* where the contactor was seeded with MS-2 bacteriophage and the disinfection kinetics were determined at different flow rates.

In the tracer testing, the reactor was dosed with a slug addition of sodium fluoride and monitored in-situ with ion selective electrodes. The modal contact time was observed to be very close to the theoretical value at the end of the contactor for four different flow rates, which indicates effective baffling. Advective-diffusion modeling found that the reactor is characterized by a high Peclet number (>16), indicating that advection controls mass transport within the reactor.

In the chlorine demand testing, free chlorine was monitored along the contactor at three different doses, 6 mg/L, 8 mg/L, and 10 mg/L; and three different flow rates, 521 gpm, 781 gpm, and 1,125 gpm. This helped to characterize the chlorine demand and decay characteristics within the contactor under different flow conditions. The measured chlorine demand/decay ranged from 3.8 to 8.5 mg/L, leaving a final free residual from 0.7 to 5.3 mg/L. This test showed that it is possible to maintain an adequate free chlorine residual in the contactor while dosing between 6 and 10 mg/L. The range in measured demand/decay appear to be influenced by weather conditions (sunlight, temperature) and residence time.

In the virus seeding study, MS-2 bacteriophage and native total coliform bacteria were measured along the contactor, and their inactivation as a function of measured CT value was evaluated. At CT values above 25 mg-min/L, the contactor demonstrated compliance with the Title 22 requirements for disinfected tertiary recycled water. Results show >5.6 log removal of MS-2 and <1.7 CFU/100 mL total coliform for all experiments. A normalized kinetic value of 0.24 to 0.29 log-L/mg-min was observed for MS-2 removal, which is comparable to values reported in the literature.

Based on the results of this study, the disinfection process at the CWRF can produce disinfected tertiary recycled water at an average flow of 2.25 MGD and peak daily flow of 3.24 MGD. The target CT value will be 75 mg-min/L, applying a safety factor of three to the minimum value from the virus seeding data. Operating the plant at these higher flow rates and verifying compliance with applicable recycled water standards will require additional monitoring for chlorine residual at the reactor outlet box, ammonia at the reactor influent, and turbidity at the influent and the effluent of the reactor; revisions to the chlorine dosing strategy; and provisions for diversion of off-spec water.

Table 6-2 Retail: Wastewater Collected Within Service Area in 2020					
Wastewater Collection			Recipient of Collected Wastewater		
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected in 2020	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?
Camrosa Water District	Metered	1,378	Camrosa Water District	Camrosa Water Reclamation Facility	Yes
Total Wastewater Collected from Service Area in 2020:		1,378			

(6) Recycled Water from Camarillo Sanitation District

The Camarillo Sanitary District (CamSan) was formed in 1955 to provide wastewater treatment for most of what is now the City of Camarillo. The treatment plant occupies a 20-acre site on Howard Road next to Conejo Creek within the Camrosa Water District boundaries. The plant currently treats about 4.0 million gallons of wastewater each day, with a maximum capacity of 6.75 million gallons. After primary treatment the wastewater undergoes tertiary treatment using an activated sludge treatment process and is then sent into secondary clarifiers and tertiary filters ultimately disinfected in a contact basin using chlorine. Dechlorination is accomplished with sulfur dioxide before the effluent is delivered for agricultural purposes or discharged to the Conejo Creek.

CamSan was under a time schedule order to comply with the salts requirement of its NPDES permit. Instead of treating the effluent and continuing to discharge to the creek, CamSan and Camrosa cooperated on constructing a recycled effluent interconnection pipeline to tee off of CamSan's effluent discharge pipeline to receive the city's surplus recycled water. As described above, Camrosa stores that water in one of its four storage ponds, which is dedicated to PVCWD deliveries, and delivers it to PVCWD on demand. Camrosa received $600,000 in Proposition 84 grant funding towards this project. The current purchase agreement with CamSan only estimates an availability of 500-800 AFY for five years. The contract is renewable and Camrosa expects to do so at the end of the term, provided water is available. The city's use of their full production capacity is contingent on substantial expansion of their recycled water distribution system, and it is expected that recycled water will continue to be available during winter months beyond the five years.

Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020

Plant Name	Discharge Location Name	Discharge Location Description	Method of Disposal	Does Plant Treat Wastewater Generated outside Service Area?	Treatment Level	2020 volumes			
						Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
CamSan	PVCWD	PVCWD service area	Land	No	Tertiary			0	689
CWRF	CWD PVCWD	CSUCI, four ag parcels; PVCWD ag	Land	No		1,449	1,366	523	504
HCTP	Conejo Creek	CWD ag/M&I; PVCWD ag	Land	No				3,840	4,508
					Total	1,449	1,366	4,363	5,701

NOTES: The purchase agreement for CamSan water only estimates an availability of 500-800 AFY for five years. It is renewable and Camrosa expects to renew the agreement at the end of the term, should water still be available. CamSan recycled water is included in this table in 2020 as it comprised actual supply in that year (though for customers outside the service area), but not in the long-term supply projections in this UWMP.

Table 6-4 Retail: Current and Projected Recycled Water Direct Beneficial Uses Within Service Area

Name of Agency Producing (Treating) the Recycled Water:	Camrosa Water District & Camarillo Sanitary District
Name of Agency Operating the Recycled Water Distribution System:	Camrosa Water District

Beneficial Use Type	General Description of 2020 Uses	Level of Treatment	2020	2025	2030	2035	2040
Agricultural irrigation (CWRF)	Row crop	Tertiary	331	1,270	1,270	1,370	1,370
Agricultural irrigation (Conejo Creek)[1, 3]	Row crop	Tertiary	4,320	4,700	4,700	4,700	4,700
Agricultural irrigation (CamSan)[2]	Row crop	Tertiary	0	0	0	0	0
Landscape irrigation (CWRF)	CSUCI outdoor areas	Tertiary	192	200	200	200	200
Landscape irrigation (Conejo Creek)[3]	Various	Tertiary	1,105	1,240	1,240	1,240	1,240
		Total:	5,948	7,410	7,410	7,510	7,510

NOTES: 1. Agricultural irrigation with Conejo Creek water within Camrosa service area includes deliveries to a section of the distribution system referred to as the "Blended Ag" area, in which creek water is blended with imported water to control for chlorides, primarily for customers growing avocados. That imported water accounts for the discrepancy between the Conejo Creek line in Table 6-3 and Conejo Creek deliveries here. Once blended, it is still delivered as "nonpotable" water.
2. The purchase agreement for CamSan water only estimates an availability of 500-800 AFY for five years. Camrosa expects to renew the agreement at the end of the term, should water still be available. CamSan recycled water is included in this table as it comprised actual supply in that year, though the entirety that Camrosa received was all delivered to PVCWD. It is currently not included in long-term projections in this UWMP, but the space is being reserved as a placeholder.
3. Conejo Creek water is an effluent-dominated stream composed primarily of tertiary-treated effluent from Hill Canyon Wastewater Treatment Plant augmented by flows from the north and south forks of the Conejo Creek. It is delivered as unregulated nonpotable surface water, but, as described above, is classed as recycled water for purposes of the UWMP.

(7) Planned Versus Actual Use of Recycled Water

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

Table 6-5 Retail: 2015 UWMP Recycled Water Use – 2020 Projection Compared to 2020 Actual

Use Type	2015 projection for 2020	2020 actual use
Agricultural irrigation	5,410	4,651
Landscape irrigation	1,560	1,297
Total	6,970	5,948

(8) Actions to Encourage and Optimize Future Recycled Water Use

10633 (f) (Describe the) actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre feet of recycled water used per year.

(g) (Provide 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.

Rate Incentives

In order to encourage the use of recycled and nonpotable water within the District, significant price incentives were initially established, especially for those along the Conejo Creek who forwent their riparian rights in order to provide Camrosa a measure of predictability with regard to creek volume.

In 2019, Camrosa completed an in-depth rate study, the result of which was a five-year rate forecast, with annual increases effective July 1. Worksheet 6.5 provides rates for last year, this year, and next. One intention of the rate study was to make the potable and non-potable/recycled enterprises accurately reflect the cost of service of each enterprise by 2023, and the non-potable/recycled water rates have increased at accelerated rates versus the potable to make that possible.

Worksheet 6.5: Rate Structure				
Potable Water Service	**July 2020**	**July 2021**	**July 2022**	**July 2023**
Residential (first 12 units)	3.47	3.61	3.81	4.01
Residential (13 unites and up)	3.82	4.01	4.22	4.45
Commercial/Industrial/Public	3.82	4.01	4.22	4.45
Municipal/Residential Irrigation	3.82	4.01	4.22	4.45
Fire Service/Other	3.82	4.01	4.22	4.45
Agricultural Irrigation	3.82	4.01	4.22	4.45
Temporary Construction/ Agricultural	5.29	5.60	5.88	6.17
Temporary Municipal	5.29	5.60	5.88	6.17
Emergency Water Service	5.29	5.60	5.88	6.17
Commercial/Industrial/Public Out of Bounds	5.29	5.60	5.88	6.17
Residential Out of Bounds (first 12 units)	5.29	5.60	5.88	6.17
Nonpotable / Recycled Water	**July 2020**	**July 2021**	**July 2022**	
Nonpotable Commercial Agricultural	2.08	2.19	2.40	2.59
Nonpotable Landscape Irrigation Water	2.08	2.19	2.40	2.59
Nonpotable Residential Landscape	2.08	2.19	2.40	2.59
Nonpotable Temporary Construction	2.08	2.19	2.40	2.59
Nonpotable Contractual Agricultural	0.61	–	–	–
Blended Nonpotable Agricultural				3.67
Recycled Commercial Agricultural	2.08	2.19	2.40	2.59
Recycled Landscape Irrigation	2.08	2.19	2.40	2.59
Recycled Surplus Water (Served Outside District)	2.08	2.19	2.40	2.59
Recycled Contractual Agricultural	0.40	–	–	–

(9) Dual Outdoor Plumbing

Per Camrosa Board of Directors Resolution 01-07, adopted by the Board on July 12, 2001, all developments shall install a dual water system consisting of separate potable and nonpotable waterlines, in order to encourage, or at least allow for, the use of nonpotable/recycled water to meet outdoor irrigation demands. There are several housing tracts in the District that have installed dual irrigation systems that still do not have access to nonpotable/recycled water, but the policy remains in place given how much less onerous the installation of a secondary system is prior to the installation of roads, sidewalks, lawns, landscaping, other utilities, etcetera, and the optimism that at some point the District will secure sufficient quantities of nonpotable water to provide nonpotable irrigation water to those who have secondary systems.

Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
None	NA	NA	NA
		Total	0

6.2.6 Desalinated Water Opportunities

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

Camrosa currently has one brackish water desalter in operation and is interested in the region pursuing ocean desalination. Callegus Municipal Water District's capital investment in the Salinity Management Pipeline (SMP) makes desalination within the Camrosa service area possible. Camrosa was the first paying customer on the SMP; the City of Camarillo is building a brackish groundwater desalter that is expected to go online in 2021.

(10) Round Mountain Water Treatment Plant

The Round Mountain Water Treatment Plant (RMWTP), a 1 MGD brackish water desalination facility, produces water from a semi-confined collection of the uppermost water-bearing units overlying the eastern reaches of the DWR-defined extent of the Pleasant Valley Basin, outside the boundaries of the Fox Canyon Groundwater Management Agency. The shallow zone at one time supplied area farmers and the Camarillo State Hospital, but by the late 1970s, its quality had degraded to the point that it was unsuitable for use, for either potable or agricultural irrigation. In 1981, the state contracted with Camrosa to supply water to the site, which has since been transformed into California State University Channel Islands. With the introduction of imported water, aquifer quality degradation accelerated, and today TDS levels exceed 1,500 mg/L.

Concerns over the reliability of State Water Project water—due, most recently, to climatic, legislative, and environmental drought in the Delta—and its steadily rising cost, Camrosa has made increasing its reliance on local supply sources one of our primary strategies. In the fall of 2010, Camrosa applied for state funding for the RMWTP in Round One of The Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84), and received $2.3 million toward the construction of the $6.8 million plant, which began in 2013.

Raw water is pumped from the University Well, which Camrosa rehabilitated in 2012-2013. Naturally occurring iron and manganese require pretreatment filtration prior to the raw water entering two skid-mounted reverse-osmosis membrane arrays. Process water is mixed with a side stream from the pretreatment filters, chlorinated, injected into a tank, and ammoniated after leaving the tank before being injected into the potable distribution system. Brine concentrate is discharged to the Salinity Management Pipeline built by Calleguas Municipal Water District, which drains to an ocean outfall in Port Hueneme.

Operational issues and well rehabilitation have kept the plant from running continuously since coming online in 2014, but when it's up and running, it runs between 72-75 percent recover (design was 75 percent), producing as much as 868 AFY in one year. Water levels appear stable and since retrofitting the iron and

manganese filters and rehabilitating the well, the District expects production to be more consistent in the future.

(11) Santa Rosa Basin Desalter

As discussed in Section 6.2, the Santa Rosa Basin is impaired for nitrates, and much of the groundwater Camrosa pumps from the basin is blended with imported water for quality control. Treating Santa Rosa Basin groundwater for nitrates would allow Camrosa to discontinue blending SWP water, further reducing our reliance on the Delta. New local potable resources being developed elsewhere in the District (the RMWTP, new wells in the PV Basin), would offset the volume lost by the discontinuation of SWP water. Obviously, cost is a significant consideration, and Camrosa has not seriously begun feasibility studies. Calleguas has done preliminary design work on rerouting the SMP down the Santa Rosa Valley but is deferring any serious design until Camrosa has a more viable project. The Arroyo Santa Rosa GSP will be instrumental in evaluating the costs and benefits of a Santa Rosa desalter.

Currently the Conejo Wellfield is offline as a GAC treatment plant is constructed to remove 1,2,3,--trichloropropane in exceedance of the 2018 MCL of 5 ppt. As discussed in Section 7.1.2, there exist significant potential regulatory constraints on Santa Rosa Basin water—and all Camrosa's groundwater sources. Once that treatment plant is brought online and provided the Department of Drinking Water can establish some clarity regarding future water quality regulations, further treatment in Santa Rosa, including desalination, will again be given serious attention.

