SECTION 2: SYSTEM DESCRIPTION

2.1 DOCUMENT REQUIREMENTS

2.1.1 UWMP Requirements

This section will include the following:

- Describe the water supplier service area. (CWC, 10631(a))
- Describe the climate and other demographic factors of the service area of the supplier. (CWC, 10631(a))
- Indicate the current population of the service area. Provide population projections for 2020, 2025, 2030, and 2035 based on data from State, regional, or local service area population projections. (CWC, 10631(a))
- Describe other demographic factors affecting the supplier's water management planning. (CWC, 10631(a))

2.1.2 AWMP Requirements

Water Code §10826 (a) requires a description of the agricultural water supplier and the service area:

"(a) Describe the agricultural water supplier and the service area, including all of the following:

(1) Size of the service area.

(2) Location of the service area and its water management facilities.

(3) Terrain and soils.

(4) Climate.

(5) Operating rules and regulations.

(6) Water delivery measurements or calculations.

(7) Water rate schedules and billing.

(8) Water shortage allocation policies." (Water Code §10826(a))

The Water Code requires a description of these elements in the AWMP, but details are not specified. In this section, the Guidebook suggests a reasonable level of detail to assist the agricultural water supplier in preparing an AWMP that can be used for water management planning and providing information to address Water Code §10826 (b) requirements for a description of the quantity and quality of water resources of the agricultural water supplier. The Guidebook organizational outline

groups descriptions into Physical Characteristics – elements (a)(1) to (a)(4), and Operational Characteristics – elements (a)(5) to (a)(8). See Section II of the AWMP Template.

This section also provides a basis for evaluating structural or operational improvements as well as an area to provide the basic information about physical and operational aspects that may affect water management.

This section is also an opportunity to provide some background information, such as the agricultural water supplier date of formation, source(s) of water supply (such as Central Valley Project (CVP), State Water Project (SWP), local surface or groundwater), or any other pertinent information.

"Describe previous water management activities." (Water Code §10826(d)).

The Water Code does not specify which management activities need to be included. Useful information would include previous water management plans and program(s) under which the previous plan was developed, adoption date by the water supplier, approval or acceptance date (by the AWMC or USBR, respectively), management agency and representative, and other pertinent information, including any amendments and/or revision dates.

