

# 2016 COMPREHENSIVE WATER RESOURCES REPORT

---

## FINAL Report

Prepared for:  
**Ventura Water**  
501 Poli Street  
Ventura, CA 93002



Prepared by:  
**Michael Baker International**  
5051 Verdugo Way, Suite 300  
Camarillo, CA 93012



Contact: Kevin Gustorf, P.E.  
(916) 928-5166

**May 16, 2016**

## EXECUTIVE SUMMARY

### PREVIOUS COUNCIL ACTION

On March 4, 2013, Council received the Draft 2013 Comprehensive Water Resources Report and directed the City Manager, Ventura Water and Community Development to work together to develop a short term balance of water supply and demand; a predictable use of data to serve pending and projected development over the next 5 years; provide a recommendation for long term water supply and demand policy; and return to Council in May with the final report.

On June 10, 2013 the City Council approved the 2013 Comprehensive Water Resources Report. In addition to approving the report the City Council directed staff to provide an annual update on the City's projected water supply and demand; and to use the local water land use demand factors for the evaluation of all development and the standardized "Water Demand Impact Summary" matrix to quantify the water supply demand of each individual project and the cumulative water supply demand of all approved projects.

On May 5, 2014, the City Council approved the 2014 Comprehensive Water Resources Report.

On May 18, 2015 the City Council approved the 2015 Comprehensive Water Resources Report.

### 2015 CWRR UPDATES

Understanding and monitoring our water supply and demand is essential to planning for and managing a stable and reliable water system to support our community and economic growth. The City's supply and demand plays an important role and dramatically influences the planning for, development of and investment of significant dollars in capital improvements, maintaining our current water supply and investing in new water supplies. Council approved the 2013 Comprehensive Water Resources Report (2013 CWRR) in June 2013 and directed staff to provide an annual update on the City's projected water supply and demand.

Council approved the 2014 CWRR in May 2014.

Council approved the 2015 CWRR in May 2015.

Below is, a summary, Table ES-1, of the most current and best information available on our water supply and demand.



**Table ES-1**  
**Summary of Water Supply and Demand**

<b>Projected</b>	<b>2016 Drought (AFY)</b>	<b>2017 Drought (AFY)</b>	<b>2017 (AFY)</b>	<b>2020 (AFY)</b>	<b>2030 (AFY)</b>
<b>Supply</b>	15,100 – 16,959	15,142 – 17,001	19,078 – 20,937	19,331 – 23,690	22,338 – 28,214
<b>Demand*</b>	16,859	17,025	17,025	17,523	18,657
<b>Available Supply</b>	<b>(1,759) – 100</b>	<b>(1,883) – (24)</b>	<b>2,053 – 3,912</b>	<b>1,808 – 6,167</b>	<b>3,681 – 9,557</b>

*\*Demand equals baseline 5 year average (16,693 AF) plus the estimated demand from 350 units built annually from the approved projects list for future years fully vested in 2024 and using a 0.55% growth rate to 2030 (Table 3-8 & 5-1). Assumes a new supply source (Direct Potable Reuse) in future years.*

As shown in the table above, the projected 2016 and 2017 drought water supply numbers are less than the projected water demand numbers. This indicates that if the continued drought condition persists, the City's customers will need to continue to increase their water conservation and comply with the Stage 3 water shortage emergency conservation measures and/or pay penalties for overuse of the City's water supply sources.

Changes from the 2015 CWRR to the 2016 CWRR are summarized below.

### **Baseline Demand**

The baseline water demand of 17,167 acre feet (AF) in the 2015 CWRR was established utilizing the previous 5-year City annual average. Utilizing the same criteria, the baseline water demand for the 2016 CWRR is 16,693 AF, a decrease of 474 AF. The past few years of lower annual demand totals decreases the five-year running average and is a result of approved water rate increases as well as the Council approving, in June 2015, a four-tiered (drought) water rate structure and the February 2014 City call for 10% voluntary conservation, followed by the September 2014 City declaration of a Stage 3 Water Emergency requiring customers to reduce their use by 20% due to the prolonged drought. The annual water consumption figures for the past ten years are provided in subsection 3.D.

**Future Demand Projections (Year 2030)**

The future demand projections in the previous CWRR included approved projects only at an estimated annual growth rate of 350 units per year (and an equivalent absorption rate is used for the non-residential development). The growth rate was used to project out when the estimated demand (based on approved projects only) would be fully vested. The 2016 CWRR projects out the demands to the Year 2030 which is beyond the year that the approved projects would be fully vested. In order to project out the estimated demand to the Year 2030 a growth rate of 0.55% (Department of Finance historical data for population) was used to estimate the increase in demand from the time all approved projects were fully vested (Year 2024) to the Year 2030.

## Supply

### **Current Water Supply**

The City's current water supply is known as the normal (non-drought) water supply in the City's March 2015 Water Shortage Contingency Plan (Plan). The Plan references Table 4-1 of the City's current Comprehensive Water Resource Report. Table 4-1 in the 2013, 2014 and 2015 CWRR's indicate that the City's current water supply is 19,600 AFY. Current supplies include Casitas, Ventura River, Mound Groundwater Basin, Oxnard Plain Groundwater Basin, Recycled Water and the Santa Paula Groundwater Basin. There are no revisions to the first five named supply sources. However, for the Santa Paula Groundwater Basin the construction of Saticoy Well No. 3 was completed in 2015 (Saticoy Well No. 2 remains active as a back-up well) and therefore the City's current reliable water supply from the Santa Paula Basin has been revised from 1,600 AFY to 3,006 AFY. The City's current water supply portfolio is summarized in Table 4-1 and has been revised from 19,600 AFY to 21,006 AFY.

### **Projected Future Water Supply**

The 2015 CWRR projected future water supply numbers were revised in the 2016 CWRR to reflect changes to the City's existing supply sources that have come up over the past year including the continued drought condition and the projection of the drought through 2017. The water supply sources revisions are due to the following water supply issues:

- **Casitas:** A reduction in the amount of available water from Casitas due to the extended drought. At the time of this report the storage in Lake Casitas was below 42% capacity. Casitas has requested their customers to reduce their water usage by 20% based on the State's Drought Emergency Regulations. The City continues to include an anticipated required reduction of 20% to our Casitas supply for the projection of the current drought through 2017. The Casitas supply is based on existing and approved projects within the Casitas boundary.
- **Ventura River/Foster Park:** Due to the continued drought conditions, heightened environmental requirements and recent litigation from the Santa Barbara Channelkeeper alleging that the City has been over pumping water from the Ventura River, the City's ability to draw water from the Ventura River continues to be significantly challenged and impacted. Therefore, the supply in Table 4-2 reflects the supply anticipated from the Ventura River for the projection of the current drought through 2017 and is based on 2015 operations at a maximum production of 1,298 AF.

- Mound Groundwater Basin: No revisions were made to this supply source.
- Oxnard Plain Groundwater Basin (Fox Canyon Aquifer): No revisions were made to this supply source.
- Santa Paula Groundwater Basin (Santa Paula Basin): No revisions were made to this supply source.
- Recycled Water: The previous CWRRs estimated the anticipated future water supply for recycled water at 1,400 AFY. This amount was based on a 2007 Kennedy/Jenks Consultants study on the potential recycled water market within the City. The total demand within the City limits that could potentially utilize recycled water was estimated at 1.3 MGD. Expansion of the City's existing recycled water system would be required to utilize the estimated demand. The City's existing recycled water system is limited and it is not anticipated that there will be an expansion of the existing system except within the focus area identified in the City's existing Reclaimed Water System Expansion Policy. In lieu of using more recycled water for irrigation only, more water will be available for potable reuse. Therefore, the estimated anticipated future water supply for recycled water is based on the Draft 2015 Urban Water Management Plan projections for recycled water.

### **Potential Additional Future Supply**

The past CWRR's have not included any supply values for potential additional future supply sources. The Water Commission, approved in 2015, has been tasked with reviewing and making advisory recommendations regarding water management and supply options as well as review of a water dedication and net zero fee requirement. On October 27, 2015 the Water Commission approved a 20% water supply buffer and has been diligently working on a draft water dedication and Net Zero Fee Ordinance and Resolution. Part of the work to establish a Net Zero Fee is to review and evaluate potential new supply sources. As part of the Water Commissions review and discussions Direct Potable Reuse has been added to Table 4-2 as a potential future supply source. Direct Potable Reuse is included in Table 4-2 at this time but may not end up as the final supply project that moves forward. A range of 2,381 to 3,898 AFY (estimated volumes account for water quality, capacity and operations) is included in Table 4-2 for Direct Potable Reuse in Year 2030.



**RECOMMENDATIONS**

The results of this Report indicate that the spread between the current water demand and the current water supply is very tight, and if the drought persists the supply could be less than the demand. This presents significant challenges for the City moving forward in the ability to allocate water supply to development projects that will generate additional water demands. The recommendations for the City moving forward include:

1. Track the total water consumption on an annual basis.
2. Re-calculate the 3-year, 5-year and 10-year water consumption averages on an annual basis.
3. Update the water supply portfolio on an annual basis.
4. Update the existing land use data on an annual basis. This can be done through a system that tracks the development projects as the transition from “Approved” to “Under Construction” and “Under Construction” to “Existing”.
5. All future development projects should be evaluated based on current supply and demand conditions.
6. Consider adding a new project type in the land use tracking spreadsheet for approved projects under CIP or other City approval processes.
7. Use the City-specific water usage factors to calculate the water demand of all development projects as the projects proceed through the City process prior to approval.
8. Continue to develop water supply through demand side management, securing water rights, establishing a net zero (in-lieu) fee ordinance and continue to integrate the new water supply sources into the City's water supply portfolio.