(12) Ocean Desalination

In 2015, Calleguas Municipal Water District completed an initial study into a 150-200 AFD ocean desalination facility. Their initial conclusion was that at upwards of $2.3 billion, it was not a cost-effective solution to shoring up unstable SWP supplies. Instead, such undertakings as increasing local storage capacity, adding groundwater pumping capacity, stormwater capture, groundwater storage-and-recovery programs, expanding recycled water use, encouraging water use efficiency measures were all proposed as options that should be exhausted before the last resort of ocean desal is pursued further. To that end, Calleguas is pursuing a comprehensive Water Supply Alternatives Study. Camrosa's philosophy, however, is that, as an entity whose sole purpose is to provide water for our customers to use however they like, securing supply and protecting it against drought and the vagaries of climatic, legislative, and political whim is of the utmost importance to Camrosa. Camrosa has no plans to pursue ocean desalination independently, but is certainly interested in any regional efforts that enhance supply stability.

6.2.7 Exchanges or Transfers

> 10631 (d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

The Conejo Creek Water Pumping Program, which provides for the transfer of FCGMA pumping credits in the Pleasant Valley Basin from PVCWD to Camrosa in exchange for Conejo Creek surface water, is described in Section 6.2.

6.2.8 Future Water Projects

> 10631 (g) …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 average, single-dry, and multiple-dry 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.

Camrosa's 2015 UWMP describes a third well in the PV Basin to increase the District's ability to produce pumping allocations accrued as part of the Conejo Creek Pumping Program (FCGMA Resolution 2014-01). The motivation for such a well remains, but Camrosa does not plan on drilling another well until there is more available data in that portion of the basin.

The District's long-term water supply reliability planning includes increasing our groundwater management capability through groundwater recharge. Camrosa has surpluses of nonpotable surface water at various times of the year and is pursuing additional recycled supplies, and is investigating the feasibility of recharging the Santa Rosa Basin with those resources. An informal pilot recharge program was undertaken in August 2013 with discharge from the Penny Well, a potable water well that was placed online in 2017 (see Section 6.2.1(3)). Well product was discharged into the Arroyo Santa Rosa, and Camrosa staff performed a rudimentary study to observe the relationship between streamflow and percolation along the arroyo. Although simple, the study showed favorable results in flow characteristics and percolation rates. Over a 30-day period, flows varied between 280 and 400 GPM, and systematically increased in length and width, but only up to a point, and did not progress farther than approximately 1,400 feet from the initial discharge point. Recharge would dramatically improve Camrosa's ability to adaptively manage the Santa Rosa Basin. While initial investigations are promising, a more comprehensive technical and environmental study would be required before pursuing a recharge project further, then a full environmental review and facility design and construction, likely putting a recharge project at least five years out.

Once groundwater recharge feasibility is assessed and a project developed, Camrosa will evaluate constructing a groundwater desalter to treat for the nitrates that impair the Santa Rosa Basin, clean up the basin, discontinue the blending with imported water that is currently necessary, and increase Camrosa's self-reliance. The size of this desalter will be dependent on the results of groundwater recharge in the Santa Rosa Basin. It is possible that the District may determine to move ahead with a desalter without recharge; given the regulatory environment of the early 2020s, where more constituents are monitored and detection limits (and therefore MCLs) can be ever lower, it may turn out that desalination provides the best treatment options.

One of the challenges posed by recycled water supplies for outdoor/landscaping/agricultural irrigation is that it continues to be available during periods of low demand, such as cool and/or wet days. Without sufficient storage to retain the constantly generated supply of recycled water, districts often lose out on potential supplies. On the other hand, they are not supplies whose production can be cranked up, so during the hot summer months, without sufficient storage demands can quickly outpace supply production. Both these situations affect Camrosa; the Conejo Creek and the CWRF continue to produce recycled water around the clock, and while we never have to discharge recycled water produced at the CWRF, we often are forced to let Conejo Creek supplies stay in the creek and bypass our diversion facility for lack of a reservoir in which to store them. To that end, Camrosa is investigating the construction of additional nonpotable/recycled water storage. In 2015, Camrosa had initial discussions with CSUCI to expand the District's existing ponds on/near CSUCI/state property. Changes in leadership at the university have slowed and altered that conversation, but in 2020, the District and CSUCI reinitiated contact. PVCWD may also be interested in pursuing additional storage and Camrosa is actively working with that organization to explore possibilities.

Stormwater capture has long been a project of interest in the Santa Rosa Valley, as it is steep, narrow, and has well defined arroyos. Camrosa has begun investigating the development of a stormwater capture program, for retention, recharge or both, with various entities in the area, including the County of Ventura Watershed Protection District, and the City of Thousand Oaks. Supply augmentation would depend on a number of variables, including the size and nature of the retention, project placement, permeability of the basin, and, most critically, the number and size of rain events from year to year. Camrosa is confident, however, that it would be a beneficial project to protect and augment Santa Rosa Basin groundwater resources.

Table 6-7 Retail: Expected Future Water Supply Projects or Programs					
Name of Future Projects or Programs	Joint Project?	Description (if needed)	Planned Implementation Year	Planned for Use in Year Type	Expected Supply Increase (AFY)
Santa Rosa Basin Groundwater Recharge	Possibly; CMWD	Recharge the Arroyo Santa Rosa Basin	Unknown; conceptual	Average Year Single-Dry Year Multi-Dry Year	unknown
Santa Rosa Basin Groundwater Desalination	Yes; CMWD (SMP)	1 MGD Reverse-Osmosis facility	Unknown; conceptual	Average Year Single-Dry Year Multi-Dry Year	None; water quality project
Pleasant Valley Well #3	No	1,000 gpm drinking water well	Unknown; conceptual	Average Year Single-Dry Year Multi-Dry Year	1,500
Recycled Water Storage	Possibly: CSUCI, PVCWD, others?	Surface storage pond expansion/ construction	Unknown; conceptual	Average Year Single-Dry Year Multi-Dry Year	1,000-3,000 AF
Stormwater Capture in Santa Rosa Valley	Yes; Ventura County WPD, City of Thousand Oaks, others	Retention/recharge basin	Unknown; conceptual	Average Year Single-Dry Year Multi-Dry Year	TBD

6.2.9 Summary of Existing and Planned Sources of Water

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) (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.

Table 6-8 Retail: Water Supplies — Actual

Water Supply	Additional Detail on Water Supply	2020	
		Actual Volume	Water Quality
Purchased or Imported Water	SWP imported via Calleguas	5,873	Drinking Water
Potable Groundwater	Pleasant Valley, Santa Rosa, Tierra Rejada Basins (not RMWTP)	1,763	Drinking Water
Desalinated Water	RMWTP: brackish groundwater	628	Drinking Water
Recycled Water	CWRF+Conejo Creek nonpotable	5,948	Recycled Water
	Total	14,212	

Camrosa's allocation from Calleguas Municipal Water District varies slightly every year, but is usually around 9,000 AFY. The 7,900 AFY used for projected supplies in Table 6-9 is a "not-to-exceed" goal the District set for itself in 2008, the last time the District's Strategic Plan was fully updated. At that point, demands were still high, and we had yet to transfer all the demand off the potable system onto the nonpotable system that we could, and 7,900 AFY seemed like a reasonable goal. Since then, Camrosa has developed more local resources, and, combined with reduced demands especially over the last couple years of drought, has not approached purchases of 7,900 AFY. Nevertheless, Camrosa continues to use 7,900 AFY as projected available supplies; this allows us to continue recognizing the need to transfer off imported supplies, while also providing a conservative level of imports to function within.

Potable groundwater pumping was limited to 2,391 AF in 2020 as operational difficulties kept several wells from producing at full capacity, in particular the Conejo Wellfield, which is completely offline while a GAC treatment plant is being built. Future available groundwater supplies (both potable and nonpotable) are projected to be 6,250 AFY. This number comprises an adjusted historical average of 4,400 AFY plus an additional 1,000 AFY represented by the Lynnwood Well, Camrosa's new well in the PV Basin constructed in September 2020 (see Table 7-1), and 850 AFY at the RMTWP.

A second brackish groundwater desalter, this one located in the Santa Rosa Valley, would not necessary increase supply availability on an annual basis, but rather improve water quality and increase self-reliance in

the case of a long-term imported water supply outage. Given this, and that it is still in the conceptual phase, it is not included in future supplies.

Recycled water estimates include the approximate average of 1,200 AFY from CWRF and 9,000 AFY of available diversions from the Conejo Creek. While diversions from the Conejo Creek have exceeded this number—and have been as high 10,229 in FY2021—the ten-year average is 8,621 AFY (which we round up to 9,000). Lastly, as described in Section 6.5.2, Camrosa expects up to 500 AFY of recycled water from CanSan for five years. Since the project began, all CamSan water has been delivered to PVCWD and none used within the Camrosa service area. While it is likely that more water than 500 AFY will be made available, and for longer than five years, the current term only estimates 500-800 AFY of water availability for five years, so it has not been added as a supply source on Table 6-9.

Table 6-9 Retail: Water Supplies — Projected

Water Supply	Additional Detail on Water Supply	Projected Water Supply (Potable and Nonpotable) *Report To the Extent Practicable*			
		2025	2030	2035	2040
		Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume
Purchased or Imported Water	SWP imported via Calleguas Municipal Water District	7,900	7,900	7,900	7,900
Groundwater	Adjusted historical pumping (potable and nonpotable) plus new Lynnwood Well in PV Basin (Sept 2020)	5,400	5,400	5,400	5,400
Desalinated Water	RMWTP full capacity (850 AFY)	850	850	850	850
Recycled Water	CWRF (1,200) + Conejo Creek nonpotable (8,621)	10,200	10,200	10,200	10,200
	Total	24,350	24,350	24,350	24,350

6.2.10 Climate Change Impacts to Supply

The Department of Water Resources' *Handbook for Regional Water Planning* describes the next 100 years as a period of increased global warming that will have significant impacts on water resources across the state. According to this climate model, Southern California is projected to warm between two and eight degrees Fahrenheit above averages seen around the year 2000. Warmer springs would likely lead to decreased snow accumulation in the Sierra Nevada, the principal supply for the SWP and Camrosa's primary source of imported water. Earlier and faster snowmelt would reduce the amount of capturable runoff. Warmer summers mean higher irrigation demand, which would be increasingly difficult to meet should imported demands become more strained. Under this model, local agencies will rely more and more on groundwater resources, which will already be stressed themselves in response to longer, hotter dry periods, as recharge events are fewer and farther between. As groundwater levels fall and stay overdrafted, the quality of the water that remains often degrades, as well. Wildfires are projected to occur more frequently, and be more intense, requiring greater storage and conveyance capacity, putting watershed health could suffer as a result of increased erosion, and threatening agricultural fields themselves.

Although the District has no facilities along the coast, the Conejo Creek structure, CWRF and RMWTP are on the bank of the Conejo and Calleguas Creeks. The former is built to be submersible, and is often inundated during rain events, and the other two facilities were built at elevations above the 100-year flood line. The Conejo Creek is the only perennial stream in the Calleguas Creek Watershed, and the volume of water it

carries, originating as it does at the HCTP, is unlikely to be so adversely affected by drought that the health of the stream would suffer.

Whether the changes forecasted by current models will affect the types of crops agricultural customers within the District grow, or the irrigation techniques they use to grow them, or the land-use practices regulated by the government, or cultural practices adopted and implemented by the people, is difficult to anticipate; Camrosa's position is to serve our customers as much water as they need and are willing to pay for, and the alternatives to drought-susceptible resources we have developed over the course of the last 20 years and have planned for the next 20 will go a long way in meeting whatever future grower demands might be.

6.3 Energy Intensity

Water Code 10631.2. (a)

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

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

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

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

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

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

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

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

The operational energy intensity is the total amount of energy used by the urban water supplier on a per-acre-foot (AF) basis to distribute water to its customers. The operational energy intensity was calculated according to the methodology and guidance provided in Appendix O of the 2020 Urban Water Management Plan Guidebook. The calculations are based on the Total Utility Approach that reports a single energy intensity for all water management operations for a reporting period of one year. However, the calculations do not include the water energy intensity upstream from the SWP or Metropolitan Water District because those calculations will be provided in the wholesaler agency's 2020 UWMP.

The total energy consumption and volume of potable water delivery is presented in Table 6-10 below. Currently, Camrosa does not produce hydropower so the data for the non-consequential hydropower is not provided. As of 2020, the energy intensity (kWh/AF) is 456.7.

Table 6-10: Energy Intensity — Total Utility Approach				
Start Date for Reporting Period	8/1/2019	Urban Water Supplier Operational Control		
End Date	7/30/2020	Sum of All Water Management Process	Non-Consequential Hydropower	
		Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (AF)		7,692	N/A	N/A
Energy consumed(kWh)		3,513,551	N/A	N/A
Energy Intensity (kWh/AF)		456.7	N/A	N/A

7 Water Supply Reliability Assessment

7.1 Introduction

The potential issues that could result in reduction of the amount of water supply from each of the Water Supply Sources identified in Section 6 are discussed below. Projected demands discussed in Section 4 indicate future water use will remain fairly constant over the planning horizon. Changes in available supply, however, are subject to both significant and gradual changes in environmental factors, water quality, and/or the climate. Where water contracts exist with urban wholesalers or other retailers, it is the District's policy to renew or extend these current agreements or search out alternative sources far enough in advance to offer ample opportunity to ensure supply prior to the current agreement's expiry. Large-scale conservation and other Demand Management Measures are discussed in Section 9.

7.2 Water Service Reliability Assessment

Water Code Section 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.