2.2 DESCRIPTION OF CASITAS MWD

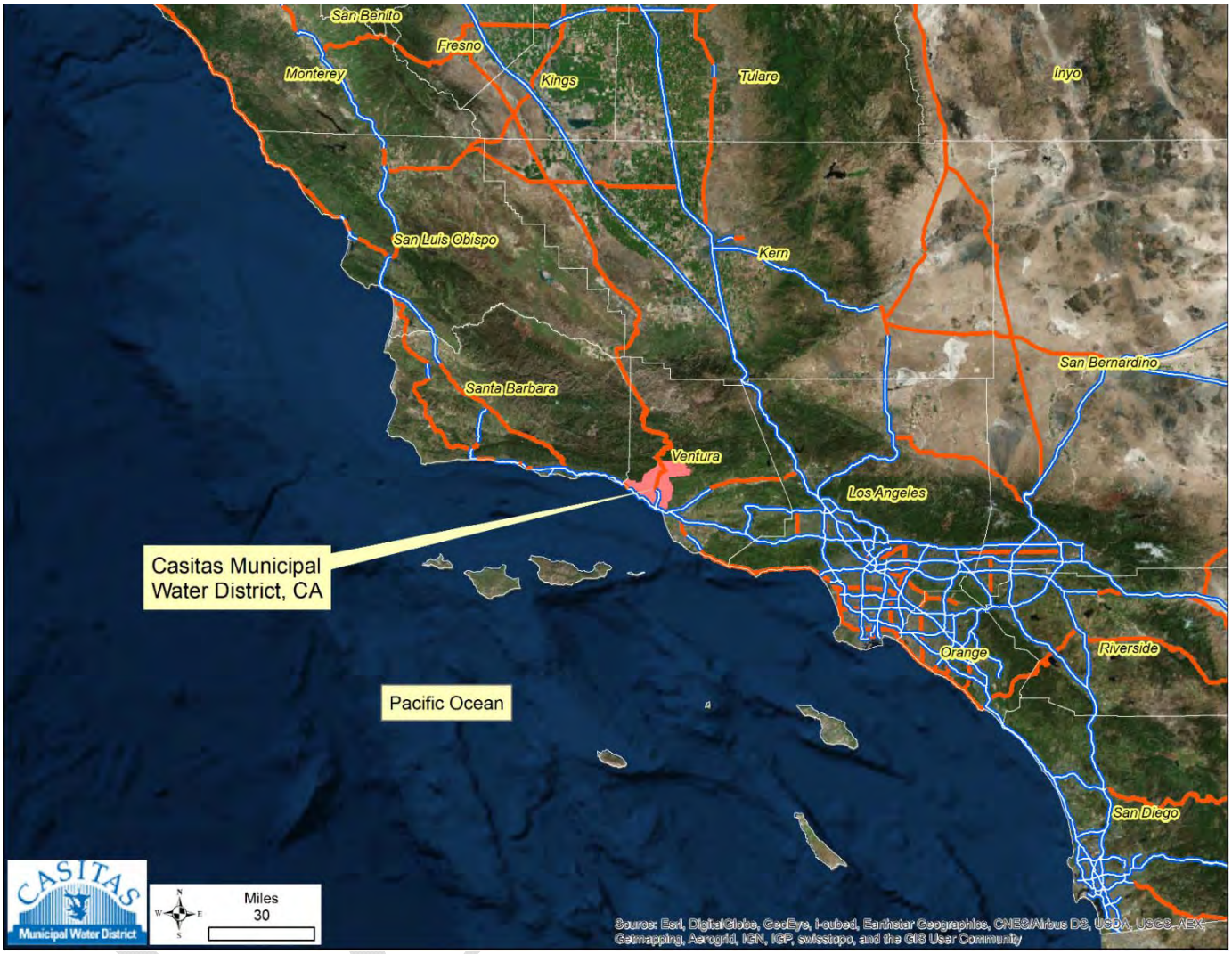
2.2.1 Location

Casitas MWD lies in southern California's semi-arid coastal plain. Specifically, the Casitas MWD is located in western Ventura County (see **Figure 2-1**) where there is a history of drought, water supply shortages, and corresponding efforts to develop local water supplies. The Casitas MWD service area includes approximately 137.5 square miles. The area has and continues to be solely dependent upon local water supplies. Local rainfall contributes to the Ventura River Watershed by replenishing Lake Casitas, local groundwater sources, and the Ventura River. **Figure 2-2** indicates the service area for Casitas MWD. See **Appendix F Worksheets No. 2-3** for additional details related to the Casitas MWD service area.

2.2.2 Terrain and Soils

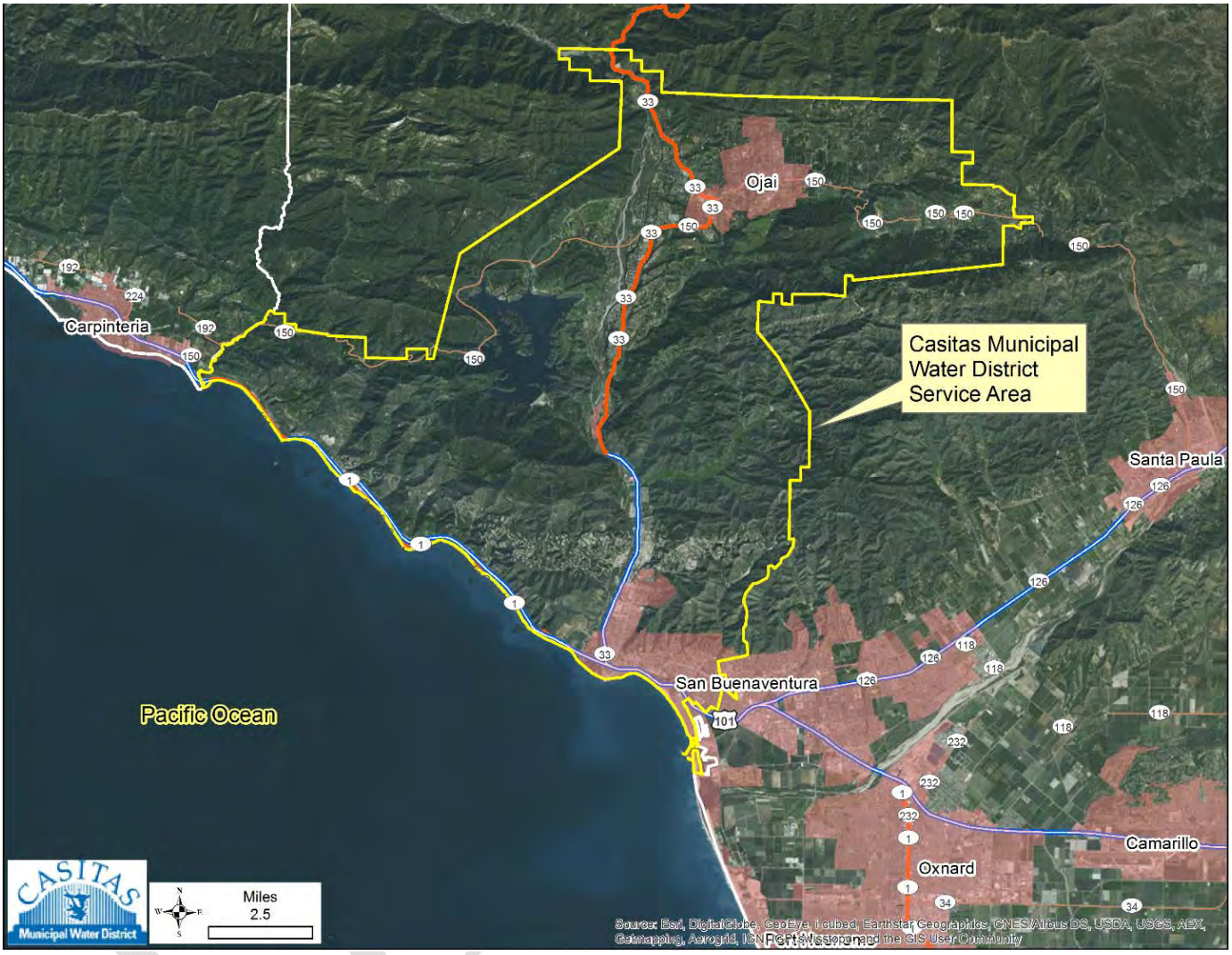
The Casitas MWD service area lies primarily within the Ventura River watershed. This watershed has three distinct landform zones: the mountains and foothills of the Transverse Ranges, the broad valley floors, and the coastal zone. (VRWC, 2015) These zones define the watershed and influence its hydrology in many important ways, from how much and where it rains, to how much water it can store, to the biodiversity of its ecosystems.