## Table of Contents

---

<b>1.</b>	<b>INTRODUCTION .....</b>	<b>1-1</b>
A.	Introduction.....	1-1
B.	<i>Purpose of the Report [NO CHANGES].....</i>	<i>1-1</i>
C.	<i>Study Area [NO CHANGES] .....</i>	<i>1-2</i>
D.	<i>Document Comparison [NO CHANGES].....</i>	<i>1-2</i>
E.	<i>Demand Factor Comparison [NO CHANGES].....</i>	<i>1-2</i>
F.	Current Planning Data.....	1-2
G.	<i>2012 LAFCo Municipal Service Review [NO CHANGES] .....</i>	<i>1-2</i>
H.	Reference Documents .....	1-2
<b>2.</b>	<b>LAND USE .....</b>	<b>2-1</b>
A.	Existing Land Use .....	2-1
B.	Future Land Use.....	2-3
1.	Under Construction and Approved.....	2-3
2.	Future Potential .....	2-3
<b>3.</b>	<b>WATER DEMANDS .....</b>	<b>3-1</b>
A.	Existing Demand Condition.....	3-1
B.	<i>Consumption and Usage Factors [NO CHANGES] .....</i>	<i>3-3</i>
C.	<i>Usage Factor Comparison [NO CHANGES].....</i>	<i>3-4</i>
D.	Historical Water Consumption (Baseline Demand Condition) .....	3-5
E.	Future Demand Projections (Approved Projects Only) .....	3-8
F.	Future Demand Projections (Year 2030) .....	3-8
<b>4.</b>	<b>WATER SUPPLY .....</b>	<b>4-1</b>
A.	<i>Introduction [NO CHANGES] .....</i>	<i>4-1</i>
B.	Current Water Supply Sources .....	4-1
C.	Future Water Supply .....	4-3
1.	Casitas Municipal Water District .....	4-3
2.	Ventura River Surface Water Intake and Upper Ventura River Groundwater Basin ...	4-3
3.	<i>Mound Groundwater Basin [NO CHANGES] .....</i>	<i>4-3</i>
4.	Oxnard Plain Groundwater Basin.....	4-3



5. Santa Paula Groundwater Basin .....	4-4
6. Recycled Water .....	4-4
D. Potential Additional Future Supply Sources .....	4-7
1. State Water Project [NO CHANGES] .....	4-7
2. Saticoy County Yard Well [NO CHANGES] .....	4-7
3. Recycled Water and Reuse .....	4-7
a. Ventura Water Reclamation Facility .....	4-7
4. Ocean Desalination [NO CHANGES] .....	4-9
5. Water Conservation Measures/Water Efficiency Plan .....	4-9
6. Water Shortage Task Force .....	4-10
7. Water Shortage Event Contingency Plan .....	4-10
8. Establish Water Rights Dedication and Water Resource Net Zero (In Lieu) Fee Ordinance and Resolution .....	4-11
9. Water Commission .....	4-11
<b>5. CONCLUSIONS &amp; RECOMMENDATIONS .....</b>	<b>5-1</b>
A. Conclusions .....	5-1
B. Recommendations .....	5-5

## **LIST OF TABLES**

1-1	<i>Summary of Previous Documents [NO CHANGES]</i>
1-2	<i>Summary of Water Demand Factors in Previous Documents [NO CHANGES]</i>
1-3	<i>Comparison of Residential Water Demand Factors in Previous Documents [NO CHANGES]</i>
2-1	<i>Existing Land Uses per 2005 General Plan [NO CHANGES]</i>
2-2	<i>Summary of “Built” Projects 2005-2012 [NO CHANGES]</i>
2-3	Summary of Existing Land Use – December 2015
2-4	Summary of Approved and Under Construction Projects – December 2015
2-5	Summary of Predicted, Actual and Remaining Development – December 2015
3-1	Summary of Existing Water Consumption for CY 2015
3-2	<i>Calculation of Raw Consumption Factors for CY 2012 [NO CHANGES]</i>
3-3	<i>Summary of Planning-Level Water Consumption Factors [NO CHANGES]</i>
3-4	<i>Water Consumption Factor Comparison [NO CHANGES]</i>
3-5	Historical Annual Water Consumption
3-6	Total Estimated Demands for Under Construction and Approved Projects – as of December 2015
3-7	Projected Total Water Demands Including Under Construction and Approved Projects – Various Baselines
3-8	Projected Water Demand Growth per Absorption Rate
4-1	Summary of Current Water Supply
4-2	Summary of Projected Future Water Supply from Existing and Potential New Sources
5-1	Demand vs. Supply Comparison

## **LIST OF FIGURES**

3-1	Historical Annual Water Consumption
5-1	Demand vs. Supply Comparison

## **LIST OF EXHIBITS**

1-1	<i>City Overview [NO CHANGES]</i>
2-1	<i>General Plan Land Use [NO CHANGES]</i>
2-2	Projects Approved and Under Construction
4-1	<i>Supply Sources [NO CHANGES]</i>

**APPENDIX** [NO CHANGES]

*Demand Factors from Other Agencies*

*LAFCo 13-01S Sphere of Influence Report*

*2005 General Plan Tables & Figures*

*2005 General Plan FEIR Tables*

*2010 UWMP Tables*

*2011 Water Master Plan Tables*

*LAFCo MSR Report*

*2005 General Plan FEIR Water Demand Factors (email correspondence)*

*2005-2012 Built Projects – Background Data*

# 1. INTRODUCTION

## A. INTRODUCTION

In 2013, Ventura Water initiated the development of an annual water management tool entitled the Comprehensive Water Resources Report (CWRR). The CWRR is intended to be a tool in the development review process as it pertains to water supply and demand. The CWRR is intended to provide an annual look at the City's water demand trends, current water demands, demand projections, and the current and future supply picture. The 2013 CWRR was approved by City Council in June 2013.

The 2013 CWRR was the first annual version of this report; therefore, the 2013 CWRR included more historical information related to the genesis of this report and previous studies prepared. This document, the 2016 CWRR, and all previous year CWRR's are intended to be a supplement to the previous year's document. Any information provided in the 2013 CWRR that has not changed will not be included in the 2016 CWRR. The intent of the 2016 CWRR is to provide updated water demand data based on the previous calendar year's data (2015) being available and an update on the City's future water supply portfolio based on the best available information regarding the City's existing and potential future supply sources. The water demand figures will be modified on an annual basis in order to capture the current water use patterns within the City.

It should be noted that the water demand factors calculated in the 2013 CWRR will not be updated on an annual basis. The water demand factors will be re-visited every ten (10) years, unless there is a significant change in the year-over-year annual demand (quantified as a 30% change in two-year period).

As the 2015 CWRR did, the 2016 CWRR will maintain the same outline as the 2013 CWRR. For any sections, tables or exhibits where data has changed, a revised section, table or exhibit will be provided herein. If there are no changes to the section, table or exhibit, it will be noted with "*No changes from the 2013 CWRR.*"

## B. PURPOSE OF REPORT

*No changes from the 2013 CWRR.*

### C. STUDY AREA

*No changes from the 2013 CWRR.*

EXHIBIT 1-1: *No changes from the 2013 CWRR.*

### D. DOCUMENT COMPARISON

*No changes from the 2013 CWRR*

### E. DEMAND FACTOR COMPARISON (from previous documents)

*No changes from the 2013 CWRR*

TABLE 1-1: *No changes from the 2013 CWRR.*

TABLE 1-2: *No changes from the 2013 CWRR.*

TABLE 1-3: *No changes from the 2013 CWRR.*

### F. CURRENT PLANNING DATA

The City Planning Department provided actual development data ("Built" projects) for the year ending December 2015, and data on all projects that are under construction or have received all planning approvals ("Approved" projects) for development, as of December 31, 2015. This report will consider the estimated water demand impacts of those projects that are under construction or have received all planning approvals. Projects listed in the Pending Project database that had not received all approvals from the City as of December 31, 2015 were not considered in the future water demand projections for this Report.

### G. 2012 LAFCo MUNICIPAL SERVICE REVIEW

*No changes from the 2013 CWRR*

### H. REFERENCE DOCUMENTS

The following documents were referenced in the 2013 CWRR:



- 2004 Biennial Water Supply Report
- 2005 Ventura General Plan (August 2005), City of San Buenaventura
- 2005 Ventura General Plan Final EIR, Volumes I and II (August 2005), City of San Buenaventura
- 2007 General Plan FEIR Supplement
- 2010 Urban Water Management Plan (June 2011), Kennedy/Jenks Consultants
- Water Master Plan (March 2011), RBF Consulting
- Municipal Service Reviews for Nine Ventura County Cities (November 14, 2012), Ventura Local Agency Formation Commission (LAFCo)

Specific excerpts and data sources from the following documents were used in preparation of the 2013 CWRR and included in the Appendix of the 2013 CWRR, as follows:

- Demand Factors from Other Agencies
- LAFCo 13-01S Sphere of Influence Report
- 2005 General Plan Tables & Figures
- 2005 General Plan FEIR Tables
- 2010 UWMP Tables
- 2011 Water Master Plan Tables
- 2012 LAFCo MSR Report
- 2005 General Plan FEIR Water Demand Factors (email correspondence)
- 2005-2012 Built Projects – Background Data

The following list of references is in addition to the references listed above and was used in the preparation of 2013 CWRR and/or used in the preparation of subsequent updates up to and including the 2016 CWRR:

- Amended and Restated Judgment Entered August 24, 2010: Original Judgment Entered March 7, 1996 - Santa Paula Groundwater Basin
- Technical Memorandum, City of San Buenaventura Recycled Water Market Assessment by Kennedy/Jenks Consultants for the City of Ventura, dated April 18, 2007
- Feasibility Study on the Reuse of Ojai Valley Sanitary District Effluent- Final Facilities Planning Report by Nautilus Environmental, et al for the City of Ventura, dated Sept. 21, 2007