7.2.1 Constraints on Water Sources

Water Code section 10631 (b)(1)

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

The District's potable water is entirely composed of a blend of State Water Project (SWP) water imported from its wholesaler, Calleguas Municipal Water District, and raw well water from a number of local water basins and aquifers. Raw well water is chlorinated, and, in some cases directly injected into the distribution system. In others, to reduce chlorides, nitrates, and other constituents that exceed or approach maximum contamination levels (MCLs) in order to meet drinking water standards, raw water is blended with imported water, or, in the case of the RMWTP, treated by reverse osmosis. Constraints for each potable source are discussed below. A discussion of potable water constraints would be incomplete without a consideration of recycled and nonpotable surface water served by the District, which is therefore also included below.

(1) Imported Water from Calleguas

Camrosa depends exclusively upon Calleguas Municipal Water District (CMWD) for its imported potable water supply, which currently constitutes roughly 60 percent of the District's total potable supply. Camrosa's primary strategy is reducing demand on imported water, with a goal of importing less than 40 percent of

annual potable supplies by 2025, but as the District is unlikely to ever roll off of Calleguas water completely, the reliability of Camrosa's potable distribution system is heavily dependent upon the reliability of Calleguas.

The primary threat to Camrosa's supply of imported water therefore mirrors Calleguas's and Metropolitans: the relative health of and ability to convey water from the Sacramento-San Joaquin Delta. Whether seismic, climatic, litigatory, or legislative, the myriad vulnerabilities of the State Water Project and the Colorado River Aqueduct seem to increase by the year. One of the ways Metropolitan attempts to mitigate these vulnerabilities is through the Local Resource Program, which helps retailers fund local resource development that shifts demand off Metropolitan and/or shaves peak demands. Calleguas has somewhat followed suit, pursuing its own Water Supply Alternatives Study, which investigates the benefits of funding similar programs in the Calleguas area. Camrosa has availed itself of Metropolitan LRP money on several occasions (the Conejo Creek project and the RMWTP) and is actively working with Calleguas on identifying possible projects for collaboration.

(2) Groundwater

Camrosa overlies the entirety of the Santa Rosa groundwater basin, the majority of the Tierra Rejada Basin, and portions of the Pleasant Valley Basin, Oxnard Subbasin, and Las Posas Basin. Portions of Santa Rosa, Las Posas, Pleasant Valley, and Oxnard also fall under jurisdiction of the Fox Canyon Groundwater Management Agency (FCGMA). Camrosa operates wells in the Santa Rosa, Pleasant Valley, and Tierra Rejada basins; constraints and water quality of each are discussed below.

Tierra Rejada Basin

The watershed area that recharges the Tierra Rejada Basin covers roughly 4,500 acres. The Tierra Rejada Basin itself is 1,900 acres in size, about two-thirds of which lie within Camrosa Water District boundaries. The District operates one well within this basin and in 2020 extracted 289 AF of water. The Tierra Rejada Well water quality meets or exceeds all California Title 22 Water Quality standards and may be placed into the distribution system without any further blending or treatment beyond standard disinfection. Due to characteristics of the basin, this well cannot be operated 24 hours a day. Camrosa is considering lowering the bowl and pump on the well to increase production. The District has considered adding a second well to the basin, however, the Tierra Rejada Basin does not currently have a groundwater management plan and without a complete analysis of safe yield the District has delayed any construction of a new well within the basin.

Santa Rosa Basin

The Santa Rosa Groundwater Basin underlies about 3,800 acres (5.9 square miles) and is wholly contained within the District boundaries. In 1975, the California Department of Water Resources (DWR) estimates the total groundwater storage capacity of the Santa Rosa Basin to between 94,000 and 103,600 AF. In its westernmost one-fifth, the Santa Rosa Basin overlies the Fox Canyon Aquifer and is within the boundaries of the Fox Canyon Groundwater Management Agency (FCGMA). The area is clearly defined by the Bailey Fault, with apparent differences in groundwater levels between the eastern and western areas of the basin. The area west of the Bailey Fault comes under the jurisdiction of the Fox Canyon Groundwater Management Agency. Under the Sustainable Groundwater Management Act (SGMA) the area east of the Bailey Fault will fall under the jurisdiction of the Arroyo Santa Rosa GSA, which is a Joint Power Association (JPA) between Camrosa Water District and the County of Ventura. Work on the GSP began in 2020 and is anticipated to be complete in 2022.

Within the area of the basin east of the Bailey Fault, the District operates seven wells, five of which contribute to the potable system and three of which supplement Conejo Creek water in the nonpotable system. In 2020, Camrosa extracted a combined 655 AF of groundwater from the basin. The Santa Rosa Basin is impaired by nitrates, and groundwater extracted from the Conejo Wellfield, a cluster of four wells and the District's largest groundwater source, regularly exceeds the maximum contaminate level (MCL) for Nitrate of 45 mg/L and must be blended down with imported Calleguas Municipal Water District water. The blend ratio of imported water to groundwater at the Conejo Wellfield is currently one to one. With a combination of drought, surrounding agriculture, and periodic rains, the nitrate levels in these wells can vary. In 2018, the State Water

Resources Control Board promulgated a new MCL for 1,2,3,—trichloropropane (TCP), a synthetic organic compound used in a variety of industrial processes, of 5 ppb. Upon testing, it was discovered above the MCL in three of the wellfield's four wells, which were promptly taken offline. The fourth well was removed from service in early 2020. Camrosa is constructing a granular activated carbon (GAC) treatment plant to treat for the TCP. The plant is expected to be completed in FY2020-21. The wellfield will remain off until that time.

The ever-increasing regulatory environment is the largest looming constraint on Santa Rosa production; with multiple contaminants of emerging concern undergoing analysis at the Office of Environmental Health Hazard Assessment and the Department of Drinking Water at the State Water Resources Control Board, it is unclear how much more treatment is going to be necessary to continue producing from this basin.

Pleasant Valley Basin

Two wells currently produce from the Fox Canyon Aquifer of the PV Basin: the longstanding Woodcreek Well and the Lynnwood Well completed in 2020, both located at Woodcreek Park in the Mission Oaks area of Camarillo. The District has a historical allocation of 806.36 AFY within the basin, but concurrently with the development of a groundwater sustainability plan, the FCGMA initiated a new allocation system in October 2020. Camrosa's new allocation is 690.04 AFY. Camrosa has petitioned for a variance due to the Woodcreek well being down for repairs and rehabilitation for 18 months during the baseline used to establish the new allocation. Camrosa submitted its variance request for a new allocation of 791.35 AFY in May 2020; as of this writing, the variance is still under consideration at the FCGMA. Whatever the final allocation comes out to be, Camrosa uses its historical allocation first, then draws down the credits received as part fo the Conejo Creek Pumping Program. As of December 31, 2020, Camrosa has delivered 22,071 AF of creek water to PVCWD, accruing a commensurate number of credits; in the same period, Camrosa has used 924.87 AF of credits. A new well is being constructed in the Pleasant Valley Basin to take advantage of Camrosa's accrued credits; it came online in September 2020, outside the scope of this UWMP.

The accrual of credits through the transfer of nonpotable water to PVCWD under the Conejo Creek Pumping Program is codified by FCGMA Resolution 2014-01; the continued viability of those credits depends on the continuity of that resolution.

Camrosa operates a third well in the PV Basin, the University Well, as raw water for the Round Mountain Water Treatment Plant, a 1 MGD reverse osmosis desalination facility. The well is located outside the FCGMA boundary and produces from an area character characterized by loosely connected shallow zones. In 2020, the District extracted 874 AF of raw groundwater from the University Well and netted 659 AF of finished potable water from the facility. The water quality in this well exceeds the Title 22 MCL's in TDS, Sulfate, Iron, Manganese, Nitrate, Chloride, and Hardness. The RMWTP's primary purpose is to reduce these constituents to and produce high-quality drinking water; in doing so, the plant also removes salts from the watershed, via the Calleguas Salinity management Pipeline, which discharges brine to the ocean. The SMP is critical to the RMWTP's operation; the plant cannot operate without the brine line and is therefore only as reliable as the SMP. Since its start in August 2014, and through the drought, the University Well did not experience a significant decrease in the water table level. Given its chemical makeup, the raw water the University Well produces is fairly aggressive, and in 2021, the University Well casing was pulled due to extensive corrosion and replaced with stainless steel. The RMWTP is run year-round and has redundant systems that allow it to produce water at half capacity when one of the two treatment trains requires repair or maintenance.

There is some disagreement between Camrosa and the FCGMA over from which hydrogeological units the University Well draws. The two organizations have agreed to jointly study the basin in order to better established the well's source. This effort is anticipated to begin summer 2021 and be complete by the OPV GSP five-year update (2025).

7.2.2 Year Type Characterization

Camrosa's Tier One allocation with Calleguas Municipal Water District is 7,900 AFY; the District hasn't purchased more than that since 2008. Given the transfer of significant potable demand onto the nonpotable

system and the ongoing development of local resources, the District does not anticipate purchasing that much again. Local groundwater supplies in the District's service area are pumped at rates that are sustainable even in multiple-dry year scenarios.

The base years in Table 7.1 below were selected from rainfall data compiled by the California Irrigation Management Information System (CIMIS), from rain gauge stations at Camarillo. 2013-2017 have proven to be five of the driest consecutive years in recent history. In 2013, there was 3.72 inches of rain; 2014, 6.31 inches; and in 2015, 4.01 inches; 2016, 8.89 inches; 2017, 6.24 inches. Following this dry period were several years of relatively wetter periods. In 2018, there was 9.88 inches of rain; 2019, 24.54 inches of rain; 2020, 10.08 inches of rain. 2011 was selected as the average base year as the amount of precipitation was normal at approximately 11.28 inches. 2007 was selected as a single dry year as the amount of precipitation for that year was 5.25 inches while the average rainfall from 2005 to 2009 was 13.37 inches.

While Calleguas Municipal Water District and Metropolitan Water District project undiminished supplies even after multiple dry years, reduced allocations and demand restrictions during the 2015 drought indicate that reliability after a few dry years is in fact compromised; multiple-dry-year projections in Tables 7-1 and 7-4 take this into account. Camrosa's groundwater sources are managed to provide reliability under a variety of circumstances. The ten-year average for groundwater production (delivered in both the potable and nonpotable systems) is 4,400 AFY. For the planning horizon, an adjusted historical average that accounts for rehabilitations and the new Lynnwood Well takes that level to 5,900 AFY (see Table 6-9). Levels of nonpotable irrigation water, dependent as they are on wastewater effluent flows, are projected to diminish slightly as dry-year scenarios continue, based on the assumption that residential water demand will fall somewhat over the course of a drought. Taken together, the District's various sources of supply are considered reliable, and do not compromise the District's ability to provide water in multiple-dry-year scenarios.

Table 7-1 Retail: Basis of Water Year Data

Year Type	Base Year	Supply Type					
		Imported		Groundwater		Recycled/ NP Surface	
		Volume Available	% of Average Supply	Volume Available	% of Average Supply	Volume Available	% of Average Supply
Average Year**	2011	7,900	100%	4,400	100%	11,229	100%
Single-Dry Year	2007	7,900	100%	4,400	100%	10,868	96.8%
Consecutive Dry Years 1st Year	2013	7,900	100%	4,400	100%	9,805	87.3%
Consecutive Dry Years 2nd Year	2014	7,900	100%	4,400	100%	9,600	85.5%
Consecutive Dry Years 3rd Year	2015	5,588*	70.7%	4,400	100%	9,720	86.6%
Consecutive Dry Years 4th Year	2016	4,072	51.5%	4,400	100%	8,035	71.6%
Consecutive Dry Years 5th Year	2017	3,708	46.9%	4,400	100%	8,775	78.1%

NOTES: *Reduction from Calleguas Municipal Water District due to 2015 drought condition, which coincides with the third and following years of a multiple-dry-year scenario.
**Average Year groundwater ten-year groundwater pumping average (potable and nonpotable).

7.2.3 Water Service Reliability

Water Code Section 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.

Table 7.2 through 7.4 below provide supply and demand projections through 2040 for normal year, single dry year, and multiple-dry-year conditions. Surplus projections show that the District can reliably sustain demand for any of the aforementioned conditions. This is due mainly in part to the District's proactive commitment to developing and effectively managing its local groundwater resources, local interagency cooperation for water

exchanges where practicable, increases in water-use efficiency, and transfer of potable agriculture and irrigation demand to recycled water sources.

Table 7-2 Retail: Normal Year Supply and Demand Comparison				
	2025	2030	2035	2040
Supply totals (*autofill from Table 6-9)*	24,350	24,350	24,350	24,350
Demand totals *(autofill from Table 4-3)*	14,974	15,052	15,475	15,552
Difference	9,376	9,298	8,875	8,798
NOTES:				

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison				
	2025	2030	2035	2040
Supply totals	23,168	23,168	23,168	23,168
Demand totals	14,974	15,052	15,475	15,552
Difference	8,194	8,116	7,693	7,616
NOTES:				

Calleguas and Metropolitan both project 100-percent reliable supplies in future multiple-dry-year scenarios, but given the reductions Camrosa has seen during the 2015 drought from its wholesalers, Camrosa has determined to work into its projections a reduction in imported water reliability after the second year of drought; considering that Camrosa's demands were approximately 70 percent of the District's 7,900 AFY goal allocation from Calleguas, third-year projections in the multiple-dry-year scenario are reduced by 30 percent. Because Camrosa has more than sufficient supply to meet normal demands, even with reductions in imported water, and especially as the five-year increments of the planning horizon are met and more and more local resources come online, demand is kept constant over the course of the multiple-dry-year scenarios. Reductions in urban potable water use within the District resulting from Governor Brown's Executive Orders B-29-15 and 8-36-15 are expected to continue once the new Water Use Objectives required by the 2018 Water Conservation and Drought Planning Act are established in 2023.

Being as it is unknown how severe multiple years of drought may be in the future, or what any future regulations will in fact look like, Camrosa prefers to project demands in accordance with its philosophy of self-reliance, and assume that the work that has been done towards that end would provide our customers the opportunity to continue availing themselves of the resource they have invested in stabilizing over the course of many years. Modest decreases in recycled water (assuming reduced flows at wastewater treatment plants

due to voluntary customer conservation) account for supply reductions between the first and second year, and contribute to third-year, fourth-year, and fifth-year reductions.