FIGURE 2-1
VICINITY MAP



Mountains and foothills dominate the watershed. Only 35 square miles (15 percent) of the watershed are flat (with a slope of 10 percent or less). (VRWC, 2015) This includes the broad valley floors where most of the residences and farms are concentrated, and the coastal zone. The coastal zone includes the delta and coastline, the delta being the land at the mouth of the river formed over time by the deposition of sediments carried by the river. The delta surrounds and contains the Ventura River estuary, a dynamic zone of interaction between the fresh and salt waters of river and ocean and their hydrologic and biologic systems.

FIGURE 2-2
CASITAS MWD SERVICE AREA



Dramatically steep, folded and faulted, rocky and erodible: these are the notable geologic characteristics of the Ventura River watershed's mountains. (VWRC, 2015) In just 10 miles (as the crow flies), the surface of the watershed rises from sea level to the top of Mount Arido at 6,010-foot elevation (gain of 601 feet per mile). Even steeper is the elevation gain from downtown Ojai, at 746-foot elevation, to the top of Chief Peak at 5,560-foot elevation in just six miles (gain of 802 feet per mile). These dramatically steep mountains of the watershed squeeze more water out of the air, but shed that water quite quickly, making for fast-moving, "flashy" storm flows.

FIGURE 2-3
SOILS WITHIN VENTURA RIVER WATERSHED

Geologically, the mountains are primarily comprised of 3-million to 70-million-year-old (Tertiary) sedimentary rocks—sandstones, siltstones, conglomerates, and shales originally deposited in horizontal layers. (VRWC, 2015) Although these bedrock sequences have been severely deformed by folding and faulting, they remain fairly well consolidated and have low permeability relative to the unconsolidated alluvial deposits of the valley floors. They are, however, highly erosive.

The 15 percent of the watershed that is relatively flat is found largely along the broad valley floors associated with the Ventura River, its stream channels, alluvial fans, and river terraces. (VRWC, 2015) This includes the area of the City of Ojai, the orchards of the Ojai Valley's east end, the valley floor of Upper Ojai, and the broad valley along the main stem of the Ventura River. These broad, flat valley floors are largely filled with relatively shallow unconsolidated alluvial deposits of silt, sand, gravel, cobbles, and boulders eroded from the surrounding mountains over millions of years.

In the coastal zone, significant landforms include the Ventura River delta and the beach. The delta is the area of land where the Ventura River meets the Pacific Ocean. As fast-moving, sediment-filled floodwaters approach the ocean, they spread out and slow down, depositing boulders, cobble, and sediments. Over time, this deposition has built up a two-mile long, arc-shaped bulge in the coastline that extends from beyond Emma Wood State Beach above the river mouth to just short of the Ventura pier.

Soils are classified by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) into one of four hydrologic soil groups—A, B, C, or D—based on the water infiltration rate when the soils are not protected by vegetation, are thoroughly wet, and are receiving precipitation from long-duration storms. (VRWC, 2015) Finer-grained soils (clays) have very low water-infiltration rates but a high water holding capacity compared with larger-grained soils (sands and small gravels) that exhibit the opposite characteristics.

The map of the watershed's hydrologic soil groups (see **Figure 2-3**) indicates that the areas of significant infiltration of water into the soil are the alluvial fan heads (near Senior, McNell, Thacher, and San Antonio creeks), as well as in Upper Ojai, and on land under and adjacent to the Ventura River itself. (VRWC, 2015) These areas, indicated as group "B" on the map, are generally composed of coarser sediments.