- “Desalination With a Grain of Salt – A California Perspective”, Pacific Institute, 2006
- “Key Issues of Desalination in California: Cost and Financing”, Pacific Institute – Heather Cooley and Newsha Ajami, November 2012
- Treatment Wetlands Feasibility Study Final Report by Carollo Engineers and Stillwater Sciences for City of Ventura, dated March 2010
- Groundwater Treatment Study Final Report by AECOM for the City of Ventura, dated March 2011
- Estuary Subwatershed Study Assessment of the Physical and Biological Condition of the Santa Clara River Estuary, Ventura County, California – Amended Final Report by Stillwater Sciences for the City of Ventura, dated September 2011
- City of Ventura Water Efficiency Ethics Plan – Ventura Water, Sept. 2011
- Estuary Special Studies Phase 2: Facilities Planning Study for Expanding Recycled Water Delivery Final Report by Carollo for the City of Ventura, dated March 2013
- Fox Canyon Groundwater Management Agency (FCGMA) Emergency Ordinance – E, Adopted by the FCGMA Board on April 11, 2014
- City of Ventura Water Shortage Event Contingency Plan, dated March 2015
- Amended Estuary Special Studies Phase 2: Facilities Planning Study for Expanding Recycled Water Delivery by Carollo Engineers dated May 2014.
- Agenda Item No. 5, Net Zero Policy Continued with Emphasis on the City’s Water Supply and Demand Administrative Report to Water Commission Meeting of October 27, 2015
- Agenda Item No. 3, Net Zero Policy Continued with Emphasis on the Net Zero Policy Fee to Water Commission Meeting of December 22, 2015.

## 2. LAND USE

### A. EXISTING LAND USE

For the purposes of this Report, the “existing” land use picture is considered the year-end of 2015. In order to determine the existing land use make-up within the City’s water service area as of year-end 2015, all known development projects constructed and utilizing water within Calendar Year 2015 were added to the land use data published in the 2015 CWRR for the year-end 2014. An updated Table 2-3 provides a summarized total of the existing (year-end 2015) land use within the City service area. It should be noted that Table 2-3 only includes projects/units that were constructed and utilizing water as of the end of the recent calendar year.

Table 2-1: *No changes from the 2013 CWRR*

Exhibit 2-1: *No changes from the 2013 CWRR*

Table 2-2: *No changes from the 2013 CWRR*

**Table 2-3**  
**Summary of Existing Land Use - December 2015**

	<b>Residential Single-Family (units)</b>	<b>Residential Multi- Family (units)</b>	<b>Non-Residential (sf)</b>
Existing (as of 2005 General Plan) <sup>[1]</sup>	22,034	17,142	15,923,154
Constructed (Built Projects 2005 - 2012) <sup>[2]</sup>	543	1,369	1,394,442
Constructed (Built Projects 2013) <sup>[3]</sup>	28	0	4,356
Constructed (Built Projects 2014) <sup>[4]</sup>	0	0	147,060
Constructed (Built Projects 2015) <sup>[5]</sup>	59	114	0.00
<b>Total Existing Land Use (through 2015)</b>	<b>22,664</b>	<b>18,625</b>	<b>17,469,012</b>

[1] Per Table 2-1

[2] Per Table 2-2

[3] Per data provided by Ventura Water, Built Projects part of CY 2013 water demand (Aldea Hermosa: 28 SFDU and Chick-Fil-A: 4,356 SF).

[4] Per data provided by Ventura Water, Built Projects part of CY 2014 water demand:

- PROJ-04282 4,829 SF Office Bldg.
- PROJ-2695 7,434 SF Bank Office Bldg.
- PROJ-5097 134,797 SF Beverage Distribution Center (Commercial)

[5] Per data provided by Ventura Water, Built Projects part of CY 2015 water demand:

- PROJ-5211 Citrus Apartments; 54 Multi-Family Residential Units
- PROJ-6355 Orchard Collection; 59 Single-Family and 60 Multi-Family Residential Units

Note: This table only includes projects/units that were built and utilized water during the noted calendar year. The projects/units were included in the previous CWRR Table 2-4 and have been removed from the current CWRR Table 2-4.

## B. FUTURE LAND USE

The City maintains a database of projects that are in a phase of the planning process. The database includes all projects from those that are in the conceptual phase to those that are in construction. For the purposes of this Report, the priority was to determine those projects that the City has made commitments to, and to determine the water resources required to meet the anticipated water demand of the projects.

### 1. Under Construction and Approved Projects

The City Planning Department provided a listing of all the development projects within the City that are “In Planning Process,” “In Plan Check,” “Under Construction,” or have “All Planning Approvals.” The list was narrowed down to those projects that are either “Under Construction,” or have “All Planning Approvals.” Some modifications and adjustments were made based on review and data provided by Ventura Water and City Planning staff. The Under Construction and Approved Projects as of December 31, 2015 are shown on an updated Table 2-4. Table 2-4 provides specific data about each project, including the project number, type, name, status, description and land use details. The table also identifies if the project is located within the boundary of the Casitas Municipal Water District. Exhibit 2-2 identifies the location of each Project that is “Under Construction” or has “All Planning Approvals.”

### 2. Future Potential (per 2005 General Plan)

Table 3-2 of the 2005 General Plan, identifies the predicted development intensity and pattern that was anticipated to occur within the General Plan boundary through the planning horizon of year 2025. As mentioned previously, the City provided information as to the development areas that have been constructed, are currently under construction, or are approved for development since the 2005 General Plan through the end of year 2012. Table 2-5 provides a summary of the 2005 General Plan predicted development, a summary of the projects constructed from 2005-2013, a summary of the projects that are under construction or approved, and calculates the remaining developable land through the 2025 planning horizon. It should be noted that the residential unit count is not divided up by the density.



Table 2-4  
Summary of Approved and Under Construction Projects - as of December 2015