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison

		2025	2030	2035	2040
First year	Supply totals	22,105	22,105	22,105	22,105
	Demand totals	14,974	15,052	15,475	15,552
	Difference	7,942	10,815	10,392	10,315
Second year	Supply totals	21,900	21,900	21,900	21,900
	Demand totals	14,974	15,052	15,475	15,552
	Difference	7,469	10,281	9,858	9,781
Third year	Supply totals	19,708	19,708	19,708	19,708
	Demand totals	14,974	15,052	15,475	15,552
	Difference	7,013	9,766	9,343	9,266
Fourth year	Supply totals	16,507	16,507	16,507	16,507
	Demand totals	14,974	15,052	15,475	15,552
	Difference	3,443	5,736	5,313	5,236
Fifth year	Supply totals	16,883	16,883	16,883	16,883
	Demand totals	14,974	15,052	15,475	15,552
	Difference	3,860	6,207	5,784	5,707
NOTES:					

7.2.4 Description of Management Tools and Options

Water Code Section 10620(f)

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

Camrosa Water District is committed to maximizing local water resources and minimizing the dependence on imported water. As of 2020, imported water from SWP consist of approximately 60 percent of the District's potable water supply. However, the District has a goal of reducing that dependence to less than 40 percent by 2025. Groundwater is the District's major source of local potable water, so the health and sustainability of the basins are managed to ensure reliability and quality. Camorsa manages groundwater by monitoring water levels, performing routine quality monitoring, and planning for future projects. The GSPs currently under development in the PV and Santa Rosa basis will determine long-term management; the Tierra Rejada Basin is not currently managed, though the District's one well there is constantly monitored.

The CWRF distributes nonpotable irrigation water to agriculture and landscape before being sent to a Camrosa storage pond. There is varying demand for nonpotable irrigation water, higher in the summer months in comparison with the winter months.

7.3 Drought Risk Assessment

> Water Code Section 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.

A drought risk assessment (DRA) is developed to evaluate the reliability of the water supply during a consecutive five-year drought. The DRA will be based on the five driest years on record, which is from 2013 to 2017. The District's Water Shortage Contingency Plan response actions will be evaluated to confirm the functionality and identify any undesired risks during a five-year drought. Additional factors that are considered include climate change and anticipated regulatory changes.

The DRA cannot accurately anticipate hydrological conditions, and the scenario described below is intended to demonstrate how the assessment and response processes will work.

7.3.1 Data, Methods, and Basis for Water Shortage Condition

The Camrosa Water District's water supply is composed of imported water and local water. The imported water supply of 7,900 AF is a "not-to-exceed" goal and the District has plans to continue reducing imported water by further developing local water supplies. In April 2015, Calleguas reduced the District's imported water allocation from 7,900 AFY to 5,588 AFY, resulting in a 30 percent decrease in imported water supply availability (the District did not purchase more than 5,000 AFY of imported water between the drought declaration and 2020). Local water supply comes from groundwater basins described above and uses a ten-

year groundwater pumping average of 3,040 AFY as a baseline. Camrosa groundwater sources can provide reliability under various conditions and are projected to produce at safe yield and production capacity. However, the actual groundwater pumping in 2020 was limited to 2,391 AF. This results in a total water supply of 14,212 AF in 2020, alongside the water supply from desalinated water and recycled water.

The projected decrease in water supply is due to the decreased production of recycled water and the decrease in groundwater recharge. During long-term drought, water demands are expected to decrease to conserve water, which results in less recycled water available at the CWRF, CamSan, and in the effluent-dominated Conejo Creek. Additionally, without consistent rainfall, there is no infiltration from precipitation, which may lower groundwater water levels and risk overdraft if the pumping is not reduced or adjusted. Alongside groundwater, the imported water may also be reduced, which was done during the drought in 2015.

Once water supply has decreased significantly, the District would initiate Stage One of the Water Shortage Contingency Plan (WSCP) to reduce the total water demand of at most 10 percent. Should water supply continue to decrease from year to year, the District would transition to Stage Two or Three to lower the water demand. Demand reduction helps mitigate the water supply shortages and maintain reliability to provide water for the whole service area. The WSCP is discussed further in Section 8.

Climate change is considered in the DRA through the projected increase in temperature in the next 20 years. Increased temperatures would directly impact irrigation demand, as they would increase rate of evapotranspiration. Climate change models employed by the state assume an increase in the average temperature in Ventura County of 2 to 3 degrees Fahrenheit over the next 20 years, resulting in an assumed increase in evapotranspiration rate of 5 to 10 percent (see Appendix M, Projected Changes in Ventura County Climate). In response to the increase in evapotranspiration and climate change, irrigation demands for agriculture and landscape are expected to increase approximately 158 AFY by 2040, or 7.9 AF every year.

The actual annual water demand in 2020 was 7,557 AF, as stated in Table 4-1. Since the projected annual water demand is 7,561 AF for 2025, the gross water use values for total water use between 2021 and 2024 were determined by prorating the difference in water demand between 2020 and 2025. Then, the increased annual irrigation demand of 7.9 AF from evapotranspiration is added to each year of the total water use in Table 7-5 to consider the effects of climate change in the DRA.

It should be noted the DRA does not accurately reflect the water supply conditions during a drought. Since it is unknown how severe a multiple-year drought may be within Camrosa service area, the water shortage condition can only be estimated based on current data.

7.3.2 DRA Water Source Reliability

In the first year of the drought, the District projects supply reliability of 6,648 AF greater than demand, without any WCSP action. To mitigate the water shortage from the drought in the second year of the drought, Stage One will be initiated, where a 10 percent demand reduction would be mandated. With the WCSP action, there is a savings of 757 AF in gross water use, which results in a projected final surplus of 6,530 AF. Despite the overall decrease in water supply, the final surplus of water supply projects a 100-percent reliability in 2022. As the multiple-year drought continues, the District still projects 100-percent reliability in its water supply in the final year of the drought, even without any WSCP actions; such actions are projected here as examples of the impact they would have. The Board would retain control over the execution of the WSCP and establishment of various stages.

In 2025, at the end of a five-year drought period, the District still projects 100-percent supply reliability, with supplies exceeding demand by 2,540 AF, without any WCSP action. Adding demand management measures increases that surplus by over 1,500 AF.

7.3.3 Total Water Supply and Use Comparison

Table 7-5 compares the total water supply and use between 2021 and 2025. To demonstrate the effect of demand management measures, the table includes WSCP actions.

Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)	
2021	**Total**
Gross Water Use	7,564
Total Supplies	14,212
Surplus/Shortfall w/o WSCP Action	6,648
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP – supply augmentation benefit	—
WSCP – use reduction savings benefit	—
Revised Surplus/(shortfall)	6,648
Resulting % Use Reduction from WSCP action	0%
2022	**Total**
Gross Water Use	7,573
Total Supplies	13,217
Surplus/Shortfall w/o WSCP Action	5,644
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP – supply augmentation benefit	--
WSCP – use reduction savings benefit	757
Revised Surplus/(shortfall)	6,402
Resulting % Use Reduction from WSCP action	10%
2023	**Total**
Gross Water Use	7,581
Total Supplies	11,910
Surplus/Shortfall w/o WSCP Action	4,327
Planned WSCP Actions (use reduction and supply augmentation)	

WSCP – supply augmentation benefit	--
WSCP – use reduction savings benefit	1,137
Revised Surplus/(shortfall)	5,466
Resulting % Use Reduction from WSCP action	15%
2024	**Total**
Gross Water Use	7,590
Total Supplies	9,963
Surplus/Shortfall w/o WSCP Action	2,373
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP – supply augmentation benefit	--
WSCP – use reduction savings benefit	1,518
Revised Surplus/(shortfall)	3,891
Resulting % Use Reduction from WSCP action	20%
2025	**Total**
Gross Water Use	7,599
Total Supplies	10,139
Surplus/Shortfall w/o WSCP Action	2,540
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP – supply augmentation benefit	--
WSCP – use reduction savings benefit	1,520
Revised Surplus/(shortfall)	4,060
Resulting % Use Reduction from WSCP action	20%

7.4 Regional Supply Reliability

In 2014, Camrosa renewed its agreement with the City of Thousand Oaks allowing for Conejo Creek diversions for a term of 40 years. At the same time, Camrosa entered into an agreement (FCGMA Resolution 2014-01) with FCGMA for the transfer of PVCWD's pumping allocations in the northeast Pleasant Valley

Basin to Camrosa in exchange for Conejo Creek surface water, on a one-to-one basis, also for 40 years. With these agreements in place the District has achieved a reasonable level of water supply reliability well beyond the planning horizon of this plan.

The Calleguas Water Supply Alternatives Study, the Metropolitan Integrated Regional Water Plan, GSPs for the Pleasant Valley and Santa Rosa basins, and the Salt and Nutrient Management Plans under development in the Calleguas Creek Watershed all contribute to the region's supply reliability.

THIS PAGE INTENTIONALLY LEFT BLANK

8 Water Shortage Contingency Planning

10632.

(a) Every urban water supplier shall prepare and adopt a water shortage contingency plan as part of its urban water management plan that consists of each of the following elements:

(1) The analysis of water supply reliability conducted pursuant to Section 10635.

(2) The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:

(A) The written decisionmaking process that an urban water supplier will use each year to determine its water supply reliability.

(B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:

(i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.

(ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.

(iii) Existing infrastructure capabilities and plausible constraints.

(iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.

(v) A description and quantification of each source of water supply.

(3) (A) Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on the suppliers' water supply conditions, including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels shall also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, and other potential emergency events.

(B) An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagraph (A) by developing and including a cross-reference relating its existing categories to the six standard water shortage levels.

(4) Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:

(A) Locally appropriate supply augmentation actions.

(B) Locally appropriate demand reduction actions to adequately respond to shortages.

(C) Locally appropriate operational changes.

(D) Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions.

(E) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.

(5) Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, all of the following:

(A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.

(B) Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1.

(C) Any other relevant communications.

(6) For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined pursuant to Section 10632.2.

(7) (A) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions.

(B) A statement that an urban water supplier shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1.

(C) A statement that an urban water supplier shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

(8) A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:

(A) A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1.

(9) For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

(10) Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.

(b) For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

(c) The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.

8.1 Water Supply Reliability Analysis

The District's potable water supply consist of a blend of State Water Project water imported from Calleguas Municipal Water District, and raw well water from local water basics and aquifers. In 2020, Camrosa imported about 60 percent of the total potable supply from Calleguas Municipal Water District, though Camrosa has a

goal of reducing that to less than 40 by 2025. The main and primary threat to the imported water is the health and ability to distribute water from the Sacramento-San Joaquin Delta.

The local groundwater supplies in the District's service area are pumped at rates that are sustainable even in multiple-dry year conditions. While Calleguas Municipal Water District and Metropolitan Water District project undiminished water supplies after multiple dry years, experience in the 2015 drought indicates that Camrosa should expect some form of imported water allocation reduction in a severe drought. Camrosa's groundwater sources provide significant buffer above existing imported tier one allocations (7,900 AFY) that even drastic reducitons in imported water availability shouldn't reduce supplies below demand. In the face of drastic imported water shortages, the Camrosa Board of Directors may adopt to implement demand management measures in order to conserve groundwater and extend its reliability, but the general organizing principle of a diversified supply portfolio is to rely on groundwater in times of imported shortages. Camrosa has developed, and plans to continue developing, its local sources to even further improve the District's reliability under various conditions throughout the planning horizon. The levels of nonpotable irrigation water may fall because they are dependent on wastewater flow that is expected to fall due to a lower residential water demand during a drought; during the 2015 drought, flows in the Conejo Creek fell by nearly 25 percent and influent at the CWRF was reduced by about ten percent.

The water service reliability uses historical supply and demand data to determine the base years for a normal year, single dry year, and five consecutive dry years. The base year used to project the normal water supply is 2011, with an annual rainfall of 11.28 inches, while 2007 was selected as the base year for a single dry year, with an annual rainfall of 5.25 inches. Since 2013 to 2017 was the driest consecutive season, those five years were used to project the water supply for the five dry year condition. In the projections, the supply through 2040 for a normal year, single dry year, and multiple dry year conditions all indicate a surplus supply, demonstrating that the District can reliably sustain demand in various conditions. This is due to the District's efforts to manage local groundwater resources, local interagency cooperation for water exchanges, water-use efficiency, and use of recycled water sources, demonstrating that Camrosa's water supply is in accordance with its philosophy of self-reliance.

In the Drought Risk Assessment, the water supply experiences a 10-percent decrease in total water supply from the previous year until 2025. To mitigate the decrease in water supply, the District would initiate the Water Shortage Contingency Plan, which aims to reduce the water demand from the service area. In 2025, at the end of a five-year drought period, the District still projects 100-percent supply reliability, with supplies exceeding demand by 2,713 AF, without any WCSP action. Adding demand management measures would increase that surplus by over 1,000 AF.

The key issues that may create a shortage condition are the possible catastrophes, such as a power outage, earthquake, flood, and fire. The District maintains an Emergency Response Plan, which outlines the procedures to respond to emergency disasters. The Emergency Response Plan aims to restore the water system and minimize the impacts of the disaster on the system. There is about 16 million gallons of tank storage within the District to provide emergency water service during a power outage. Additionally, there are potable backup generators to increase reliability of equipment and facilities. The emergency response to a disaster is discussed in more detail in Section 8.4.

8.2 Annual Water Supply and Demand Assessment Procedures

Urban water suppliers are required to conduct an annual water supply and demand assessment on or before July 1 of each year, starting in 2022, and to submit an annual water shortage assessment report. Each year, as part of its routine budgeting process, Camrosa evaluates the amount of total water supply and compares it to expected demands. This supply and demand assessment described below codifies a fundamental practice of the District in order to comport with the 2018 Water Conservation and Drought Planning Act.