Jurisdictions within the watershed area include the following: County of Ventura (49.1%), US Forest Service (47.7%), City of Ojai (1.9%), City of Ventura (1.2%), and Santa Barbara County (3.9%). (Walter, 2015).

2.3 SERVICE AREA CLIMATE:

The climate within Casitas MWD' service area is Mediterranean, which is characterized by cool, wet winters and warm, dry summers. However, climate does vary significantly based on distance from the Pacific Ocean, elevation, area drainage, and slope aspect. Details regarding temperature, precipitation, effective precipitation, and evapotranspiration are provided below.

2.3.1 Temperature

Winter low temperatures can fall below freezing in inland areas and rise above 100 degrees Fahrenheit in the summer, affecting higher water demand from customers. Temperatures along the coast are moderated by the ocean and seldom reach the inland extremes. Coastal marine fog occurs throughout the year but usually is present from May until July, generally burning off in the inland areas, but may persist all day on the coast. Hot, dry easterly winds (locally known as Santa Ana's) typically occur in the fall, which increases evapotranspiration (ET) and increases agricultural and landscape water use. Average monthly temperatures range from 35.9 F (January low) to 91.5 F (August high). (WRCC, 2016) See **Table 2-1** for additional data. See **Appendix F Worksheets No. 8-9** for a summary of the climate characteristics. Maximum recorded temperature is 119 F (June 16, 1917), while the minimum recorded temperature is 13 F (January 6, 1913). (WRCC, 2016)

2.3.2 Precipitation

Precipitation, as reported by the United States National Oceanic and Atmospheric Administration (NOAA), weather station No. 46399 located at Ojai, averages 21.2 inches annually. (WRCC, 2016) For comparison, the average precipitation at the NOAA Ventura station near the coast is 14.5 inches annually. Nearly 96 percent of annual local rainfall occurs from October to April. See **Table 2-1** for additional data. See **Appendix F Worksheets No. 8-9** for a summary of the climate characteristics. Maximum recorded annual precipitation is 47.30 inches (1978), while the minimum recorded annual precipitation is 4.35 inches (1947). (WRCC, 2016) Maximum recorded daily precipitation is 9.05 inches (February 24, 1913).

2.3.3 Effective Precipitation

Effective precipitation is the amount of precipitation that is actually added and stored in the soil. There are numerous methods for calculating effective precipitation including empirical-based (direct measurement) and formula-based (indirect estimate). All estimates of the effectiveness of precipitation depend on several factors such as the amount and intensity of precipitation, character and water holding capacity of the soil, and plant characteristics, etc. The estimated effective precipitation is calculated based on a formula-based method (USBR, 1967) for agricultural land. The formula uses an effectiveness percentage as applied to increments of monthly precipitation. For example, for the first 1 inch of monthly precipitation, the effectiveness percentage is 90 to 100 percent. The effectiveness percentage decreases to 0 to 10 percent for monthly precipitation greater than 6 inches. The number of effective inches per month is converted to gallons based on the factor of 27,116 gallons per acre per inch of precipitation. (USGS, 2016) The estimated effective precipitation for the agricultural land within the Casitas MWD service area for the years 2011 to 2015 ranges from approximately 1,793 AF (2013) to 5,392 AF (2011). See **Appendix F Worksheet No. 42** for a summary of the estimated effective precipitation.

TABLE 2-1
CLIMATE DATA

Month	Average Maximum Temperature (ºF) (1)	Average Minimum Temperature (ºF) (1)	Average Precipitation (inches) (1)	2015 Evapotranspiration (inches) (2)
January	66.6	35.9	4.92	2.22
February	67.9	38.0	4.94	2.42
March	70.1	39.9	3.53	3.94
April	74.0	43.1	1.42	4.83
May	77.4	46.9	0.40	5.99
June	83.4	50.3	0.07	6.02
July	90.9	54.5	0.02	6.50
August	91.5	54.3	0.04	6.54
September	88.7	52.1	0.27	5.19
October	82.1	46.7	0.66	3.73
November	74.7	40.3	1.82	2.38
December	67.9	36.4	3.13	1.65
Annual	**77.9**	**44.9**	**21.22**	**51.39**

Notes:
(1) Western Region Climate Center, Ojai Station No. 046399, 2016.
(2) Casitas MWD, 2016.

2.3.4 Evapotranspiration

Evapotranspiration (ET or ETo) is defined as the water lost from an area through the combined effects of evaporation from the ground surface and transpiration from the vegetation. Sun, wind, temperature, and humidity are some of the factors that influence how much water various plants need for any given day. This information is helpful to our customers that have agriculture or large landscapes. It allows them to adjust their watering practices so they are the more efficient in the application of water. The District operates two weather stations with ET sensors (see Casitas MWD website: http://www.casitaswater.org/lower.php?url=exapotranspiration-data-et). One weather station is in the Rincon area near the coast and the other station is in the Ojai Valley. The weather conditions can vary significantly further inland, which creates different water needs for those customers. The data collected from these stations is updated to the Casitas MWD website daily.