Project ID	Project Type	Project Name	Project Status	Located in Casitas Municipal Water District (Y or N)	Description of Project	Non-Residential									Residential			Total Daily Demand (GPD)	Total Annual Demand (AFY)
						Commercial (SF)	Hotel (SF)	Industrial (SF)	Institutional (SF)	Office (SF)	Total (SF)	Hospital (beds)	Hotel (Rooms)	Park / Irrig. Area (ac)	Single- Family (Units)	Multi- Family (Units)	Total (Units)		
PROJ-00687 <sup>[2]</sup> [4]	Mixed Use	CAFÉ SCOOP - Stajen	All Planning Approvals	YES	Mixed Use - Condominiums/Commercial	5,554	0	0	0	0	5,554	0	0			10	10	3,972	4.45
PROJ-00756 <sup>[4]</sup>	Mixed Use	ANASTASI - HARBOR & SEAWARD	All Planning Approvals	NO	Mixed Use - Commercial/Residential	20,230	0	0	0	0	20,230	0	0			138	138	39,861	44.65
PROJ-01181 <sup>[3]</sup>	Institutional	HARRY LYONS SCHOOL (Westside Pool)	All Planning Approvals	YES	Public pool & aquatic center	0	0	0	5,960	0	5,960	0	0				0	1,579	1.77
PROJ-7910 <sup>[4]</sup> (was PROJ-01520)	Mixed Use	THOMPSON VILLAGE - CDRC (V2V Ventures)	All Planning Approvals	YES	Mixed Use - Condominiums/Commerical	2,500	0	0	0	0	2,500	0	0			29	29	7,913	8.86
PROJ-02225 <sup>[4]</sup>	Mixed Use	CENTRAL COAST INVESTORS	All Planning Approvals	YES	Mixed Use - Condominiums/Commercial	4,500	0	0	0	0	4,500	0	0			43	43	11,943	13.38
PROJ-03198 <sup>[4]</sup>	Residential	REXFORD	All Planning Approvals	YES	25 Condominiums	0	0	0	0	0	0	0	0			25	25	6,250	7.00
PROJ-03614 <sup>[4]</sup>	Mixed Use	V2V VENTURES (Palm & Santa Clara)	All Planning Approvals	YES	Mixed Use - Condominiums/Commercial	6,175	0	0	0	0	6,175	0	0			34	34	10,136	11.35
PROJ-03617 <sup>[2]</sup> [4]	Industrial	FPA LAND DEV/VICTORIA CORP C	All Planning Approvals	NO	7 industrial office buildings	0	0	190,540	0	0	190,540	0	0				0	50,493	56.55
PROJ-03676 <sup>[4]</sup>	Mixed Use	PALM & POLI ASSOC	All Planning Approvals	YES	Mixed Use - 16 Condominium Units & 1200 sf Commerical	1,200	0	0	0	0	1,200	0	0			16	16	4,318	4.84
PROJ-03743 <sup>[1]</sup>	Mixed Use	CANNERY ROW LLC	Under Construction	YES	Mixed Use - Condominiums/Commercial	2,156	0	0	0	0	2,156	0	0			78	78	20,071	22.48
PROJ-03826 <sup>[4]</sup>	Residential	UC HANSEN TRUST SP	All Planning Approvals	NO	SEE PROJ-8446 for Market Rate Units in this Specific Plan; 24 farmworker apartments, 34 Condominiums, 131 Single Family	0	0	0	0	0	0	0	0		131	58	189	62,970	70.53
PROJ-03829 <sup>[4]</sup>	Residential	WESTWOOD/PARKLANDS	All Planning Approvals	NO	216 detached homes; 110 attached homes	0	0	0	0	0	0	0	0		216	110	326	107,420	120.31
PROJ-03864	Commercial	VOOV	All Planning Approvals	NO	New 2-story office building.	0	0	0	0	6,400	6,400	0	0				0	1,696	1.90
PROJ-03865 <sup>[4]</sup>	Residential	MATILIJA	All Planning Approvals	YES	28 Condominiums	0	0	0	0	0	0	0	0			28	28	7,000	7.84
PROJ-04154 <sup>[4]</sup>	Residential	SOLANA HEIGHTS (Previously Westside Renaissance	All Planning Approvals	YES	120 Single Family Residence, 36 Condominiums, 2.55 AC Parks	0	0	0	0	0	0	0	0	2.55	120	36	156	58,500	65.52
PROJ-04182 <sup>[4]</sup>	Mixed Use	NEW URBAN VENTURES	All Planning Approvals	YES	Mixed Use - 80 Condominium Units & 1,779 sf commerical	1,779	0	0	0	0	1,779	0	0			80	80	20,471	22.93
PROJ-6187 <sup>[1]</sup>	Mixed Use	CASTILLO DEL SOL (Previously Main/Central)	Under Construction	YES	40 affordable housing units for special needs residents, on-site managers unit and supportive services	2,500	0	0	0	0	2,500	0	0			40	40	10,663	11.94
PROJ-04296 <sup>[4]</sup>	Residential	GOLDBERG	All Planning Approvals	YES	5 Condominiums	0	0	0	0	0	0	0	0			5	5	1,250	1.40
PROJ-04315 <sup>[4]</sup>	Residential	MATLIJA INVESTMENT GROUP (11 S. Ash)	Under Construction	YES	15 Condominiums	0	0	0	0	0	0	0	0			15	15	3,750	4.20
PROJ-6237 <sup>[2]</sup>	Mixed Use	SONDERMANN-RING-Amendment	All Planning Approvals	NO	Mixed Use: 300 apartments Units; 20,292 sq ft commercial/retail; private indoor and outdoor recreational facilities incl 2.44 acre park and waterfront promenade	20,292	0	0	0	0	20,292	0	0	2.44		300	300	85,257	95.49
PROJ-04590 <sup>[4]</sup>	Residential	HUGHES	All Planning Approvals	YES	3 Condominiums	0	0	0	0	0	0	0	0			3	3	750	0.84
PROJ-01857	Residential	HEARTHSIDE - JENVEN VILLAGE LLC	All Planning Approvals	NO	51 Condominiums (was 23,691 sf commercial & 83 condos)	0	0	0	0	0	0	0	0			51	51	12,750	14.28
PROJ-04691	Residential	CHAPMAN, MIKE	All Planning Approvals	YES	7 Apartments approved (duplex constructed, 5 additional units pending construction)	0	0	0	0	0	0	0	0			7	7	1,750	1.96
PROJ-1126	Residential	HEMLOCK APARTMENTS	All Planning Approvals	YES	23 Apartments	0	0	0	0	0	0	0	0			23	23	5,750	6.44
PROJ-7125 <sup>[4]</sup> [5] (was PROJ-1200)	Mixed Use	LOGUE	All Planning Approvals	YES	Mixed Use - 125 Condominium Units & 7300 sf commerical	7,300	0	0	0	0	7,300	0	0			125	125	33,185	37.17
PROJ-1678	Institutional	CMH - NEW HOSPITAL	Under Construction	YES	New hospital building adaptive reuse of existing hospital (121,000 sf) for non-essential hospital support services & 104,000 sf for new backfill medical office reuse, new street extensions & new public plaza (320,000 sf -new and 230 beds)	0	0	0	320,000	0	320,000	230	0				0	125,350	140.40
PROJ-7215	Institutional	CMH PARKING STRUCTURE	Under Construction	YES	5-1/2 Story parking structure w/571 parking spaces and 1,399 sf retail liner				1,399		1,399						0	371	0.42
PROJ-2008	Residential	ISLAND VIEW APARTMENTS - WESTWOOD COMMUNITIES	Under Construction	NO	154 Apartments	0	0	0	0	0	0	0	0			154	154	38,500	43.12
PROJ-5616	Commercial	MARRIOT RESIDENCE INN	All Planning Approvals	NO	128 room Residence Inn	0	87,000	0	0	0	87,000	0	128				0	23,055	25.82
PROJ-4154	Residential	EAST VILLAGE RESIDENTIAL - CEDC Apartments	Under Construction	NO	50 Low Income Apartments	0	0	0	0	0	0	0	0			50	50	12,500	14.00
PROJ-4222 <sup>[4]</sup>	Residential	PARKLANDS APARTMENTS	All Planning Approvals	NO	173 Apartments with Community Building	0	0	0	7,115	0	7,115	0	0			173	173	45,135	50.55

Table 2-4  
Summary of Approved and Under Construction Projects - as of December 2015

Project ID	Project Type	Project Name	Project Status	Located in Casitas Municipal Water District (Y or N)	Description of Project	Non-Residential									Residential			Total Daily Demand (GPD)	Total Annual Demand (AFY)
						Commercial (SF)	Hotel (SF)	Industrial (SF)	Institutional (SF)	Office (SF)	Total (SF)	Hospital (beds)	Hotel (Rooms)	Park / Irrig. Area (ac)	Single- Family (Units)	Multi- Family (Units)	Total (Units)		
PROJ-4627	Commercial	VALERO	All Planning Approvals	YES	New automatic carwash and canopy	912	0	0	0	0	912	0	0				0	242	0.27
PROJ-4184 <sup>[4]</sup>	Residential	ENCLAVE AT NORTHBANK - WATT COMMUNITIES	All Planning Approvals	NO	A vesting tentative map for the subdivision of 12.61 acres into 84 residential lots, and two (2) open lots and Design Review and Density Bonus Concessions for the development of 91 residential units consisting of 84 single-family units and 7 duplexes and adjacent park space located on a vacant site south of North Bank Drive approximately 100ft east of South Saticoy Ave; Watt Communities, LLC, applicant zoned T4.10, Urban General and Parks and Open Space...	0	0	0	0	0	0	0	0	2.52	84	7	91	37,870	42.42
PROJ-6576	Institutional	VENTURA COLLEGE	Under Construction	NO	Ventura College Maintenance and Operations renovation - demolishing 11,132 sq ft and adding 14,418 sq ft for a net increase of 3,286 sq ft	0	0	0	3,286	0	3,286	0	0				0	871	0.98
PROJ-7290 <sup>[5]</sup> (was PROJ-04263)	Residential	SANTA CLARA COURTS (DALY) 72 W. Santa Clara St.	Under Construction	YES	24 Condominium Units: *Note: Not occupied yet	0	0	0	0	0	0	0	0			24	24	6,000	6.72
PROJ-6098 <sup>[2]</sup>	Residential	LA BARRANCA-5533 Foothill Rd.	Under Construction	NO	9 Single Family Residences	0	0	0	0	0	0	0	0		9		9	3,330	3.73
PROJ-6263 <sup>[2]</sup>	Residential	SANTA CLARA APTS - 1254 & 1268 E. Santa Clara St.	All Planning Approvals	YES	8 Apartments	0	0	0	0	0	0	0	0			8	8	2,000	2.24
PROJ-7318 <sup>[2][7]</sup>	Industrial	SILVER BAY FOODS - TRANSPORT & WALTER	All Planning Approvals	NO	New fish processing building	-	-	-	-	-	-	-	-	-	-	-	-	-	45.67
PROJ-7213 <sup>[2]</sup>	Commercial	398 ASH ST - TRAILER HOTEL	All Planning Approvals	YES	New airstream trailer park (34 units)	0	0	0	0	0	0	0	0		34		34	12,580	14.09
PROJ-7286 <sup>[2]</sup>	Commercial	UNION BANK - MILLS & MAIN	Under Construction	NO	New Bank (4860 SF)	4,860	0	0	0	0	4,860	0	0				0	1,288	1.44
PROJ-7323 <sup>[4] [5]</sup> (was PROJ-04543)	Mixed Use	2200 E MAIN ST - ANASTASI (ASBELL) (formerly Renaissance Holdings)	All Planning Approvals	YES	Mixed Use: 26 Condominium Units & 3896 sf Commerical	3,896	0	0	0	0	3,896	0	0			26	26	7,532	8.44
PROJ-4007 <sup>[6]</sup>	Commercial	IN-N-OUT BURGER EXPANSION	All Planning Approvals	NO	Expansion includes additional parking and landscaping however no net increase in water demand is anticipated	0	0	0	0	0	0	0	0				0	-	0.00
Park <sup>[3]</sup>	Park	VENTURA COMMUNITY PARK SOFTBALL FIELDS	Under Construction	NO	Softball Field	0	0	0	0	0	0	0	0	5.50			0	11,000	12.32
PROJ-6702	Commercial	BEST WESTERN - 708 E THOMPSON BL- REMODEL	All Planning Approvals	YES	Remodel 2 existing motel rooms into a gym and meeting room and replace the 2 rooms within a new 2nd story addition (555sf)	0	555	0	0	0	555	0	0				0	147	0.16
PROJ-04469	Commercial	PACIFIC MIDWEST DEV	All Planning Approvals	NO	4 Commerical buildings	3,000	0	0	0	0	3,000	0	0				0	795	0.89
PROJ-5810 <sup>[8]</sup>	Institutional	VENTURA BOTANICAL GARDENS	All Planning Approvals	YES	Botanical Gardens and support facilities within Grant Park	-	-	-	-	-	-	-	-	-	-	-	-	-	134.05
PROJ-6984 (was PROJ-00823)	Mixed Use	MAR-Y-CEL	All Planning Approvals	YES	Mixed Use: 138 Units & 6,142 sf commerical	6,142	0	0	0	0	6,142	0	0			138	138	36,128	40.46
PROJ-7166	Mixed Use	DARLING APARTMENTS	All Planning Approvals	NO	Mixed Use: 43 Apartments & 2 Live/Work Units &2100 sf Commerical/Retail	2,100	0	0	0	0	2,100	0	0			45	45	11,807	13.22
PROJ-7951	Residential	WESTVIEW VILLAGE -Housing Authority	All Planning Approvals	YES	Redevelopment of 180 public housing apartments and the addition of 140 new apartments	0	0	0	0	0	0	0	0			140	140	35,000	39.20
PROJ-5085	Residential	VENTURA DOWNTOWN HOUSING	All Planning Approvals	YES	255 Apartments	0	0	0	0	0	0	0	0			255	255	63,750	71.40
PROJ-04300 <sup>[4] [5]</sup>	Mixed Use	VENTURA EAST VILLAGE	All Planning Approvals	NO	14,000 SF Market, 15,500 SF Drugstore and 2,911 SF Drive Thru Restaurant for a total of 32,411 SF	32,411	0	0	0	0	32,411	0	0				0	8,589	9.62
TOTAL						127,507	87,555	190,540	337,760	6,400	749,762	230	128	13.01	594	2,274	2,868	1,053,537	1,360

[1] Not part of CY 2015 water consumption (connected to City water, not yet occupied).