8.2.1 Decision making process

Camrosa Board of Director meetings are held bi-weekly, and Camrosa provides a water supply condition update to its board of directors on a regular basis. In the event that either a water supply shortage or a water emergency is imminent, the General Manager is responsible for reporting to the Board of Directors on the cause, extent, severity, and estimated duration of the supply shortage or emergency. The Board may then activate one of the water shortage stages (defined in Section 8.3) by resolution, modifying as necessary to accommodate specific requirements or eventualities not anticipated by the text of the policy. The District shall notify its customers of this declaration via its website, newspaper, radio, television, direct mail, or any other means determined to be prudent.

Each year, regardless of a water supply shortage or water emergency, the board shall, through the budgeting process, assess water supply and demand for the eventual completion of the water supply and demand assessment report due on July 1. Staff will prepare a draft preliminary report for distribution to the board after final imported water allocations are determined in April. The SDA will be incorporated into the budget document and reviewed by the board in May as part of the normal budget review process. The finalized supply and demand assessment report will be adopted in June with the budget and reported to the state separately before July 1 as required by law.

8.2.2 Data and Methodologies

(1) Evaluation Criteria

Each year, Camrosa shall update Table 4-1 and Table 6-8 of this UWMP, and include these tables in the Annual Water Supply and Demand Assessment Report. These tables summarize Camrosa's current year available demand and supply, respectively.

(2) Supply Assessment

Each year the Metropolitan Water District evaluates available water supplies and existing water storage levels to determine the appropriate management actions. During times of shortages, Metropolitan implements its Water Supply Allocation Plan (WSAP), setting reduced supply allocations to member agencies as needed. Each year during preparation of the supply and demand assessment report, any shortage conditions determined by Metropolitan should be noted, and the total allocation to Camrosa included on Table 6-8.

The remainder of Camrosa's water supply is from a combination of local groundwater, desalinated groundwater, recycled water from Conejo Creek, and tertiary-treated water from CWRF. Supply from these sources are included in Table 6-8. Continuous monitoring of production through SCADA, monthly monitoring of water levels, and regular water quality sampling provide comprehensive monitoring of the District's groundwater sources. The CWRF is fully automated and monitored through the SCADA system, as is the Conejo Creek Diversion Facility and the non-potable system that moves water into the Camrosa Storage Ponds and out to PVCWD.

(3) Demand Assessment

Customer demand is estimated for the current year based on the best available information to date, and remaining months are projected at quarterly intervals based on previous year demands as well as consideration of current demand usage patterns, hydrology, or other factors, including population growth and weather.

(4) Infrastructure Considerations

Planned capital improvement projects are scheduled to ensure to the District's ability to deliver water to meet expected demand. The District will include a summary list of planned and ongoing project in the Assessment Report along with an AFY impact to supply.

8.3 Six Standard Water Shortage Stages

On February 11, 2021, the Camrosa Water District adopted Ordinance 40-21, "Rules and Regulations Governing the Provision of Water and Sanitary Services." Section 5 of the ordinance establishes conditions of service for all classes of water and establishes provisions for staged reductions in water service during water shortage emergencies and prohibitions on end users. The ordinance is included as Appendix C in its entirety; applicable portions are quoted below.

5.15 Water Shortage Contingency Plan Stages

State law requires that urban water suppliers maintain Water Shortage Contingency Plans to prepare for and respond to water shortages. Camrosa's Water Shortage Contingency Plan is described in full in its Urban Water Management Plan; this section describes the stages of action to be undertaken in response to water supply shortages, and the process by which the Board of Directors may implement those stages.

Two (2) contingencies can trigger the Water Shortage Contingency Plan: a "Water Supply Shortage" and a "Water Emergency."

A Water Supply Shortage is a condition in which Camrosa Water District determines that drought, state or regional mandate, or other circumstance compromises, or threatens to compromise, the District's supplies in such a way that a reduction in Customer demand and/or supply production is necessary.

A Water Emergency is a condition resulting from a catastrophic event or events that causes, or threatens to cause, an impairment, reduction, or severance of the District's water supplies or access thereto, in a manner that results in, or may result in, the District's inability to meet ordinary water demands for Potable Water Service.

In the event of either contingency, the General Manager shall report to the Board of Directors on the cause, extent, severity, and estimated duration of the supply shortage or emergency. The Board may activate one (1) of the following stages by declaring, by resolution, a Water Supply Shortage or Water Emergency, modifying it as necessary to accommodate specific requirements or eventualities not anticipated by this policy. The District shall notify its Customers of this declaration via its Web site, newspaper, radio, television, direct mail, or any other means determined by the District to be prudent.

5.16. Stage One Water Supply Shortage or Water Emergency

The goal of a Stage One Water Supply Shortage or Water Emergency is to reduce potable water production by up to 15 percent to preserve water supplies for the District and/or the region, until the shortage or emergency has ended. In addition to the prohibited uses of water outlined in Section 5.14, the following water conservation requirements apply during a declared Stage One Water Supply Shortage or Water Emergency;

1. Limits on Watering Hours: Watering or irrigating of lawn, landscape or other vegetated area with potable water shall be prohibited between the hours of 9:00 A.M. and 5:00 P.M. on any day.

2. Other Prohibited Uses: The District may implement other water-use requirements as determined appropriate to meet water supply shortages or water emergency conditions.

5.17. Stage Two Water Supply Shortage or Water Emergency

The goal of a Stage Two Water Supply Shortage or Water Emergency is to reduce potable

water demands by 15 to 30 percent, while preventing the loss of property and protecting the health and safety of the community and region. In addition to the prohibitions listed in the Stage One Water Supply Shortage or Water Emergency, the following water conservation requirements to prudently preserve water supplies shall be observed:

1. Leaks: No person may permit leaks of water that he/she has the authority to eliminate. Any detected leak, break, or malfunction shall be corrected within 24 hours after a person discovers or receives notice from the District.

2. Limits on Watering Days: Water or irrigating of landscape or other vegetated area with potable water shall be limited to three (3) days per week on a schedule established and posted by the District.

3. Limits on Filling Residential Swimming Pools & Spas: Use of water to fill or refill swimming pools and spas may be limited to maintain the level of water only when necessary. Draining of pools and spas or refilling shall be done only for health or safety reasons.

4. Other Prohibited Uses: The District may implement other water use requirements as determined appropriate to meet water supply shortages or water emergency conditions.

5.18. Stage Three Water Supply Shortage or Water Emergency

The goal of a Stage Three Water Supply Shortage or Water Emergency is to reduce potable water demands by 30 percent or more, while protecting the health and safety of the community and the region. In addition to the actions and requirements of a stage two emergency, the following water conservation requirements to prudently preserve water supplies must be observed:

1. Irrigation Restrictions: Watering or irrigation of lawn, landscape or other vegetated area with potable water may be prohibited by the Board of Directors.

2. New Potable Water Service: No new Potable Water Service, new temporary meters, or permanent meters will be provided, and no statements of immediate ability to serve or provide Potable Water Service will be issued without mitigation measures approved by the General Manager that will offset the new demand.

3. Other Prohibited Uses: The District may implement other water use requirements as determined appropriate to meet water supply shortages or water emergency conditions.

Table 8-1 below summaries the shortage levels, percent shortage ranges, and expected response actions in each case. Three water shortage levels have already been defined in the most recent WSCP as defined in Ordinance 40-21 above. Water Code Section 10632 (a)(3)(B) authorizes suppliers such as CWD to continue to use these water shortage levels, and the table below relates the six standard water shortage levels to the three already defined.

Table 8-1
Water Shortage Contingency Plan Levels

2020 UWMP Stage	2021 WSCP Level	Percent Shortage Range	Shortage Response Actions (*Narrative description*)
One	1	Up to 10%	1. Limits on Watering Hours: Watering or irrigating of lawn, landscape or other vegetated area with potable water shall be prohibited between the hours of 9:00 AM and 5:00 PM on any day. 2. Other Prohibited Uses: The District may implement other water-use requirements as determined appropriate to meet water supply shortages or water emergency conditions.
Two		Up to 20%	
Three	2	Up to 30%	1. Leaks: No person may permit leaks of water that he/she has the authority to eliminate. Any detected leak, break, or malfunction shall be corrected within 24 hours after a person discovers or receives notice from the District. 2. Limits on Watering Days: Water or irrigating of landscape or other vegetated area with potable water shall be limited to three (3) days per week on a schedule established and posted by the District. 3. Limits on Filling Residential Swimming Pools & Spas: Use of water to fill or refill swimming pools and spas may be limited to maintain the level of water only when necessary. Draining of pools and spas or refilling shall be done only for health or safety reasons. 4. Other Prohibited Uses: The District may implement other water use requirements as determined appropriate to meet water supply shortages or water emergency conditions.
Four		Up to 40%	
Five	3	Up to 50%	1. Irrigation Restrictions: Watering or irrigation of lawn, landscape or other vegetated area with potable water may be prohibited by the Board of Directors. 2. New Potable Water Service: No new Potable Water Service, new temporary meters, or permanent meters will be provided, and no statements of immediate ability to serve or provide Potable Water Service will be issued without mitigation measures approved by the General Manager that will offset the new demand. 3. Other Prohibited Uses: The District may implement other water use requirements as determined appropriate to meet water supply shortages or water emergency conditions.
Six		>50%	

NOTES:

8.4 Shortage Response Actions

8.4.1 Demand Reduction

(1) Prohibition of End Uses

Table 8-2 summaries the restrictions and prohibitions on end users.

Table 8-2: Demand Reduction Actions

Shortage Level	Demand Reduction Actions ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List*
Add additional rows as needed				
Permanent	Landscape - Restrict or prohibit runoff from landscape irrigation	6 AF/month		No
Permanent	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	3 AF/month	Leaks to be repaired within 72 hours	No
Permanent	Other - Require automatic shutoff of hoses	3 AF/month	positive hose end shutoffs required	No
Permanent	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	8 AF/month		No
Permanent	CII - Commercial kitchens required to use pre-rinse spray valves	1 AF/month		No
Permanent	CII - Restaurants may only serve water upon request	1 AF/month		

Permanent	Water Features - Restrict water use for decorative water features, such as fountains	1 AF/month		No

Permanent	Other	1 AF/month	Restrictions on single-pass cooling systems	No
Permanent	Other - Prohibit use of potable water for washing hard surfaces	8 AF/month		No
Permanent	CII - Lodging establishment must offer opt out of linen service	1 AF/month		No
Permanent	Landscape - Other landscape restriction or prohibition	3 AF/month	Application of potable water to outdoor landscapes during or within 48 hours after measurable rainfall is prohibited.	No
Permanent	Other	8 AF/month	Vehicles shall be cleaned only by use of a hand-held bucket or a hand-held hose with a shutoff nozzle.	No
Permanent	Landscape - Prohibit certain types of landscape irrigation	1 AF/month	Irrigation with potable water of ornamental turf on public street medians is prohibited.	No
Permanent	Landscape - Other landscape restriction or prohibition	1 AF/month	Landscapes outside of newly constructed homes and buildings must be consistent with MWELO	No
One	All permanently prohibited uses as described above.	40 AF/month		No
One	Watering or irrigating of lawn, landscape or other vegetated area with portable water prohibited between 9:00 A.M. and 5:00 P.M.	15 AF/month		No
One	The District may implement other water-use requirements as determined appropriate.	--		No

Two	All permanently prohibited uses and other uses described in Stage One.	55 AF/month		No
Two	Any detected leak, break or malfunction shall be corrected within 24 hours.	3 AF/month		No
Two	Water or irrigating of landscape or other vegetated area with potable water is limited to three days per week.	30 AF/month		No
Two	Limits on filling residential swimming pools and spas. Draining allowed only for health or safety reasons.	10 AF/month		No
Two	The District may implement other water use requirements as determined appropriate.	--		No
Three	All permanently prohibited uses and other uses described in Stages One and Two.	98 AF/month		Yes
Three	Any watering or irrigation of lawn, landscape or other vegetated area with potable water may be prohibited by the Board of Directors.	87 AF/month		Yes
Three	No new potable water service, new temporary meters, or permanent meters will be provided, and no statements of immediate ability to serve or provide such service will be issued without mitigation measures to offset the new demand.	1 AF/month		Yes
Three	The District may implement other water use requirements as determined appropriate.	--		Yes
NOTES:				

(2) Consumption Reduction Methods

On June 10, 2009, in the wake of three consecutive years of below average rainfall and the Governor's subsequent proclamation earlier that year of a statewide emergency due to drought conditions, the District adopted Resolution 09-02 which established a moratorium on new unmitigated potable demand until June 2012. On June 27, 2012, under Resolution 12-14, the District made the moratorium permanent, requiring all new development to "bring with them" additional or "new" water supplies sufficient to offset project max-day demands.

On May 28, 2015, responding to Governor Brown's executive order B-29-15 requiring the State Water Resources Control Board to implement mandatory water reductions in potable urban usage through February 2016, the District approved Resolution 15-07 (see Appendix D1), requiring a 32-percent reduction (using 2013 as the baseline year) in the District's potable water use. The resolution also required new development to offset, elsewhere in the District, demand equal to its anticipated new demand (as well as fulfilling the permanent moratorium from the supply side). Resolution 15-07 was repealed when E.O. B-29-25 expired in October 2016.

Since the demand reduction is no longer active, but the supply side moratorium is still in place, the District has chosen to use only the latter (Ordinance 12-14) in its calculation of future water saving projections in Tables 4-2 and 4-3 above.

Secondly, the District is actively pursuing a reduction in real water loss from its potable distribution system. The District's cumulative real water loss for fiscal year 2020 was approximately 8.4 percent. A water loss control gap assessment was performed in FY2020, informing a water loss control program the District plans to begin implementing in FY2021, starting with a leak detection survey.

In addition to increasing its detection program, Camrosa is also systematically reconciling production/sales disparities and instituting a meter-calibration program on both the production and delivery sides. A meter-replacement program is being developed, which will aim to prevent water loss resulting from aging infrastructure, particularly on large meters. In 2017, a "meter shop" was created within the Customer Service and Billing department, with two operators transferred from the Operations and Maintenance crew and dedicated to tracking down apparent loss and ensuring accurate meter reads. Staff is increasing training and plans to certify two Customer Service employees as water loss audit validators as part of its ongoing process to develop water loss expertise within Customer Service.