The average annual ET for the Ojai Valley weather station is 51.39 inches as indicated in **Table 2-1**. **Table 2-1** indicates that the 2015 ET for the months of May, June, July, and August are approximately 6 inches per month. See **Appendix F Worksheets No. 8-9** for a summary of the climate characteristics.

2.4 HISTORY OF CASITAS MWD

The western portion of Ventura County, California, which includes unincorporated portions of Ventura County, the City of Ojai, and the City San Buenaventura, struggled with water shortage issues in the early to middle 1900's. At the beginning of the 1900's, western Ventura County began to experience growth in agriculture and population. The primary growth areas, the City of Ventura and Ojai Valley, relied on either diverting river flows or groundwater pumping to satisfy water demands. By the 1930's, the local agriculture and cities began to experience drought conditions and question the reliability of their water supplies. The first half of the twentieth century experienced several drought periods and caused western Ventura County to consider various options to increase local water supply reliability.

In 1952, formation of the Ventura River Municipal Water District (VRMWD, which later was renamed Casitas Municipal Water District, in 1971) was quick to follow with a request of the United States Department of the Interior, Bureau of Reclamation (USBR) to make a water requirement and water supply study for western Ventura County. Customers of the VRMWD had been noting the progress of the Cachuma Project in Santa Barbara County and were pleased with the "know how" handling of the Cachuma Project. By March 1953, VRMWD and the USBR entered into a cooperative investigation contract. By the fall of 1953, USBR investigators completed reconnaissance-level studies to determine the approximate long-range water requirements, comparison of the merits of available dam sites, and determination of the river diversion and storage capacity required to meet the long-term water needs of the area (Bennett, 1967). The feasibility study also considered the recreational benefits that the project would have for the area.

The USBR summarized the approach to estimating safe-yield for the Ventura River Project's (Project) as follows: "In general, for smaller reservoirs the most intense drought is critical, while for larger reservoirs the drought with the greatest product of length times mean deficiency is critical. Reconnaissance studies indicated that for Casitas MWD Reservoir [now Lake Casitas] at 250,000 acre-feet the greatest drought of record (length times mean deficiency) is critical". (USBR, 1954b)

Construction of the Project was completed in 1959 and Lake Casitas filled for the first time in 1978, with demands for water developed to full safe-yield levels by 1990. The Project serves as a primary supply for many direct customers and as a supplemental, or backup supply, for groundwater users during times of drought. Additional details regarding the physical system of the Project are provided below in **Section 2.5** and history of the Project are provided in **Section 4.3**.

2.5 CMWD PHYSICAL SYSTEM - DISTRIBUTION FACILITIES AND WATER TREATMENT

Casitas MWD's water supply comes completely from local water sources. The main source of water supply for Casitas MWD is Lake Casitas, which has a full capacity of 254,000 acre-feet of water. The reservoir when full covers a surface area of 2,760 acres and has 32 miles of shoreline. It is 200 feet at its deepest spot. Source water for Lake Casitas is direct rainfall on the lake surface, local watershed runoff from Coyote and Santa Ana Creeks, and diversions from the Ventura River made through the

Robles Diversion Facility and canal. Maximum diversion rate at the Robles Diversion Facility is 500 cubic feet per second. See **Appendix F Worksheets 2-6** for additional details regarding the Casitas MWD infrastructure. Additional details provided in **Section 4**.

Casitas MWD also maintains and operates one (1) well with a capacity of approximately 300 acre-feet per year. Water from the well exceeds the State's maximum contaminate level for nitrate and is blended with Lake Casitas water to meet health and safety regulatory standards for nitrate before delivery to the Casitas MWD customers. Additional details provided in **Section 4**.

Casitas MWD's distribution system includes approximately ninety-seven (97) miles of main and distribution pipelines, nine (9) pumping plants, four (4) chlorination stations, and thirty million (30,000,000) gallons of treated water stored in fourteen (14) steel reservoirs located throughout the Casitas MWD service area. Casitas MWD meters all of its direct service customers, including meters on all connections to other water agencies. Resale water agencies in the Casitas MWD service area meter their own customers. Balancing reservoirs placed throughout the system at various elevations presently regulate water system pressures within Casitas MWD's distribution system. These elevations are determined from the requirements of various zones of service ranging from sea level to 1,500 feet above sea level. Because of the variations in terrain and microclimates in the Casitas MWD service area, the water requirements of individual customers vary widely within the various zones. Some areas of the Casitas MWD that have excessive pressures require pressure-reducing stations. The vast majority of customers are furnished between 50 to 80 pounds per square inch pressure at their meters. See **Appendix F Worksheets 2-6** for additional details regarding the Casitas MWD infrastructure.