[2] Approved and/or revised projects during CY 2015 per Community Development Planning Projects List dated January 12, 2016.

[3] Approved project through CIP or other City approval process as of end of CY 2015.

[4] Projects with Existing Maps per Community Development Planning Existing Map List, dated April 2015.

[5] Projects previously approved and/or revised.

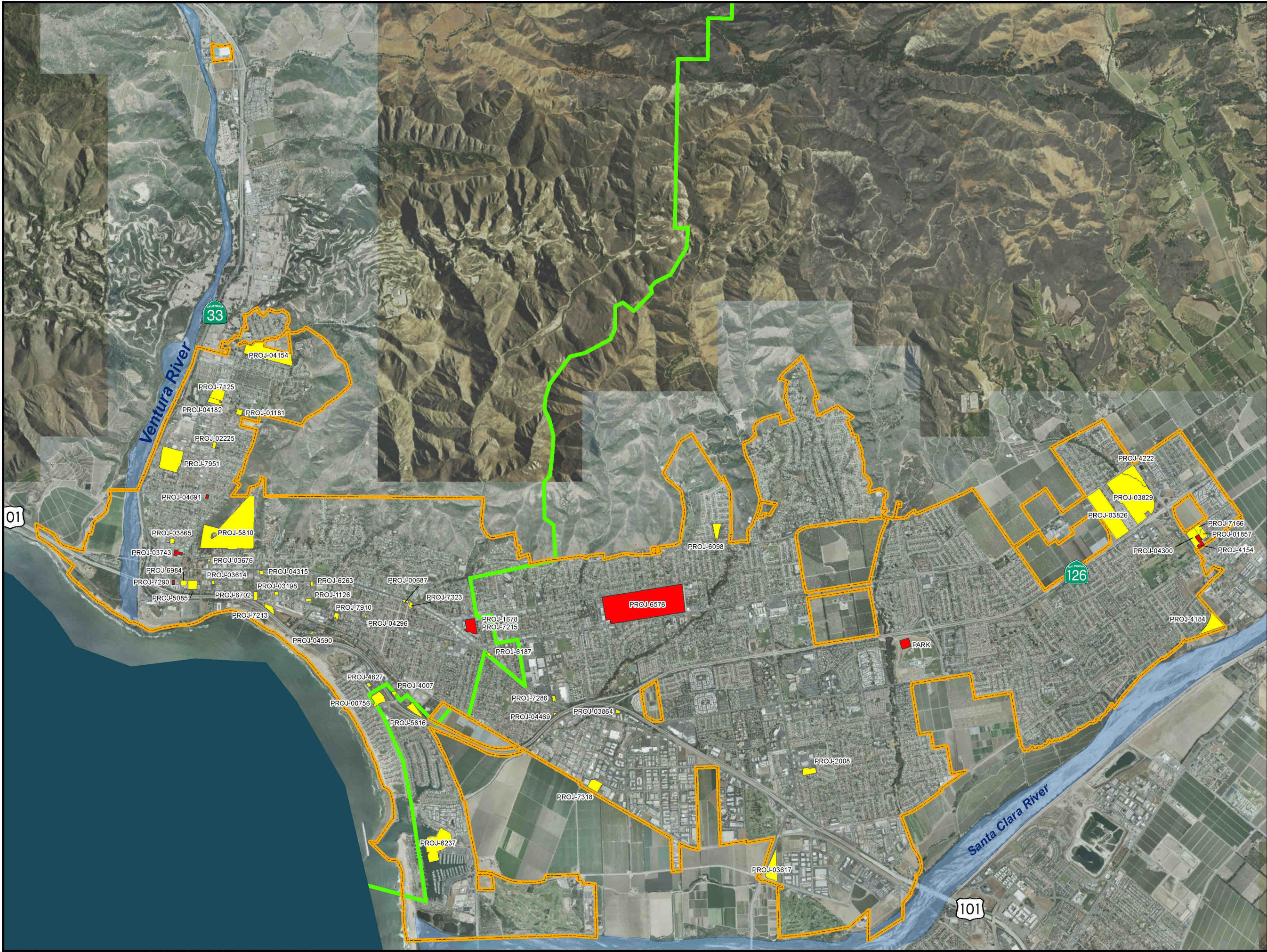
[6] Approved May 21, 2014 at Joint Planning Commision/DRC Meeting. Project includes parking lot and landscape improvements, however no new water demands are anticipated.

[7] Total Annual Demand Value Reported by project applicant during entitlement process.

[8] Total Annual Demand Value as reported in the memo Water System Alternatives Evaluation, Water System Hydraulic Evaluation, and Supply Discussion for the Ventura Botanical Gardens in the City of Ventura, datdd November 2014

Total within Casitas Boundary	44,614	555	0	327,359	0	372,528	230	0	2.6	154	1,188	1,342	498,350	692
Total not in Casitas Boundary	82,893	87,000	190,540	10,401	6,400	377,234	0	128	10.5	440	1,086	1,526	522,997	668





VENTURA WATER





**Projects Approved  
and  
Under Construction  
(as of December 2015)**

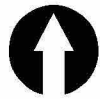
**Legend**

-  Ventura City Limit
-  Casitas Municipal Water District Boundary

**Project Status**

-  All Planning Approvals
-  Under Construction

Note: See Table 2-4 for project and water demand information for each project shown on this exhibit.



0 0.5 1  
Miles

Source: Ventura County Data,  
Esri World Imagery

**Michael Baker  
INTERNATIONAL**

Exhibit 2-2



**Table 2-5**  
**Summary of Predicted, Actual and Remaining Development**

	Residential Development (units)	Non-Residential				
		Retail (sf)	Office (sf)	Industrial (sf)	Hotel (sf)	Total (sf)
2005 General Plan Prediction <sup>[1]</sup>	8,318	1,241,377	1,213,214	2,235,133	530,000	5,219,724
Actual Development (Built 2005-2012) <sup>[2]</sup>	1,912	320,102	320,102	754,239	0	1,394,442
Constructed (Built 2013) <sup>[4]</sup>	28	4,356	0	0	0	4,356
Constructed (Built 2014) <sup>[4]</sup>	0	0	147,060	0	0	147,060
Constructed (Built 2015)	173	0	0	0	0	0
<b>Remaining Developable Land (as of end 2015)</b>	<b>6,205</b>	<b>916,920</b>	<b>746,053</b>	<b>1,480,894</b>	<b>530,000</b>	<b>3,673,866</b>
Approved & Under Construction Projects <sup>[3]</sup>	2,868	127,507	6,400	528,300	87,555	749,762
<b>Remaining Developable Land (through 2025)</b>	<b>3,337</b>	<b>789,413</b>	<b>739,653</b>	<b>952,594</b>	<b>442,445</b>	<b>2,924,104</b>

[1] Source: Table 3-2 of 2005 General Plan.

[2] Per Table 2-2. The "Retail/Office" square footage listed in Table 2-2 was split evenly for the purposes of this table.

[3] Per Table 2-4. Square footage for the "Institutional" Category was added to the "Industrial" category.

[4] Per Table 2-3.

### 3. WATER DEMANDS

#### A. EXISTING DEMAND CONDITION

Ventura Water staff provided a summary of the meter consumption data for the entire service area for the calendar years (CY) 2006 - 2015 (Historical Water Consumption). Table 3-1 summarizes the total water consumption for each consumption category within the City's water service area for the most recent complete year of data, CY 2015. As shown in Table 3-1, the total water consumption for CY 2015 was 14,194 AFY (including the 6.5% water loss factor), down from CY 2014 by approximately 16%. The past few years of lower annual demand totals decreases the five-year running average and is a result of approved water rate increases as well as the Council approving, in June 2015, a four-tiered (drought) water rate structure and the February 2014 City call for 10% voluntary conservation, followed by the September 2014 City declaration of a Stage 3 Water Emergency requiring customers to reduce their use by 20% due to the prolonged drought. The annual water consumption figures for the past ten years are provided in subsection 3.D.

**Table 3-1**  
**Summary of Existing Water Consumption for CY 2015**

City Consumption Category	Water Consumption (HCF) <sup>[1]</sup>	Water Consumption (gpm)	Water Consumption (gpd)	Water Consumption (AFY)	Water Consumption + 6.5% Loss (AFY)
Single Family	2,312,280	3,290.69	4,738,590	5,308	5,653
Multi Family	1,413,756	2,011.97	2,897,231	3,246	3,457
Commercial/Retail/Industrial/Hotel	1,232,575	1,754.12	2,525,935	2,830	3,014
Public/Institutional (Municipal/Church/School)	185,094	263.41	379,316	425	453
Hospitals	83,825	119.29	171,784	192	205
Parks/Landscape/Irrigation	394,036	560.77	807,504	905	963
Other <sup>[2]</sup>	183,804	261.58	376,672	422	449
<b>Total</b>	<b>5,805,370</b>	<b>8,261.83</b>	<b>11,897,032</b>	<b>13,327</b>	<b>14,194</b>

[1] Source: HCF Consumption Data Tables (CY 2015) provided by Ventura Water.