Finally, the District enhanced customer bills during the drought to include a 32-percent reduction goal from their 2013 baseline target. The enhancement provides a graphical month-to-month comparison of their actual consumption to their reduction goal. Despite the rollback of the drought regulations, the bill redesign is still in place, providing continuous education to customers on how their bills compare year after year. In a similar effort, the District has created a web portal that allow customers to view their bills. A new billing system in the FY2021 budget is intended to provide customers with a portal to view daily and/or hourly usage, set water-use alerts, and do similar analysis on their own bills. Table 8-3a below summaries these consumption reduction methods.

Table 8-2a Consumption Reduction Methods		
Level	Consumption Reduction Methods by Water Supplier	Additional Explanation or Reference *(optional)*
1	Expanded public information campaign	Mailers, bill inserts, public focus meetings, website information.
2	Hire temporary employees to contact high-water users	Camrosa employed a temporary worker during the 2015 drought to make direct contact with high users; we saw a direct impact
N/A*	Reduce System Water Loss	Independent leak surveys performed on portions of the District's potable distribution system in November, 2015 with plans to complete the remainder in 2016.
N/A*	Improve Customer Billing	Enhancement provides a graphical month-to-month comparison of customer's actual consumption to their reduction goal
N/A*	Moratorium on net zero demand increase on new connections	Resolution 12-14 requires all new development involving a single meter greater than 1 inch to mitigate their water demand (Appendix D2). This resolution is in effect at all times, regardless of whether any staged water supply shortage or water emergency condition is in effect.
N/A*	Provide rebates on plumbing fixtures and devices	See Section 9.2.7 for more details
N/A*	Offer water use surveys	See Section 9.2.7 for more details
N/A*	Conversion to Daily Automatic Meter Reading (AMR)	Convert 100% of system from monthly reading to daily automatic meter reading (currently 95%)
NOTES: * These measures are always in effect regardless of staged water supply shortages in effect.		

(3) Determining Water Shortage Reductions

The District meters all water production sources and customer water services. In the event of a water shortage emergency, metering would be the primary means to monitor whether reductions are being met. Production metering is automated, real-time, and measured to the nearest gallon. Given the volume of supply, the metering is converted to hundred-cubic-foot units for billing and acre feet for administrative analysis. Production metering would provide a broad measure of overall quantity of use in generalized zones. Customer service metering provides quantification of water use by customer. Meters are typically read monthly, but with the District's conversion to Automatic Meter Reading (AMR), daily readings for 95 percent of production meters are currently available. Customer meter reads are read to the nearest HCF.

8.4.2 Supply Augmentation

The Camrosa Water District uniquely manages its system operations in response to shortages in supplies. Under emergency dry year(s) scenarios, several potential supply augmentation actions have been identified as follows. These are not quantified or included in the WSCP as supply augmentation actions in part because the District generally tries to maximize groundwater production, but they are listed here to provide a sense of the range of operational flexibility a diversified portfolio provides.

Maximize PV Basin Production and Exercise Exchange Rights with FCGMA

Camrosa currently extracts from the Pleasant Valley Basin, under the jurisdiction of the FCGMA, via its two wells in the Fox Canyon Aquifer portion of the PV Basin, the Woodcreek and Lynnwood Wells. Through the agreement, Camrosa is allocated 690 AFY (see section 4 for discussion of pending variance). Through the Conejo Creek Water Pumping Program with FCGMA, Camrosa is able to extract in excess of its allocated amount from the Pleasant Valley Basin in exchange for nonpotable water from Conejo Creek delivered to the basin, up to 4,500 AFY. Through these agreements, Camrosa is able to pump as much as physically possible through its PV Basin wells up to its accrued allocations (approximately 24,000 AF as of June 30, 2021). The Lynnwood Well was installed in September 2020; optimal simultaneous production is still being worked out and will be strived for as standard operating procedure, but especially dDuring shortage conditions, Camrosa should extract the full amount possible from the PV Basin.

Import Full Allowable Allocation Amount from Calleguas Water District

The quantity of imported Calleguas State Water Project water has significantly reduced from historical levels due to the more recent development of local resources. Over the last 10 years Camrosa has imported an average of 5,338 AF from the Calleguas Water District. Carmosa's Tier One allocation and "not-to-exceed" goal is 7,900 AFY. Given the wide cost differential between local resources and imported water, it makes financial sense to maximize local production over imported water supplies. The most recent droughts have been relatively large scale and statewide, affecting Sierra and Rocky Mountain snowpack as much as local rainfall. Given how the State Water Project and Colorado River Aqueduct function, annual variability of snowpack and runoffs has more immediate consequences on statewide imported water supplies than does precipitation recharge to local groundwater basins, leading to the ability to rely on local groundwater in the face of dwindling imported supplies. On the other hand, there are areas of the state without imported water connections that never emerged from the 2015 drought; their local supplies have generally continued to dwindle, especially when wildfires followed the drought, interfering with surface runoff recharge. In such a "reverse" case, in which drought was localized to the Southern California region but precipitation was plentiful in the north of the state and the Colorado River Watershed, it may make sense to incur the high cost of imported water to maintain levels of service.

Increase groundwater pumping in Santa Rosa

The 2013 Santa Rosa Groundwater Management Plan estimated safe yield at 3,320 AFY. This number is expected to be refined as part of the Santa Rosa GSP. Once the GAC plant at the Conejo Wellfield is operational, the Santa Rosa Basin presents an opportunity to maximize local resources. Camrosa's perspective on managing groundwater is that the aquifer represents an emergency reservoir that can be relied upon at reasonable levels year to year and relied upon heavily during periods of reduced supply from other sources.

Submittal Table 8-3: Supply Augmentation and Other Actions			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*
Add additional rows as needed			
One	Maximize PV Basin production		
Two	Maximize imported water purchases	1,500 AFY	
Three	Maximize Santa Rosa Basin production		
NOTES:			

8.4.3 Operational Changes

Several potential operational changes have been described in detail in section 8.4.2, including:

- Increase groundwater pumping in Santa Rosa

Other potential operation response actions are related to demand reductions as discussed in detail in part (3) Consumption Reduction Methods of section 8.4.1, and include:

- Improved Customer Billing
- Hiring of temporary employees to contact high users

8.4.4 Additional Mandatory Restrictions

Mandatory restrictions, including limitations on outdoor water use, limits on total residential water use, limits on commercial water use, landscape irrigation restrictions, and other restrictions, have been outlined in Table 8-2, and no additional mandatory restrictions are defined.

8.4.5 Emergency Response Plan

(1) Catastrophic Supply Interruption

The District maintains an Emergency Response Plan, separate from this Urban Water Management Plan, that outlines procedures necessary to respond to emergency disasters. The purpose of that plan is to:

- Minimize damaging effects of natural or man-made disasters on the water production, water distribution, sewage collection and sewage treatment systems of Camrosa Water District;
- Restore those systems to working order as quickly as possible in the event of disasters,
- Provide local, area and state assistance where and when required during and after disasters as directed by the Ventura Operational Area Emergency Operations Center; and,

- Implement training procedures by going through mock exercises to make certain all employees are well versed in their roles.
- Pursuant to the Public Health Security and Bio-Terrorism Preparedness and Response Act of 2002, Camrosa Water District conducted a vulnerability assessment and submitted a certified copy of that assessment to the U.S. Environmental Protection Agency in June 2004. The confidential report identified known vulnerabilities and countermeasures and responses to be implemented to safeguard against this potential threat. This report was in response to an isolated request and has not been updated. Camrosa Water District, however, continues to improve the security and surveillance of all its facilities.

The District's emergency procedures are fully integrated with the Standard Emergency Management System (SEMS) to ensure effective multi-agency and multi-jurisdictional responses to emergencies. Internally, Camrosa uses the Incident Command System (ICS) structure to provide a scalable, flexible response to emergencies.

The ICS provides procedures for designation of an Incident Commander who is ultimately responsible for all operations, planning, logistics, finance and public interface associated with any given emergency. Employee recall lists are published and contact lists for emergency assistance from outside contractors, utility companies, and other agencies have been pre-prepared. The plan fully contemplates full and open cooperation with the public media and individual customers throughout any emergency condition.

In terms of facilities and equipment to meet catastrophic emergencies, nearly 16 million gallons of tank storage is available within the District to provide immediate gravity-powered water service for most of the District in the event of a power outage. The District has five portable diesel backup generators, four in the District Office yard and another semi-permanently positioned at the Conejo Wellfield. A permanent generator is attached to the Tierra Rejada Well, University Well, and RMWTP. Permanent generator installations are planned at Woodcreek Well and Lynnwood Wells. The CWRF has a backup generator and fuel tank.

District vehicles are equipped with emergency food and water supplies for extended deployment as well as a full set of system plans. An emergency response trailer is also equipped with supplies and equipment to manage emergency field operations. The water system's SCADA system is set up on an independent radio system with solar-powered instrumentation and radio transmission to maintain system monitoring independent of the electrical grid. Four of the District's five sewer lift stations have emergency generation backup on site; the fifth will siphon during electrical outages.

The District maintains sufficient reserves to fund most contemplated emergencies. Extensive replacement of infrastructure, in the most catastrophic circumstances, would require additional funding from sources that would need to be determined at the time of the emergency.

Table 8-3a below summarizes actions in response to emergency conditions that might reasonably occur in the District.

Table 8-4: Catastrophe Response Actions

Possible Catastrophe	Summary of Actions
Regional Power Outage	▪ Evaluate need to initiate the Incident Command System ▪ Lock off large interruptible service meters ▪ Shift to fixed electrical generators ▪ Position portable electrical generators ▪ Evaluate need to implement water shortage contingency plan ▪ Notify customers
Earthquake, Flood, or Fire - Caused Catastrophic Damage to Camrosa's Water System	▪ Evaluate need to initiate the Incident Command System ▪ Isolate damaged sections of system ▪ Lock off large interruptible service meters ▪ Fill system storage ▪ Shift to electrical generators as necessary ▪ Immediately close valves where needed to preserve existing water in storage ▪ Assess, and, if necessary, systematically recharge system ▪ Evaluate need to implement water shortage contingency plan
Interruption of Supply from Water Wholesaler	▪ Evaluate need to initiate the Incident Command System ▪ Fill system storage ▪ Lock off large interruptible service meters ▪ Evaluate need to implement water shortage contingency plan

8.4.6 Seismic Risk Assessment and Mitigation Plan

Water Code Section 10632.5.(a)

In addition to the requirements of paragraph (3) of subdivision (a) of Section 10632, beginning January 1, 2020, the plan shall include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.

(b) An urban water supplier shall update the seismic risk assessment and mitigation plan when updating its urban water management plan as required by Section 10621.

(c) An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multihazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multihazard mitigation plan addresses seismic risk.

The district utilizes several types of facilities to obtain and convey potable water including groundwater wells, imported water turnouts, disinfection facilities, booster pump stations, storage tanks, pressure reducing stations, and pipelines. A table of all district facilities and their assessed seismic risk is provided below in Table 8-5. The locations of facilities and seismic hazards are identified in the figure below. The specific facilities vary in importance, age, condition, quality of design/construction, and proximity to seismic faults. Each type of facility is generally vulnerable to varying issues. The following general discussion identifies specific vulnerabilities for each type of facility

Figure: Map of Camrosa Facilities and Seismic Risk Features

Groundwater Wells

The major vulnerability for groundwater wells is electrical power. Since the electrical grid is spread across large areas, portions of the grid commonly go dark after a seismic event. In this case, unless an emergency generator for that facility is available, the source of supply is lost until power can be restored. The Tierra Rejada, University Well, and RMWTP have fixed backup generators on site. A permanent generator will be installed at the Lynnwood Well. The District maintains five portable generators, as well, that can be moved to sites as necessary.

In severe seismic activity, it is possible for the well casing to break or become damaged. However, since the casing is entirely buried vertically, differential shaking is not generally an issue which reduces this threat. It is also possible for piping at the well to break, however, since the well itself is anchored into the ground and the piping is anchored in the ground, differential shaking is not general an issue, which reduces the concern for pipe breaking.

Imported Water Turnouts

During a seismic activity, imported water turnouts run the risk of losing power. Since imported water composes of a significant amount of the water supply, it is necessary to maintain a level of reliable power. A seismically-certified backup power generator can be used as an emergency source of power until power is restored.

Disinfection Facilities

Since disinfection chemicals are required to be stored in chemical storage tanks, the tanks are at risk for chemical spills during a seismic event. However, all chemical storage tanks are required to install a containment basin to confine any potential chemical spills, which reduces the threat of any hazardous or toxic chemicals entering open drains or public areas. Another vulnerability of disinfection facilities is the loss of electricity, which is necessary to power the equipment to disinfect the water. However, a backup generator can deliver power for the disinfection facility after a seismic activity.

Pump Stations

Pump stations are vulnerable to structural damage to the housing structure, which can lead to damage to equipment or pipe connections. To prevent damage to pipe connections, provide flexible connections to pump stations, especially in liquefaction areas.

In a seismic event, the most significant threat is loss of power. In this case, pump stations would not have electricity to power the pumps to transport water to the distribution system. To meet immediate demands during a catastrophic emergency, nearly 16 million gallons of tank storage is available within the District to provide immediate gravity-powered water service for most of the District in the event of a power outage. Currently, the District maintains generators at the Highland Pump Station, the hydropneumatics station at Reservoir 4C, Pump Station #1, Pump Station #3, and Pump Station #2.

Storage Tanks

Storage tanks are vulnerable to loss of power, as power failure is common after a seismic event. A backup generator can provide electricity until electricity has been restored. Additionally, there is a risk for structural damage to tanks and pipe connections. Depending on the magnitude of the seismic event, the severity of damage would vary, as minor structural damage would result in slight leakage that can be easily repaired. Significant structural damage can lead to heavy leakage, which may cause a loss of water storage for wildfires. In severe seismic activity, catastrophic structural damage could cause leakage at the connection of piping and lead to water eroding hillside.

To prevent leakage, there should be some flexibility between piping and conduits near connection to steel tanks. A detailed tank seismic vulnerability assessment should be completed to identify any other design or construction vulnerabilities.