In 1995, Casitas MWD added a sixty-five million (65,000,000) gallon per day pressure filtration treatment plant that enables Casitas MWD to meet the regulations set forth in the State of California Surface Water Treatment Rules. The plant continues to meet its original water quality objectives. Casitas MWD further treats filtered water with a chloramination process and additives for corrosion control, as directed by the State Department of Drinking Water.

2.6 CMWD RESALE CUSTOMERS

The following is a description of the various agencies that are resale classification customers of the Casitas MWD.

2.6.1 Golden State Water Company

The Golden State Water Company (GSWC) provides service to an area approximately equal to the limits of the City of Ojai. GSWC relies on groundwater extractions from the Ojai Groundwater Basin and supplements the groundwater supply with additional water from Casitas MWD service connections. Groundwater is the preferred and least expensive of the two water sources. GSWC has the highest water rates of any agency in the Casitas MWD service area, which has led to a reduction in water demand use by its customers.

2.6.2 Hermitage Mutual Water Company

The Hermitage Mutual Water Company (HMWC) provides service to a limited area in the foothills north of the Ojai Valley. The HMWC customer base is primarily agriculture with several large residential estates. The primary source of water is from wells in the Ojai Groundwater Basin and a 6-inch supplemental connection to Casitas MWD. Water use is driven by agricultural water demands, attributed to local annual rainfall conditions and conditions in the Ojai Groundwater Basin. The HMWC water demands have remained fairly consistent from year to year, and can be expected to remain consistent in the future without any foreseen changes to land use.

2.6.3 Meiners Oaks Water District

The Meiners Oaks Water District (MOWD) provides water service to a limited area which is not expected to have an appreciable growth in water demands over the next twenty years. MOWD relies primarily on two wells in the Ventura River and has only relied on Casitas MWD during infrequent system emergencies (i.e., 1985 Wheeler Fire). Future demand increases on the Casitas MWD water supply would be dependent upon increased severe drought frequency.

2.6.4 Senior Canyon Mutual Water Company

The Senior Canyon Mutual Water Company (SCMWC) provides service to a limited area located in the east end of the Ojai Valley. The SCMWC customer base is a mix of residential, large residential, and agricultural land use. The primary source of water supply are three wells in the Ojai Groundwater Basin and diversions from a tunnel and creek source. SCMWC uses Casitas MWD water as a secondary source of water to buffer peak demands and as a drought contingency supply. The SCMWC water demands have remained fairly consistent from year to year, and can be expected to remain consistent in the future without any other foreseen changes to land use. System improvements could decrease reliance on the Casitas MWD water supply.

2.6.5 Siete Robles Mutual Water Company

The Siete Robles Mutual Water Company (SRMWC) provides service to a limited housing tract that is located southeast of the City of Ojai. The source of water for SRMWC is a well in the Ojai Groundwater Basin, and one service connection to Casitas MWD. SRMWC has been self-reliant on its well water except during high nitrate events or emergency well repair periods. Water demands within SRMWC are expected to remain consistent in the future without any foreseen changes to land use.

2.6.6 Sisar Mutual Water Company

The Sisar Mutual Water Company (SMWC) provides service to a limited area that is partially in the Casitas MWD boundary, located in the northeast area of the Upper Ojai Valley. SMWC has been self-reliant on its water wells and on a one 4-inch connection to Casitas MWD as an emergency water source. Water use in SMWC has remained consistent over the past ten years and is expected to remain relatively constant in the future.

2.6.7 Tico Mutual Water Company

The Tico Mutual Water Company (TMWC) provides service to a limited area in Mira Monte. The TMWC customer base is small residential with limited prospects of water use expansion. The TMWC water source is one small water well in the Mira Monte area and one 2-inch service connection to Casitas MWD as a backup supply. Water use in TMWC has remained consistent over the past ten years and is expected to remain so in the future.

2.6.8 City of Ventura

The City of Ventura (City) service area is partially within the Casitas MWD boundary and partially outside of the Casitas MWD boundary. This Plan only considers the part of the City service area that is within the Casitas MWD boundary. The City has a portfolio of water resources that includes water well extractions in the Ventura River near Foster Park, rights to recycled water from the Ojai Valley Sanitary District treatment plant, several connections to a Casitas MWD pipeline, and groundwater sources from the east end of Ventura. The City and Casitas MWD have a 1995 water service agreement to secure a minimum of 6,000 acre-feet annual purchase of water from Casitas to the City. The City has indicated that there is a potential for specific projects and land use changes that will cause water purchases from Casitas MWD to increase from approximately 5,260 AF in 2015 to potentially 8,000 AF by 2025. (City of Ventura, 2015)

2.6.9 Ventura River Water District

The Ventura River Water District (VRWD) provides service to a limited area which is not expected to have an appreciable growth in water demands over the next twenty years. VRWD relies primarily on two wells in the Ventura River and only relies on Casitas MWD when groundwater sources become depleted. VRWD is proactive with its customers in requesting timely water use reductions to lessen the demand for Casitas MWD water. Future demand increases on the Casitas MWD water supply would be dependent upon increased drought frequency.