[2] "Other" category includes all other accounted-for water such as construction water, water/sewer system maintenance, measured leakage. In addition, this includes 'grandfathered' users with water entitlements requiring special service conditions and oil industry use. Fireline consumption and temporary meter use is not included in this or any other category.

B. CONSUMPTION AND USAGE FACTORS

*No changes from the 2013 CWRR.*

Table 3-2: *No changes from the 2013 CWRR.*

Table 3-3: *No changes from the 2013 CWRR.*

C. USAGE FACTOR COMPARISON

*No changes from the 2013 CWRR.*

Table 3-4: *No changes from the 2013 CWRR.*



#### D. HISTORICAL WATER CONSUMPTION (BASELINE DEMAND CONDITION)

To calculate the total near-term water demand, the projected demands must be added to a baseline demand condition. The baseline demand should consider the historical water usage of the entire service area over an extended duration, in order to account for the year-to-year anomalies that can occur. City-wide water demands will vary from year to year based on several factors, including climate, water rates, the local economy, drought conditions, voluntary and mandatory conservation efforts, and environmental restrictions among other factors. To determine a recommended baseline, the historical water data was gathered for the past 10-year period. Ventura Water staff provided historical water consumption data for CY 2006 through 2015. Table 3-5 provides a summary of the City-wide water consumption for each year from 2006 to 2015. The consumption numbers are also depicted graphically on Figure 3-1.

As noted in the table, the average annual water consumption for Years 2006-2010 (18,552 AFY) was significantly higher than the average annual consumption for Years 2011-2015 (16,693 AFY). The drop in consumption is likely due to several factors, including improvements to the City's distribution system to control water loss, more aggressive water conservation measures, less construction activity, and a weaker economy. Some of the water use reduction trends may revert back to previous habits, however some will remain. With the State's passing of SB x7-7, all agencies are required to maintain a reduced urban water use target. This bill will result in water municipalities maintaining aggressive water conservation programs. Due to the prolonged drought, in February 2014 the City requested its customers to voluntarily reduce their water usage by at least 10%, and in September 2014 the City implemented a 20% mandatory reduction.

The historical data was used to develop the baseline demand condition, which is identified in Table 3-5. The City experienced a steady decline in total water consumption from its' peak year of 2007 (19,931 AF) to a low year in 2011 (16,550 AF). The City experienced another decline in water consumption with a high in 2012 (18,004 AF) to a low in the most recent year of 2015 (14,194 AF). Over the most recent 5-year period, the average annual water consumption was 16,693 AFY, with the lowest year (2015) approximately 15% lower than the 5-year average and the highest year (2012) approximately 7.9% above the 5-year average. Over the 10-year period, the average annual water consumption was 17,623 AFY, with the lowest year (2015) approximately 19.5% lower than the 10-year average and the highest year (2007) approximately 13.1% above the 10-year average.

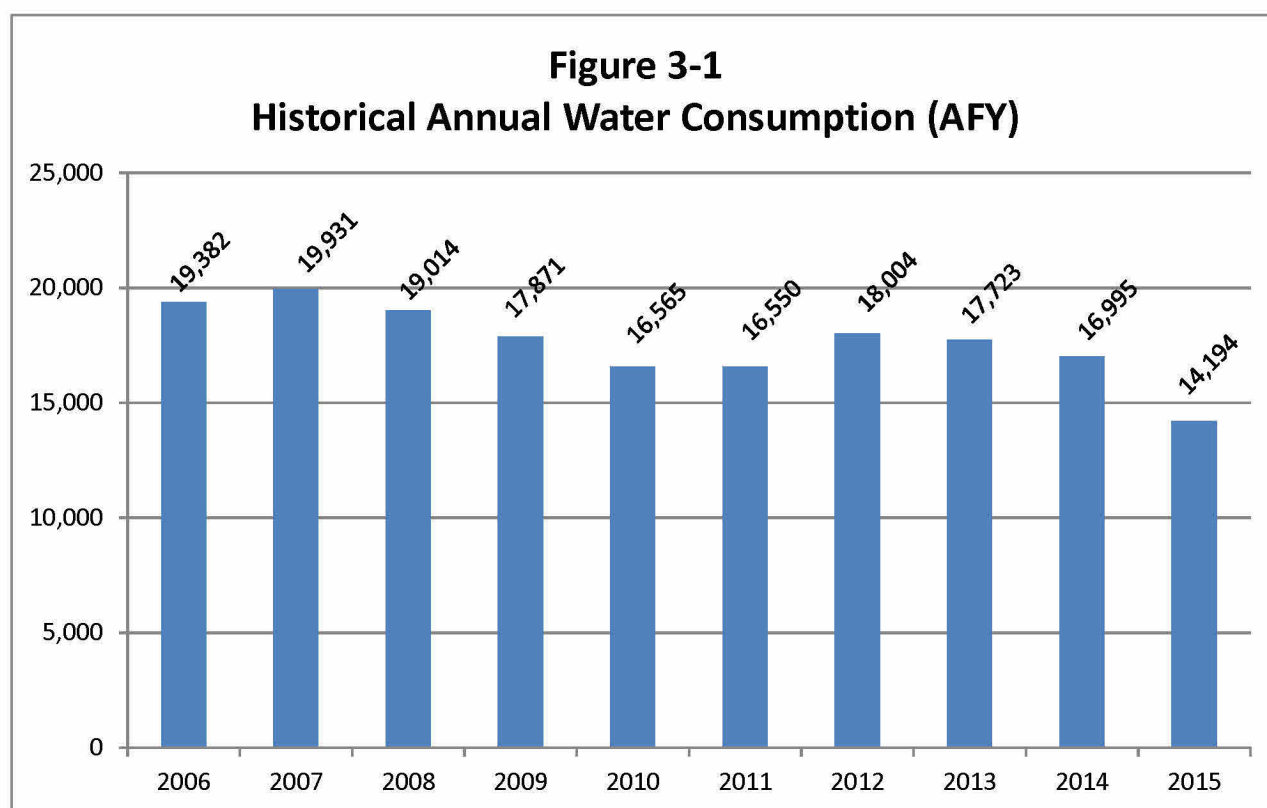
For the purposes of establishing a baseline average annual water demand for the existing condition, it is recommended to use the 10-year average from the preceding ten years of data in order to capture the various factors influencing water consumption over the period. Due to the prolonged economic downturn, increased regulations, and persistent drought conditions, it was determined that a longer period was necessary to determine a baseline demand condition that is more reflective of a typical demand year. However, the City identified a large industrial water user that had been significantly reducing their potable water consumption since the late 2000s. The City has seen their reduced dependence on the potable water system to be a permanent condition since 2008; therefore the City has been comfortable using the most recent 5-year average as the baseline demand condition. This report uses the 5-year average however, due to the continued drought number the City may need to revisit using the 10-year average sooner than previously believed. Therefore, the baseline water demand established for this report is 16,693 AFY.

The 5-year average has continued to decrease due to the approved water rate increases as well as the Council approving, in June 2015, a four tiered (drought) water rate structure and the February 2014 City call for 10% voluntary conservation followed by the September 2014 City declaration of a Stage 3 Water Emergency that required customers to reduce their use by 20% due to the prolonged drought. We recommend that the City reconsider using the 5-year average and use a 10-year average in the next CWRR. The continued decrease in the 5-year average may provide the City with a false sense of security of its existing supply sources as the decrease can be mainly attributed to customer conservation not increased water supply. Some customers may be able to provide relief by continued or additional conservation measures but at some point additional supply sources will be warranted to provide reliability and preserve quality of life.

**Table 3-5**  
**Historical Annual Water Consumption**

Calendar Year	Consumption <sup>[1]</sup> (AF)	Averages, AFY		
		3-year	5-year	10-year
2006	19,382		18,552	17,623
2007	19,931			
2008	19,014			
2009	17,871			
2010	16,565			
2011	16,550			
2012	18,004			
2013	17,723	16,304	16,693	
2014	16,995			
2015	14,194			

[1] Provided by Ventura Water. Includes 6.5% water loss factor.



#### E. FUTURE DEMAND PROJECTIONS (Approved Projects Only)

This Report will focus only on the near-term demand growth projections. The near-term growth consists of the proposed development projects that have been approved by the City but are not yet connected to the City's water system. This includes projects that are currently under construction, or were under construction in December 2015, and projects that have all City approvals, but have yet to begin construction (Table 2-4).

The future average annual water demand for the near-term growth projects were calculated utilizing the City-specific usage factors calculated above (Table 3-3). The factors were applied to each project in Table 2-4, per the detailed land use breakdown. Table 3-6 summarizes the calculations for the future water demand potential. The increased water demand using the City-specific factors is predicated to be 1,360 acre-feet/year (AFY). Table 3-6 also identifies the portion of the near-term demands, which are predicted to be within the service area of the Casitas Municipal Water District (692 AFY). The projected demands are considered a fully-committed allocation of the water supply.

Under the baseline demand condition, and utilizing the City-specific water usage factors developed herein for the approved development projects, the total near-term water demand is predicted to be 18,053 AFY, as shown on Table 3-7.

In order to estimate the growth of the future water demands, an absorption rate of 350 dwelling units per year (units/year) was utilized (and an equivalent absorption rate for the non-residential development). Based on historical growth data provided by the City, an estimated annual growth of 350 units/year is considered conservative. Assuming the 350 units/year growth rate, the City can expect the projected water demand for the under construction and approved projects to be fully vested by Year 2024, per Table 3-8.

#### F. FUTURE DEMAND PROJECTIONS (Year 2030)

The 2016 CWRR projects out the demands to the Year 2030 which is beyond the year that the approved projects would be fully vested. In order to project out the estimated demands to the Year 2030 a growth rate of 0.55% (Department of Finance historical data for population) was used to estimate the increase in demand from the time all approved projects were fully vested (Year 2024) to the Year 2030.