Pipelines

In a seismic event, the underground pipes are the most vulnerable in liquefaction zones, as it can lead to ground failure and pipes collapsing. Another risk with the collapse of pipe is the potential for potable water being exposed to contamination that results in a loss of water supply for the service area. There is a risk for above ground pipes to break at connection points in a seismic event but the pipes can be constructed with or retrofitted with flexible joint fittings or other methods to provide flexibility and connections to hard points.

Table 8-5: Camrosa Facilities and Seismic Risk

Facility Name	Type	Year of Construction	Year Refurbished	Within 500' of Fault (Yes/No)	Landslide (Yes/No)	Liquefaction zone (Yes/No)	Groundshaking Zone	Vulnerability
Yucca Dr	Pump Station-Nonpotable	N/A	N/A	Yes	No	No	4	Medium
Gerry Road	Pump Station-Nonpotable	N/A	N/A	Yes	No	No	7	Medium
Conejo Creek	Pump Station-Nonpotable	N/A	N/A	No	No	Yes	7	Medium
Rosita	Pump Station-Nonpotable	N/A	N/A	No	No	No	4	Low
SR Pumphouse	Pump Station-Nonpotable	N/A	N/A	No	No	Yes	7	Medium
Ponda	Pump Station-Nonpotable	N/A	N/A	No	No	Yes	7	Medium
Conejo Boosters PS4, 5, 6 & 7	Pump Station-Potable	N/A	N/A	No	No	Yes	7	Medium
Conejo Boosters PS1 & 2	Pump Station-Potable	N/A	N/A	No	No	Yes	7	Medium
1	Pump Station-Potable	N/A	N/A	Yes	No	No	4	Medium

2	Pump Station-Potable	N/A	N/A	No	No	No	4	Low
3	Pump Station-Potable	N/A	N/A	Yes	Yes	No	4	High
5	Pump Station-Potable	N/A	N/A	Yes	Yes	No	4	High
AG 1	Reservoir-Nonpotable	1991	N/A	No	No	Yes	7	Medium
1A	Reservoir-Nonpotable	1967	N/A	Yes	No	No	4	Medium
Yucca	Reservoir-Nonpotable	N/A	N/A	Yes	No	No	4	Medium
AG 3	Reservoir-Nonpotable	1991	N/A	Yes	No	No	4	Medium
AG 2	Reservoir-Nonpotable	1991	N/A	Yes	No	No	7	Medium
1B	Reservoir-Potable	1966	N/A	No	No	No	4	High
2A	Reservoir-Potable	1967	N/A	Yes	No	No	4	High
2B	Reservoir-Potable	1967	N/A	No	No	No	7	High
3A	Reservoir-Potable	1966	N/A	Yes	Yes	No	4	High
3B	Reservoir-Potable	1968	N/A	No	No	No	4	High
3C	Reservoir-Potable	1967	N/A	Yes	No	No	4	High
3D	Reservoir-Potable	1967	N/A	Yes	No	No	4	High
4A	Reservoir-Potable	1968	N/A	No	No	No	4	High
4B	Reservoir-Potable	1968	N/A	No	No	No	4	High
4C	Reservoir-Potable	1967	N/A	No	No	No	4	High

Lynnwood	Well	N/A	N/A	No	No	No	4	Low
CSUCI 4	Well	1987	2009	No	No	Yes	7	Medium
Tierra Rejada	Well	1996	N/A	No	No	No	4	Low
Wildwood	Well	N/A	N/A	No	No	Yes	7	Medium
Santa Rosa 9	Well	1940	2008	No	No	Yes	7	Medium
Penny	Well	1962	2012	Yes	No	Yes	7	High
Santa Rosa 10	Well	1954	N/A	No	No	No	7	Low
Conejo 4	Well	1995	N/A	No	No	Yes	7	Medium
Conejo 3	Well	1991	1996	No	No	Yes	7	Medium
Santa Rosa 8	Well	1992	N/A	No	No	Yes	7	Medium
Conejo 2	Well	1930	1996	No	No	Yes	7	Medium
Santa Rosa 3	Well	N/A	2010	No	No	Yes	7	Medium
Woodcreek	Well	1980	1993, 2006	No	No	No	4	Low

8.4.7 Shortage Response Action Effectiveness

Table 8-2 in Section 8.4.1 summarizes the effectiveness of each specific shortage response action identified by providing an estimated volume of water that can be conserved for each action taken. The potential efficacy of water savings for each response action is provided on an acre feet per month basis. Potential water savings were calculated for the unique makeup of the district and considers historical water use for each sector in the district. Historical trends of district water use by sector have been analyzed, especially through the drought period of 2012 to 2015. Evaluating this period provides insight on the effectiveness of demand reduction actions taken by CWD during that period. The potential water savings for each response action also considers the particular population impacted specific to the district.

8.5 Communications Protocols

During a water shortage, the district utilizes a communication protocol for each stage of the Water Shortage Contingency Plan to effectively inform the public of the voluntary or mandatory response actions. The table below discusses the communication protocol for each stage:

Table 8-6 Communications Protocols

Stage	Response Action	Communication Protocol
1	Voluntary reduction to preserve water supplies	Mailers, bill inserts, public focus meeting, website information
2	Mandatory reduction to prevent property loss & protect health & safety of communication	Newspaper, radio, television, direct mail, public focus meeting, website information
3	Mandatory reduction to protect health and safety of community	Newspaper, radio, television, direct mail, public focus meeting, website information

8.6 Compliance and Enforcement

8.6.1 Penalties, Charges, Other Enforcement of Prohibitions

In the event of a Stage Three Water Emergency, Ordinance 40-21 contemplates that special rates, fees, and/or penalty fees, or even termination of services may be required to meet demand reductions necessary to preserve water supply. The violations and enforcement of prohibitions as defined in the ordinance are defined below:

***1. First Violation**: The District will issue a written notice to the Customer indicating a violation of one or more of the water-use prohibitions or restrictions.*

***2. Second Violation**: If the first violation is not corrected within the time frame specified by the District, or if a second violation occurs within the following twelve (12) months after the first violation notice, a second notice of violation will be issued and a fine of one hundred dollars ($100.00) shall be levied for the second violation.*

***3. Third Violation**: A third violation within the following twelve (12) months after the date of issuance of the second notice of violation will result in a third violation and a fine of two hundred fifty dollars ($250.00).*

*4. **Fourth and Subsequent Violations**: A fourth violation within the following twelve (12) months after the date of issuance of the third notice of violation will result in a fourth violation and a fine of five hundred dollars ($500.00). Each day that a violation occurs beyond the remedy allowance provided for in the fourth notice of violation results in a new violation and a fine of five hundred dollars ($500.00) per day. In addition to the fines outlined above, water service may be turned off or installation of a flow restrictor on the service line or lines may be required. Such an order shall be written and subject to appeal pursuant to Section 5.19, Appeals and Exceptions. Any appeal shall be heard as quickly as possible to allow a flow restrictor to be removed promptly should the Board of Directors grant the appeal. a. Cost of Flow Restrictor and Disconnecting Service: The Customer determined to be in violation of this Ordinance is responsible for payment of the District's costs for installing and/or removing any flow restrictors. b. Payment of Fines: The Customer determined to be in violation of this Ordinance is responsible for the full payment of any and all fines. Each fine shall be applied to the Customer's monthly water bill. Payment of the fine will be the responsibility of the individual named on the water account. Nonpayment of fines will be subject to the same remedies as non-payment of basic water service, in accordance with this Ordinance.*

8.6.2 Appeals and Exceptions

Any customer may appeal a fine imposed under the Ordinance to the Board of Directors by filing a written appeal with the District within 30 days of the notice of violation.

8.7 Legal Authorities

In a water supply shortage or water emergency, the District shall declare a water shortage emergency. The Camrosa Water District Ordinance 40-21 (See Appendix C) establishes the terms and conditions of Camrosa's Water and Sanitary Services. These terms and conditions are intended to both assure the individual Customer of fair and equitable service and protect the community Camrosa serves from the undue exposure to liability. Water, Sewer, and Non-Potable Water service shall be available only in accordance with the Rules and Regulations contained therein, and in conformance with applicable federal, state and local statues, ordinances, regulations, and contracts. The District shall coordinate with the City of Camarillo and the County of Ventura for the possible proclamation of local emergency.

During the water shortage emergency, the Board of Directors may move from stage to stage as necessary to best manage the water supply shortage or water emergencies. Once a water supply shortage or water emergency condition has subsided and water supplies have returned to normal, the Board of Directors shall by resolution declare an end to the emergency and restore service to pre-emergency conditions.

8.8 Financial Consequences of WSCP

Reductions in water demand are bound to reduce District revenues. Although the cost of imported water is much higher than the total cost of producing local resources, wells, desalters, and other local-resource production facilities are more energy intensive to operate than importing water, which primarily consists of opening Calleguas meter station valves. Because Camrosa uses local resources first, and relies on them primarily in times of drought or other emergency, and floats off Calleguas to meet demand, energy expenditures (and chemical requirements and other associated treatment and distribution costs) do not typically mirror revenue reductions during reduced demand. Human resources also do not fall in times of drought; in fact, under the drought emergency of 2015, California water agencies were encouraged to increase conservation personnel and activities, including enforcement staff, which many agencies have outsourced. Camrosa did this by hiring a temporary employee and significantly increasing outreach expenditures. As described throughout this document, Camrosa's long-term strategy is to increase self-reliance to withstand periods of imported water supply restrictions, in no small part to buffer Camrosa customers against penalties and other enforcement options to which water districts with less stable supplies are forced to turn. At some point, drought-driven resource scarcity affects any supply, but Camrosa's strategy is to extend the length of time before such exigencies as restrictions and penalties are required, and because

the severity of the 2015 drought is unprecedented and the longevity of future dry periods is unpredictable, Camrosa has not built additional human resources expenditures into reduced-demand budgets.

For the purposes of Worksheet 8.6, an average/normal water year assumes 7,483 AF of potable water deliveries (the average of the last five fiscal years—see Table 4-2b) and an import blend ratio of 56 percent. To offset the reductions in revenues resulting from reduced water sales during a Stage1, 2, and 3, the District has the ability to increase pumping of local water supplies to offset the higher import water purchases, thus dampening a decline in net operating results.

The impact of WSCP Level 1, 2 and 3 emergencies upon revenues was examined in detail and is outlined in Worksheet 8.6. The worksheet assumes that as Camrosa moves through water supply shortage levels and demands scale back, local production will continue at capacity and reductions will be taken out of imported supplies. As the "Percent Import vs. Local" recedes and the total volume of imported water declines, water costs fall. Costs associated with energy, operations, and debt service, however, remain fairly stable.

Worksheet 8.6. Revenue and Expenditures under Reduced Demand Scenarios

Water Production Costs	Average/Normal Water Year	Level 1 10% Cutback	Level 2 30% Cutback	Level 3 50% Cutback
Projected Demand (AFY)	**7,483**	**6,735**	**5,238**	**3,742**
Percent Import vs. Local	56% Import	50% Import	40% Import	30% Import
Import Purchases	$7,086,102	$5,694,189	$3,543,051	$1,898,063
Energy Costs	$614,664	$648,315	$637,920	$578,881
O&M	$4,104,035	$4,104,035	$4,104,035	$4,104,035
Debt Service	$516,835	$516,835	$516,835	$516,835
Total Water Costs	**$12,321,636**	**$10,963,374**	**$8,801,841**	**$7,097,814**
Water Revenue				
Potable Water Sales	$9,571,717	$9,789,256	$7,613,866	$5,438,476
Potable Meter Service Charge	$2,364,400	$2,364,400	$2,364,400	$2,364,400
Non-Operating Revenue	$420,100	$420,100	$420,100	$420,100
Total Water Revenue	**$14,988,800**	**$13,938,000**	**$11,834,000**	**$9,731,600**
Net Operating Results	**$2,667,164**	**$2,974,626**	**$3,032,159**	**$2,633,786**

The Board of Directors has a slate of options, described above and including a rate stabilization fund, available to maintain financial stability in the event an emergency lasted more than one accounting period.

In the longer term, rates may be restructured to reflect increased costs and/or reduced deliveries. In all cases, the Board will assess the financial impacts at the point that an emergency is declared and apply the appropriate measures to accommodate those impacts.

8.9 Monitoring and Reporting

California Water code, Division 3, Chapter 3.5 Urban Water Use Efficiency and Conservation, Article 1 Reporting Section 991 et seq.

(a) Each urban water supplier shall prepare and submit to the Board by the 28th of each month a monitoring report on forms provided by the Board. The monitoring report shall include the following information:

(1) The urban water supplier's public water system identification number(s).

(2) The urban water supplier's volume of total potable water production, including water provided by a wholesaler, in the preceding calendar month;

(3) The population served by the urban water supplier during the reporting period;

(4) The percent residential use that occurred during the reporting period;

(5) The water shortage response action level.

(b) When the governor declares a drought emergency, or when an urban water supplier invokes a water shortage level to respond to a shortage of greater than ten percent, consistent with Water Code section 10632; each urban water supplier shall prepare and submit to the Board by the 28th of each month an expanded monitoring report, on forms provided by the Board. The requirement to prepare and submit an expanded monitoring report shall remain in effect for the duration of the drought emergency or water shortage level, as applicable. The expanded monitoring report shall include the following information:

(1) Descriptive statistics on the urban water supplier's achievement of its water contingency plan response actions, including supply augmentation, if any, and progress toward achieving a reduction in water consumption associated with the urban water supplier's existing water shortage response action level;

(2) Communication actions;

(3) Compliance and enforcement actions.

(c) Each urban water supplier that provides potable water for commercial agricultural use may subtract the amount of water provided for commercial agricultural use from its potable water production total, provided that any urban water supplier that subtracts any water provided for commercial agricultural use from its total potable water production shall clearly identify what water use qualifies as commercial agricultural use.