2.7 SERVICE AREA POPULATION

Population growth in the district paralleled population growth in southern California up until 1960. Population within the Casitas MWD's service area in 1960 was approximately 45,000. Casitas MWD serves directly and indirectly a population of approximately 70,847. (CMWD, 2011) See **Table 2-2**, and **Appendix E Table 3-1** for details. Casitas MWD is the primary and or backup water supply for nine water purveyors within the Casitas MWD and for some individual agricultural customers with groundwater wells. Casitas MWD has nearly 3,200 customers in total with 2,925 direct urban customers, 249 agricultural meters, and 23 resale meters.

The current population forecast for the Casitas MWD's service area reflects a very low growth period through the year 2040. There is a large population within the Casitas MWD's boundaries that are served by other water agencies. Casitas MWD's largest customer, the City of Ventura, and the City of Ojai are projected to have a 0.5 percent annual increase in population during the period 2020-2040 according to data from the Southern California Association of Governments (SCAG, 2016). This average annual population growth rate is approximately the same as for the whole of California as

indicated by the California Department of Finance (2015) for the period 2015-2060. **Table 2-2** (and **Appendix E, Worksheet 3-1**) indicate the population within Casitas MWD service area is anticipated to reach 73,137 in the year 2020 and approximately 85,431 in 2040. These population increases are dependent on availability of local groundwater and Casitas MWD's surface water supply.

TABLE 2-2
CASITAS MWD SERVICE AREA POPULATION

Population	2015	2020	2025	2030	2035	2040
CMWD Service Area (1,2)	70,847	73,137	75,725	78,312	82,914	85,431

Notes:
(1) CMWD, 2016.
(2) Population for 2035-2040 based on growth rate for 2030-2035; per CMWD staff, 2016.

2.8 LAND USE

Land use within the Casitas MWD service area includes agriculture, residential, and commercial properties. Land use within the CMWD service area is regulated by the City of Ojai and City of Ventura within their respective boundaries, and by the County of Ventura for the unincorporated area of the Casitas MWD.

Agricultural customers within the Casitas MWD service area include approximately 5,372 acres of irrigated crops. Irrigated crops in 2014 include avocados, hay, lemons, oranges, strawberries, tangerines, and walnuts (see **Table 2-3** below for details). **Table 2-4** indicates the number of irrigated acres within the Casitas MWD service area for the period 2011-2015 increased from 4,837 acres to 5,354 (nearly 10 percent). This increase may have been due to agricultural customer's greater reliance on Casitas MWD water during consecutive dry years. **Table 2-4** also indicates the number of irrigated acres that received 100 percent Casitas MWD water as compared to the irrigated acres that receive 1 to 99 percent Casitas MWD water for the period 2011-2015. During the period 2011-2015, the number of acres that received 100 percent Casitas MWD increased by 11 percent. Mini-sprinklers and drip irrigation are the most common methods of crop irrigation. See **Appendix F**, **Worksheets 21-23** for additional details related to irrigated agriculture within the Casitas MWD service area.

TABLE 2-3
ACRES OF IRRIGATED AGRICULTURE WITHIN SERVICE AREA BY CROP TYPE

Crop Type	Acres (1)
Avocados	2,409
Hay	340
Lemons	453
Miscellaneous fruit	357
Oranges (Navel)	307
Oranges (Valencia)	1,039
Pasture	94
Strawberries	40
Tangerines	276
Walnuts	57
Total	**5,372**

Notes:
(1) Total irrigated acres for calendar year 2014. Source: CMWD, 2016.

TABLE 2-4
ACRES OF AGRICULTURE WITHIN SERVICE AREA BY SOURCE OF WATER

Irrigated Acres (1)	2011	2012	2013	2014	2015
Irrigated acres using 100% CMWD water	2,996	2,960	2,931	3,174	3,361
Irrigated acres using 1-99% CMWD water	1,841	1,905	1,897	1,980	1,993
Total	**4,837**	**4,865**	**4,828**	**5,154**	**5,354**

Notes:
(1) Total irrigated acres for calendar year 2014. Source: CMWD, 2016.

2.9 CMWD OPERATIONS

2.9.1 Operating Rules and Regulations

Casitas MWD is responsible for operation of the Lake Casitas and the distribution system (see Section 2.5 for details).