**Table 3-6**  
**Total Estimated Demands for Under Construction and Approved Projects - as of December 2015**

Water Demand Factor Classification	Quantity <sup>[1]</sup>	Usage Factor <sup>[2]</sup>	Estimated Future Water Demand		Quantity <sup>[4]</sup>	Estimated Average Water Demand (within Casitas Boundary)	
Residential (0-8 du/ac)	594 du	370 gpd/du	219,780 gpd	246 AFY	154 du	56,980 gpd	64 AFY
Residential (9-20 du/ac)	2,274 du	250 gpd/du	568,500 gpd	637 AFY	1,188 du	297,000 gpd	333 AFY
Residential (21+ du/ac)							
Commercial/Retail/Industrial/Hotel Public/Institutional	429.8 ksf <sup>[3]</sup>	265 gpd/ksf	113,887 gpd	128 AFY	52.5 ksf <sup>[3]</sup>	13,920 gpd	16 AFY
Park/Landscape/Irrigation	13.0 ac	2,000 gpd/ac	26,020 gpd	29 AFY	2.6 ac	5,100 gpd	6 AFY
Hospital/Assisted Living	230 bed	545 gpd/bed	125,350 gpd	140 AFY	230 bed	125,350 gpd	140 AFY
PROJ-7318 Silverbay Seafoods <sup>[5]</sup>	-	-	-	46 AFY	-	-	-
PROJ-5810 Ventura Botanical Gardens <sup>[4][6]</sup>	-	-	-	134 AFY	-	-	134 AFY
<b>Total</b>			<b>1,053,537 gpd</b>	<b>1,360 AFY</b>		<b>498,350 gpd</b>	<b>692 AFY</b>

[1] Per Table 2-4

[2] Per Table 3-3

[3] Excludes 320,000 SF for the Hospital PROJ-1678. Hospital demand calculated "per bed" since an appropriate factor was developed. Includes Hotel SF.

[4] Within Casitas Boundary, per Table 2-4 (included in the total).

[5] Total Annual Demand Value Reported by project applicant during entitlement process.

[6] Total Annual Demand Value as reported in the memo Water System Alternatives Evaluation, Water System Hydraulic Evaluation, and Supply Discussion for the Ventura Botanical Gardens in the City of Ventura, dated November 2014



**Table 3-7**  
**Projected Total Water Demands Including Under**  
**Construction and Approved Projects - Various Baselines**

<b>Baseline Demand Condition</b>	<b>Baseline Water Demand</b>	<b>Projected Water Demand <sup>[1]</sup></b> 1,360 AFY
1-Year: 2015	14,194 AFY	15,554 AFY
3-Year Average: 2006-2015	16,304	17,664
<b>5-Year Average: 2011-2015</b>	<b>16,693</b>	<b>18,053</b>
10-Year Average: 2006-2015	17,623	18,983
Past 5-Year Period: Annual High Year	18,004	19,364
Past 10-Year Period: Annual High Year	19,931	21,291

[1] Based on Calculated Consumption (Usage) Factors

**Table 3-8**  
**Projected Water Demand Growth per Absorption Rate**

<b>Year</b>	<b>Total Units <sup>[1]</sup></b>	<b>Absorption Rate <sup>[2]</sup></b>	<b>Projected Water Demand <sup>[3]</sup></b>
2015			<b>16,693 AFY</b>
2016		350	16,859
2017		350	17,025
2018		350	17,191
2019		350	17,357
2020		350	17,523
2021		350	17,689
2022		350	17,855
2023		350	18,021
2024		68	18,053
<b>Totals</b>	<b>2,868</b>	<b>2,868</b>	<b>18,053 AFY</b>

[1] Per Table 2-4.

[2] Based on City's experience with peak rates of construction activity of approximately 350 residential units per year. Absorption rate of Commercial, Retail, Industrial, Hotel and Public/Institutional assumed to correlate with the residential absorption rate.

[3] Projections based on Baseline Demand Condition, per Table 3-7.

## 4. WATER SUPPLY

### A. INTRODUCTION

*No changes from 2013 CWRR.*

Exhibit 4-1: *No changes from the 2013 CWRR.*

### B. CURRENT WATER SUPPLY SOURCES

#### 1. Casitas Municipal Water District (Casitas)

*No changes from the 2013 CWRR*

#### 2. Ventura River Surface Water Intake and Upper Ventura River Groundwater Basin/Subsurface Intake and Wells (Foster Park)

*The following new information on this current supply source is in addition to what is reported in the 2013 CWRR and is as follows. Santa Barbara Channelkeeper filed a lawsuit in September 2014 against the City alleging that the City had been over-pumping water from the Ventura River.*

#### 3. Mound Ground Water Basin (Mound Basin)

*No changes from the 2013 CWRR*

#### 4. Oxnard Plain Groundwater Basin (Fox Canyon Aquifer)

*No changes from the 2013 CWRR*

#### 5. Santa Paula Groundwater Basin (Santa Paula Basin)

*The following new information on this current supply source will replace the last paragraph on what was reported in the 2013 CWRR as follows. Construction of Saticoy Well No. 3 was completed in 2015 and Saticoy Well No. 2 remains active as a back-up well. Therefore, the City's current reliable water supply from the Santa Paula Basin is 3,006 AFY.*

#### 6. Recycled Water

*No changes from the 2013 CWRR*

The City's current water supply is known as the normal water supply in the City's March 2015 Water Shortage Contingency Plan. The City's Normal Water Supply portfolio is summarized in Table 4-1.



**Table 4-1**  
**Summary of Current Water Supply**

<b>Water Supply Source</b>	<b>Current Supply AFY</b>
Casitas Municipal Water District	5,000 <sup>[1]</sup>
Ventura River / Foster Park	4,200
Mound Groundwater Basin	4,000
Oxnard Plain Groundwater Basin	4,100
Santa Paula Groundwater Basin	3,006
Recycled Water	700
<b>TOTAL</b>	<b>21, 006 AF</b>
[1] Demand within Casitas service area is approximately 5,000 AFY at this time	

*It is noted that the current water supply (Table 4-1) is known as the normal water supply (non-drought) in the City's March 2015 Water Shortage Event Contingency Plan.*

## C. FUTURE WATER SUPPLY

### 1. Casitas Municipal Water District (Casitas)

The present annual supply used within the Casitas district boundary of the City service system is approximately 5,000 AFY.

As discussed in Section 3, and shown on Table 3-6, it is estimated that the added water supply required to meet the demand of the under construction and approved projects that are located within the Casitas boundary is 692 AFY. Therefore, the anticipated future water supply from Casitas will increase by an equivalent amount, to approximately 5,422 AFY by Year 2020. Using the absorption rate discussed in Section 3, the estimated supply from Casitas is estimated to increase by 169 AFY in year 2017.

Casitas has been stating that Lake Casitas is at risk due to persistent drought conditions and depletion of the Lake Casitas water supply to minimum pool. At the time of this report the storage in Lake Casitas is approximately 42% of capacity. Casitas has requested their customers to reduce their water usage by 20% based on the State's Drought Emergency Regulations. For purposes of this report an estimated reduction of 20% continues to be included in the Casitas supply for the projection of the current drought through 2017 (2017 Supply Drought Impact).

### 2. Ventura River Surface Water Intake and Upper Ventura River Groundwater Basin/Subsurface Intake and Wells (Foster Park)

Due to the continued drought conditions, heightened environmental requirements and recent litigation from the Santa Barbara Channelkeeper alleging that the City has been over pumping water from the Ventura River, the City's ability to draw water from the Ventura River continues to be significantly challenged and impacted. Therefore, the supply anticipated from the Ventura River for the projection of the current drought through 2017 (2017 Supply Drought Impact) is based on 2015 operations at a maximum production of 1,298 AF.

### 3. Mound Groundwater Basin (Mound Basin)

*No changes from the 2013 CWRR.*

### 4. Oxnard Plain Groundwater Basin (Fox Canyon Aquifer)

After several special meetings in the first few months of 2014 and several iterations of an emergency ordinance, the Fox Canyon Groundwater Management Agency (FCGMA) Board approved Emergency Ordinance E at a Special Meeting on April 11, 2014. The emergency ordinance limits extractions from groundwater extraction facilities within the FCGMA boundary, suspends use of credits and prohibits the construction of any groundwater extraction facilities and/or the issuance of any groundwater extraction

facilities permit. The City's allocation has been limited to 3,862 AFY. The City will pay surcharges for exceeding its allocation because the City may not rely on its conservation credits that were set aside during wet years. Prior to approval of Ordinance E, the City was relying on approximately 25,000 AF of conservation credits that have now been suspended. The City was utilizing approximately 1,000 AF of conservation credits annually. On June 14, 2014, the City requested a variance to our allocation per Ordinance E and was denied by FCGMA staff. The City then made an appeal to the FCGMA Board on January 28, 2015, and was denied by the FCGMA Board.

Key points presented by FCGMA for Emergency Ordinance E were as follows:

- The FCGMA Act goal of safe yield by 2010 not being met,
- The 2007 Groundwater Management Plan Basin Management Objectives not being met,
- Water level declines in all basins,
- The unsustainability of the current Agency allocation scheme,
- Increase in time of planted acres of water intensive crops, and
- The continued unabated threats to the resource (seawater intrusion, water quality degradation, land subsidence).

For all Municipal and Industrial (M&I) Operators the Temporary Extraction Allocation (TEA) is based on an operators average annual reported extractions, for CY 2003 through 2012. Phased reductions were set beginning July 1, 2014 with a 20% total reduction of the TEA on January 1, 2016. The City's TEA is 4,827 AFY and with the phased reductions will be 3,862 AFY on January 1, 2016. This equates to a reduction of approximately 29% from the previous historical baseline allocation of 5,472 AFY.