(d) The Executive Director, or the Executive Director's designee, may issue an order to any urban water supplier that fails to submit the information required by this section, requiring the urban water supplier to provide the information by a specified date. Failure to provide the required information as identified in an order issued pursuant to this subdivision, or the submission of any information pursuant to an order issued pursuant to this subdivision that is found to be materially false by the Board, is a violation, punishable by civil liability of up to one thousand dollars ($1,000) for each day in which the violation occurs. Every day that the failure or error goes uncorrected constitutes a separate violation. Civil liability for the violation is in addition to, and does not supersede or limit, any other remedies, civil or criminal.

(e) A decision or order issued under this section by the Board or an officer or employee of the Board is subject to reconsideration under article 2 (commencing with section 1122) of chapter 4 of part 1 of division 2 of the Water Code.

Note: Authority cited: Sections 1058 and 10609.28, Water Code. Reference: Article X, Section 2, California Constitution; Section 51201, Government Code; and Sections 102, 104, 105, 350, 1122, 1123, 1124, 1846, 1846.5, 10617 and 10632, Water Code.

On April 21, 2020, the State Water Resources Control Board adopted a regulation that permanently requires urban retail water suppliers to submit monthly water conservation and production reports. The adopted regulation, resolution no. 2020-0009, is included as Appendix N. The regulation adopts the reporting requirements defined in California Code of Regulations Title 23, Division 3, Chapter 3.5, Article 1 Reporting, as included above.

In summary, the code states that each urban water supplier shall prepare and submit to the board by the 28th of each month a monitoring report on standard forms provided by the Board. The monitoring report shall include monthly potable water production and imported water minus potable water used for commercial and agricultural use; the water district's population served, residential make up of that population, and the percentage of residential use; and the current water shortage response level.

8.10 WSCP Refinement Procedures

The WSCP is to be used as an adaptive management plan to be refined as necessary to ensure effectiveness of the defined shortage response actions. As such, Camrosa has come up with procedures that should be followed for assessing plan effectiveness, proposing additional actions as required, and incorporating into the WSCP and implementing actions as appropriate for the water shortage level.

1. Assess monthly monitoring report as defined in section 8.9 and prepare summary of changes from previous month statistics including changes in supply (per source), and changes in water use (per sector).
2. Note previous month's demand reduction actions consistent with Table 8-2. Note previous month's supply augmentation actions consistent with Table 8-3.
3. Prepare narrative and/or table relating reduction of water use (if any) to previous month's demand reduction actions. Prepare narrative and/or table relating increase in supply to previous month's supply augmentation actions.
4. Assess shortfall and effectiveness of each demand reduction and supply augmentation action. Revise effectiveness volumes for each action in Table 8-2 and Table 8-3 of the WSCP.
5. Prescribe additional demand reduction actions or supply augmentation actions to meet shortage gap and include in Table 8-2 and Table 8-3 of the WSCP. Newly prescribed actions are to be input on a probationary status and noted as such. Prescribed actions are to be assessed in the next monthly monitoring report and either adopted to the WSCP or abandoned.

8.11 Special Water Feature Distinction

Water features that are not pools or spas are analyzed and defined separately from pools and spas since non-pool or non-spa water features may be able to use recycled water, whereas pools and spas must use potable water for health and safety consideration. The district does not currently track non-pool or non-spa water features, and no distinction will be made for the purpose of the WSCP.

8.12 Plan Adoption, Submittal, and Availability

The process for submittal and adoption of the WSCP, including periodic amendments to the WSCP, shall follow that as defined in Chapter 10.

Groundwater in the District Service Area is pumped at rates that are sustainable even in multiple-dry year scenarios. Sufficient water is available from imported sources, and levels of nonpotable irrigation water available remain constant, as displayed in Table 8-4 below. For these reasons, the District's ability to provide water in multiple-dry year scenarios is not adversely affected.

Table 8-4 Retail: Minimum Supply Next Three Years

	2016	2017	2018
Available Water Supply	15,340	15,549	15,757

NOTES: Values are total supply including imported water, groundwater, and nonpotable irrigation water

THIS PAGE INTENTIONALLY LEFT BLANK

9 Demand Management Measures

10631 (f)(A)…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.

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.

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.

10631

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

(1)(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 measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

10631 (i) For the purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivision (f) by complying with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California." dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum.

9.1 Demand Management Measures for Wholesale Agencies

Not applicable.

9.2 Demand Management Measures for Retail Agencies

In 2016, to help manage the District's response to state conservation mandates, Camrosa hired additional staff to assist in customer outreach and water use efficiency support. What we discovered during that time was that the majority of "overuse" was unintentional, and the District shifted its focus to awareness and education as primary tools for demand management. The COVID-19 pandemic interrupted the District's in-person programming, but plans are in place to return to the classes, surveys, and tours described below.

9.2.1 Water Waste prevention ordinances

The Camrosa Water District's water waste prohibitions are outlined in Ordinance 40-21 *Rules and Regulations Governing Provision of Water and Sanitary Services*, which was adopted on February 11, 2021, and supersedes previous versions of Ordinance 40. These water-use prohibitions are in place at all times, regardless of whether any declared water supply shortage or water emergency condition is in effect and preclude:

- gutter flooding
- uncorrected leaks lasting longer than 72 hours
- utility hoses with open-end nozzles
- vehicle wash down with open-end hose nozzels

Restaurants are required to use water conserving dish-washing spray valves, water fountains must use re-circulated water, and installation of single pass cooling systems in building requesting new water service is prohibited.

9.2.2 Metering

The Camrosa Water District began an Automated Meter Reading (AMR) installation program in 2008 to retrofit manual-read meters with radio-read meters to facilitate meter reading and improve customer service. In addition, the meter reading information will be used by staff for modeling and water usage patterns and analyzing those patterns when developing projects. Approximately 8,000 meters in the District have now been retrofitted. The project is approximately 95-percent complete.

In addition to the AMR retrofit program, the District has an ongoing meter maintenance replacement program. A portion of the District's meters are replaced each year to ensure accuracy. Water meters tend to deteriorate over time, resulting in inaccurate meter reads resulting in a decrease in revenue. With a serviceable life of approximately 15 years, replacement of between six and seven percent of the District's 8,500 meters annually provides a reasonable guarantee of meter accuracy.

9.2.3 Conservation Pricing

Camrosa Water District does not have conservation pricing. Current rates are based on the 2019 Rate Study, which recommended a five-year rate schedule. The schedule essentially establishes a maximum for each of the five years; the Board adopts new rates every year and is not compelled to increase rates to the schedule but cannot exceed it. Another rate study will be performed ahead of July 1, 2024.

A "lifeline" minimum water use of 12 HCF per month has been set as Tier One residential rate; above 12 HCF a month is charged at Tier Two. All other customer classes are charged a rate equivalent to the residential Tier Two, regardless of use. All water connections are metered. Fixed monthly meter service fees are determined by the size of the meter. Camrosa does not currently have volumetric pricing on the wastewater system and does not intend to implement it.

9.2.4 Public education and outreach

The Camrosa Water District has developed an effective public outreach program to educate the District's customers about water resources and conservation.

The District's most effective outreach is the Customer Facilities Tour, which we inaugurated in 2017. We invite 50 customers to spend half a day touring key facilities by bus, with several staff and a director. Stops include the Conejo Creek Diversion, the Camrosa Water Reclamation Facility, the Conejo Wellfield, and the Round Mountain Water Treatment Plant, among others. It is an opportunity for customers to see up close and personally where their rates go, what all goes into getting water to their faucets, and what happens once it goes down the drain. The stretches between sites give staff and directors time to discuss projects, challenges, and opportunities, and to answer customer questions and respond to concerns.

District staff also regularly give tours of facilities to CSUCI classes and to various other groups, such as local Boy Scout and Girl Scout troops upon request. In 2019, a LEGO club toured the CWRF. District staff also participate in various local speaking engagements, from the Santa Rosa Valley Municipal Advisory Council to guest lecturing at CSUCI and the local high school.

In partnership with Calleguas Municipal Water District, Camrosa offers landscape irrigation surveys and water use efficiency classes. For the surveys, a certified irrigation expert works with customers (both residential and CII) directly to walk through the outdoor landscaping irrigation system and provide a comprehensive review of the irrigation system, including a written report for improving the site's irrigation efficiency. The report makes recommendations for repairs, replumbing, and, where applicable, conversion to alternate irrigation systems, such as spray-to-drip conversion.

Spray-to-drip conversion is one of the topics covered by the classes the District puts on, at District headquarters. Other topics include landscape transformation and California native gardening. The District has a water-efficient California Friendly Demonstration Garden, which was partially funded by Metropolitan's City Makeover grant program. The garden is used during Residential Landscape Classes as a demonstration and has resulted in a number of customers using water-wise plants in their own landscapes.

Included in the public outreach and education program is an interactive website, which the District updated in 2018, and social media, which the District is developing. The District includes water conservation messages in its monthly utility bills, to remind customers of easy day-to-day water conservation practices and techniques.

In partnership with Callegaus and Metropolitan, the District holds an annual art contest with elementary and junior high school students to promote and educate water conservation. The winners are submitted to Metropolitan to be considered as part of the annual "Water Is Life" calendar contest. In-school assemblies at the elementary and middle school level round out the District's educational activities.

9.2.5 Programs to assess and manage distribution system real loss

In May 2021, the District completed a water loss control gap assessment, which identified areas where the District could potentially make up ground on recapturing nonrevenue water—whether it be real loss or apparent loss—as we design a comprehensive water loss control program. Since beginning to be required to report Water Loss Audits to the state in 2017, the District has seen nonrevenue water range from 4.7 percent to 8.7 percent. The District expects the State Water Resources Control Board to set water loss standards in the summer of 2021, which will provide a framework to assess the level of effort required of the District's water loss control program.

The District performed a systemwide leak detection survey in 2019 and will perform another in 2021 to establish a baseline to assess the implementation of the water loss control program currently in development. Production meters are calibrated annually.

9.2.6 Water conservation program coordination and staffing support

Camrosa does not have a "conservation" department or even a "conservation" program. In 2016, to help manage the District's response to state conservation mandates, Camrosa hired additional staff to assist in customer outreach and water use efficiency support, But generally speaking, water use efficiency and customer education is a whole-organization effort, from director participation on customer facility tours to the General Manager speaking at local events to office staff coordinating school assemblies to meter technicians participating in weekend education courses. efforts at the District, from the General Manager , Camrosa has a Water Conservation Technician who is responsible for all conservation related programs and implementation of BMPs formulated by the CUWCC. The water conservation program is a line item in the District's budget.

9.2.7 Other demand management measures

The District participates in Metropolitan Water District's SoCal Water$mart rebate program, which offers rebates on a number of water-use efficiency devices for residential and CII customers. The rebates Camrosa customers have received are detailed in Worksheet 9.3 below.

9.3 Implementation over the Past Five Years

Worksheet 9.3 enumerates the DMMs Camrosa has tracked over the past five years.

Worksheet 9.3. Camrosa Demand Management Measures, FY11-14

DMM	FY2016	FY2017	FY2018	FY2019	FY2020
HECW (High-Efficiency Clothes Washer)	41	31	37	25	19
HET (High-Efficiency Toilet)	48	2	2	587	0
WBIC (Weather-Based Irrigation Controller)	40	19	37	20	17
WBIC for Large Landscape	0	5	5	8	0
Rotating Nozzles	0	126	54	0	108
Turf Removal (sq. ft.)	196,274	10,945	0	5,112	13,6562
Rain Barrels	132	4	9	0	6
Single Family Landscape Surveys	56	17	3	9	0
Soil Moisture Meters	9	0	0	0	0
Bill Messages	12	12	12	12	12
School Assemblies	2	2	2	2	0
Customer Education Classes	5	3	3	2	0
Customer Facilities Tours	0	2	2	2	0
Art Calendar Contest	1	1	1	1	0

9.4 Water Use Objectives (Future Requirements)

Water use objectives required by the Water Conservation and Drought Planning Act of 2018 will not be developed until 2023. The objectives will be determined by a calculation involving indoor water use, outdoor irrigation, and water loss, plus any modification for approved variance. How each of those inputs is developed, however, has yet to be defined; there is still significant work to be done on the methodology and data sets for each of those variables, and the variance process has yet to be defined.

THIS PAGE INTENTIONALLY LEFT BLANK

10 Plan Adoption, Submittal, and Implementation

10621 (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.

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

10635 (c) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

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. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies.

…After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing or hearings.

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.

(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.

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.

10.1 Inclusion of All 2020 Data

This UWMP contains all relevant data for the period July 1, 2015 thorugh June 30, 2020 (FY2015-16 through FY2019-20).

10.2 Notice of Public Hearing

10.2.1 Notice to Cities and Counties

Notice of this plan was provided to the City of Camarillo and the County of Ventura (see Appendix A).

Table 10-1 Retail: Notification to Cities and Counties		
City/County Name	60-Day Notice	Notice of Public Hearing
City of Camarillo	X	X
City of Ventura	X	X
NOTES: See Appendix A		

10.3 Public Hearing and Adoption

The public hearing was held on June 24, 2021 and was duly noticed and advertised according to Government Code 6066. The UWMP, including the WSCP, was made available for public review.

10.3.1 Public Hearing

As part of the public hearing, information was provided to the Board of Directors and the public on baseline values, water use targets and compliance, and implementation plan required in the 2009 Water Conservation Act.

10.3.2 Adoption

After the public hearing, the UWMP was adopted by the Camrosa Board of Directors.

10.4 Plan Submittal

Camrosa Water District's 2020 UWMP was submitted electronically to DWR by July 1, 2021 through the WUE Data Portal. A hard copy was mailed to the California State Library at:

California State Library
Government Publications Section
Attention: Coordinator, Urban Water Management Plans
P.O. Box 94237-0001

The plan was also submitted to the City of Camarillo and the County of Ventura.

10.5 Public Availability

The UWMP is available to the public on the District's website, www.camrosa.com, and at the front desk of the office, where it is available during normal business hours.

10.6 Notification to Public Utilities Commission

Not applicable.

10.7 Amending an Adopted UWMP or WSCP

Not applicable.

Due to their length, appendices are not included in this draft version.

They are available upon request.