A copy of the Casitas MWD's Rates and Regulations for Water Service (2009) is available at the website: **http://www.drivecms.com/uploads/casitaswater.org/Rates%20&%20Regs%20Board%20Adopted%2012%2016%202009.pdf** . Copies of the Casitas MWD's Rules and Regulations are also available upon request. See **Appendix F, Worksheets 10-18** for additional details related to Casitas MWD policies. In addition, water shortage allocation policies for the Casitas MWD are provided in **Section 6**. Copies of these documents are available from Casitas MWD upon written request.

The Casitas MWD prepared and regularly updates the Casitas Dam Emergency Action Plan and CMWD Emergency Response Plan (2004a).

2.9.2 Water Delivery Measurements

All of the Casitas MWD surface water supplies and ground water supplies are metered. The Casitas MWD utilizes turbine meters for meters 2 inches and larger. These meters have an accuracy of 98 percent to 102 percent. For meters 2 inches and smaller, the Casitas MWD utilizes propeller meters See **Appendix F, Worksheets 10-13** for additional details related to water allocation and delivery measurements. All of the Casitas MWD direct customers are metered. Casitas MWD has meters for all of the Resale customers.

2.9.3 Water Rate Schedules and Billing

The Casitas MWD currently has inclining block water rates (also known as conservation rate), where the cost per unit of water increases with the quantity of water used for all residential accounts. Customers are billed monthly for 100 percent of the volume of water used. A copy of the Casitas MWD current rate schedule is provided in **Appendix G** (and available on the Casitas MWD website: **http://www.drivecms.com/uploads/casitaswater.org/2013-4.pdf** .

The current commodity rate for agricultural customers is $0.624 to $0.904 per 100 cubic feet (HCF) depending on elevation of the property. The current commodity rate for agriculture-residential customers is $0.602 to $1.770 per HCF depending on usage and elevation of the property. The current commodity rate for all residential customers is $0.602 to $2.614 per HCF depending on usage and elevation of property. The current commodity rate for commercial, industrial, resale, other, temporary, and recreational customers is $$0.827 to $1.785 per HCF depending on customer category, usage, and elevation of the property. In addition, the Casitas MWD has an additional meter fee per customer meter size (see copy of rate schedule in **Appendix G**). The current monthly meter fee ranges from $23.34 per month (5/8 to 3/4 inch) to $812.42 (6-inch). One of the See **Appendix F**, **Worksheets 14-16** for additional details related to the CMWD rate structure and billing.
The Casitas MWD has the legal authority to evaluate and set rates for its customers. Casitas MWD rates are subject to change. Casitas MWD is currently evaluating a change in waters rates. Casitas MWD may reduce the inclining block rate structure to one or two blocks.

2.10 PREVIOUS WATER MANAGEMENT ACTIVITIES

The Casitas MWD has prepared several applicable documents related to local water resources. One of the most notable documents is the Casitas MWD Urban Water Management Plan (adopted 2011). The UWMP includes similar elements as the AWMP including descriptions of the service area, water demands, water resources, water resources reliability, and demand management measures (also known as conservation measures or efficient water management practices).

In addition to the UWMP, Casitas MWD has prepared additional documents related to local water resources management including, but not limited to, the following:

CMWD. 2015. Water Efficiency and Allocation Program. Copy provided in **Appendix K**.

CMWD. 2004. Water Supply and Use Status Report. Copy provided in **Appendix H**.

CMWD. 1988. Ojai Groundwater Basin Study. Prepared by Murray, Burns, and Kienlen.

CMWD. XXXX. Operations Plan – Marion R. Walker Pressure Filtration Plant.

Applicable documents prepared by other agencies related to local water resources management include, but not limited to, the following:

Golden State Water Company. 2011. Urban Water Management Plan. Prepared by Kennedy/Jenks Consultants.

Ojai Basin Groundwater Management Agency. 2014. 2011 and 2012 Annual Report.

Ojai Basin Groundwater Management Agency. 2007. Ojai Basin Groundwater Management Plan (and updates). Copy provided in **Appendix I**.

Ojai Valley Sanitary District. 1992. Reclaimed Water Feasibility-Marketing Study. Prepared by Boyle Engineering.

Ventura County Watershed Protection District. 2014. County of Ventura 2013 Water Supply and Demand. Prepared by HydroMetrics.

City of Ventura. 2015. Comprehensive Water Resources Report (and updates). Prepared by Michael Baker International.

City of Ventura. 2011. Urban Water Management Plan. Prepared by Kennedy/Jenks Consultants.

City of Ventura. 2007. Feasibility Study on the Reuse of Ojai Valley Sanitary District Effluent-Final Facilities Planning Report. Prepared by Brown and Caldwell, et al.

Ventura River Watershed Council. 2015. Ventura River Watershed Management Plan.

Watersheds Coalition of Ventura County. 2014. Integrated Regional Watershed Management Plan (addendums included).