The duration of the ordinance remains in effect from the date of adoption and reviewed every eighteen months, unless superseded or rescinded by action of the FCGMA Board or a finding by the FCGMA Board that the drought or emergency condition no longer exists.

## **5. Santa Paula Groundwater Basin (Santa Paula Basin)**

The low range of this water supply has been decreased from 1,600 AF to 1,141 AF for the projection of the drought through 2017. This is based on an assumed worst case scenario that the basin will be determined to be in a Stage 2 overdraft per the Court's Stipulated Judgment. No additional water rights were acquired for development within the Santa Paula Basin area; therefore the City's acquired water rights remain as 5.8 AF.

## **6. Recycled Water**

The previous CWRRs estimated the anticipated future water supply for recycled water at 1,400 AFY. This amount was based on a 2007 Kennedy/Jenks Consultants study on the potential recycled water market



within the City. The total demand within the City limits that could potentially utilize recycled water was estimated at 1.3 MGD. Expansion of the City's existing recycled water system would be required to utilize the estimated demand. The City's existing recycled water system is limited and it is not anticipated that there will be an expansion of the existing system except within the focus area identified in the City's existing Reclaimed Water System Expansion Policy. In lieu of using more recycled water for irrigation only, more water will be available for potable reuse. Therefore, the estimated anticipated future water supply for recycled water is based on the Draft 2015 Urban Water Management Plan projections for recycled water.

The City's projected future water supply portfolio is summarized in Table 4-2.

**Table 4-2**  
**Summary of Projected Future Water Supply from**  
**Existing and Potential New Sources**

<b>Water Supply Source <sup>[1]</sup></b>	<b>2016 Supply Drought Impact (AFY) <sup>[8]</sup></b>	<b>2017 Supply Drought Impact (AFY)</b>	<b>2017 Supply (AFY)</b>	<b>2020 Supply (AFY)</b>	<b>2030 Supply (AFY)</b>
Casitas Municipal Water District <sup>[2][3][9]</sup>	4,093	4,135	5,169	5,422	5,883 <sup>[9]</sup>
Ventura River / Foster Park <sup>[3]</sup>	1,298	1,298	4,200	4,200- 6,700	4,200- 6,700
Mound Groundwater Basin	4,000	4,000	4,000	4,000	4,000
Oxnard Plain Groundwater Basin <sup>[4]</sup>	3,862	3,862	3,862	3,862	3,862
<u>Santa Paula Groundwater Basin</u>					
Original City Allocation <sup>[5]</sup>	1,141-3,000	1,141-3,000	1,141- 3,000	1,141- 3,000	1,141- 3,000
City Acquired Water Rights <sup>[6]</sup>	5.8	5.8	5.8	5.8	5.8
Recycled Water	700	700	700	700	865 <sup>[10]</sup>
Direct Potable Reuse <sup>[7]</sup>	0	0	0	0	2,381- 3,898
<b>TOTAL</b>	<b>15,100 – 16,959</b>	<b>15,142 – 17,001</b>	<b>19,078 – 20,937</b>	<b>19,331 – 23,690</b>	<b>22,338 – 28,214</b>

Note: Projected supply values do not take into account water quality for all sources or account for loss of one source.

[1] None of these numbers preclude the City's water rights.

[2] Supply will be adjusted as demand increases within the Casitas service area.

[3] A lower supply range reflects the current drought conditions continuing through 2017; supply from Ventura River/Foster Park based on 2015 operations and potential cutbacks from Casitas (estimated to be 20%).

[4] Fox Canyon Groundwater Management Agency (FCGMA) Emergency Ordinance E allocations were adopted by FCGMA Board on April 11, 2014. Temporary extraction allocation for FY 2016 = 3,862 AFY.

[5] The Santa Paula Basin Judgment allows the City to utilize on average 3,000 AF annually. Assumes the worst case scenario that the basin is determined to be in a Stage 2 overdraft per the Court's Stipulated Judgment and the City is reduced to an allocation of 1,141 AFY during drought conditions. Saticoy Well No. 3 was completed in CY2015 and is now on-line and Saticoy Well No. 2 is used as a back-up well so the City can utilize its 3,000 AFY allocation.

[6] Water rights acquired for the past development of Tract 4632.

[7] Direct Potable Reuse based on Estuary Special Studies. Range of 2,381 AFY to 3,898 AFY depending on the Maximum Ecologically Protective Diversion Volume (MEPDV). Estimated volumes account for water quality, capacity and operations.

[8] From 2015 CWRR Table 4-2.

[9] Casitas supply increase estimated based on demand in Casitas area in 2024 at 5692 AF using 0.55% growth rate to 2030.

[10] From Draft 2015 Urban Water Management Plan projection for recycled water.

## D. POTENTIAL ADDITIONAL FUTURE SUPPLY SOURCES

### 1. *State Water Project*

*No changes from the 2013 CWRR.*

### 2. *Saticoy County Yard Well*

*No changes from the 2013 CWRR.*

### 3. *Recycled Water and Reuse*

#### a. Ventura Water Reclamation Facility (VWRF)

The City's Water Reclamation Facility (VWRF) treats the wastewater generated by the City's 30,000 homes and businesses to stringent standards before releasing the clean water to the Santa Clara River Estuary (Estuary) with approximately 700 acre-feet per year (AFY) diverted as recycled water for landscape irrigation by several users.

This water is regulated with a permit issued by the Los Angeles Regional Water Quality Control Board (RWQCB), which is renewed every five years. During the 2008 re-issuance process, controversy arose on whether or not the City should be permitted to continue its current volume of water released into the Estuary.

While some parties wanted the RWQCB to revoke the existing exemption to State water policy, which allows the discharge, others, including resource agencies such as NOAA Fisheries and California Department of Fish and Game, did not want any decrease in the amount of the current discharge until all alternatives were evaluated thoroughly to allow for the best ecologically sustainable alternative since the discharge supports the Estuary's endangered species and enhancement of its habitat value.

Therefore, the Discharge Permit issued by the RWQCB allowed continuation of the discharge but required Ventura Water to perform three extensive studies which include:

- Estuary Subwatershed Study
- Recycled Water Market Study
- Treatment Wetlands Feasibility Study

In April 2009, the City hired the consulting team of Carollo Engineers and Stillwater Sciences to perform the special studies. The consulting team spent several months collecting data to determine what information was missing in order to create a monitoring plan to addresses needed information.



A series of five workshops were held from 2009 to February 2011, in which the results of the three studies noted above were discussed. The Phase I Recycled Water Market Study and the Treatment Wetlands Feasibility Study were submitted to the RWQCB in March of 2010 as required by the NPDES permit. Additional studies were being completed related to the Estuary Subwatershed Study.

It was anticipated that the Estuary Subwatershed Study – Draft Synthesis Report would be submitted to the RWQCB on March 6, 2011. At the request of stakeholders, the RWQCB extended the deadline for comments on the Estuary Subwatershed Study – Draft Synthesis Report until July 15, 2011. A revised Synthesis Report was due to RWQCB by September 15, 2011. A stakeholder workshop was held on August 18, 2011 to present the results of the Draft Estuary Study and for the stakeholders to provide input into the preliminary recommendations. The revised Estuary Study and Recommendations Memo were then submitted to the RWQCB.

At the July 18, 2012 stakeholder workshop, the project team presented potential alternatives. Discussions focused on reuse alternatives, groundwater recharge alternatives and wetlands alternatives.

At the October 31, 2012 stakeholder workshop, the project team presented the screening of alternatives to divert water from the Estuary for use as recycled water in the region. Stakeholders provided input on the alternatives and on the recommendations developed in the final report. At the conclusion of the Phase 2 Studies, several unanswered questions were identified. The main uncertainty was determining exactly how much wastewater effluent could be diverted for reuse without impacting endangered species in the Estuary.

Phase 3 of the Special Studies started with a November 19, 2014 kick-off/stakeholder workshop. The project team presented the Phase 3 scope and study elements. The scope of work for Phase 3 includes additional sampling of water in and near the estuary over a two year period and evaluating data to answer some of the remaining questions from the Phase 2 Study. Phase 3 also includes looking at 100% diversion of the VWRP effluent, brine disposal options and the selection of a preferred alternative for the amount of effluent that could be diverted for reuse. In addition, it was anticipated that a direct potable reuse pilot would be constructed and run at the Ventura Water Reclamation Facility in 2015.

Ventura Water unveiled its VenturaWaterPure Demonstration Facility on July 16, 2015. VenturaWaterPure is a small-scale pilot project commissioned to investigate the feasibility of potable reuse purification technologies at the Ventura Water Reclamation Facility to extend Ventura's use of local water sources. The 20 gallon per minute facility demonstrates the

possibilities for converting wastewater effluent to drinking water standards by passing it through a highly advanced water treatment system.

On November 3, 2015 a stakeholder workshop was held at the City's VenturaWaterPure Demonstration Facility. At this workshop, an update on activities conducted in 2015 including estuary monitoring, evaluation of 100% diversion scenarios, and brine disposal options were presented.

The special studies along with the associated stakeholder processes are designed to provide information necessary to support development of a sustainable discharge regime. In the end, these studies will result in the issuance of a Discharge Permit for the future that will allow the City to utilize its recycled water as a valuable resource, balancing this benefit with the additional environmental benefits of sustaining the critical habitat for endangered species in the Estuary.

The Preferred Project at this time is direct potable reuse for City future water supply from the range of 3.6 million gallons per day (mgd) up to 6.3 mgd (approximately 4,000 to 7,000 AFY, does not consider water quality, capacity or operations).

#### **4. Ocean Desalination**

*No changes from the 2013 CWRR.*

#### **5. Water Conservation Measures/Water Efficiency Plan**

In October 2013 Ventura Water presented an update on Year Two of the Water Efficiency 5 Year Plan to City Council. The Year Two focus included customer and student outreach, City Park landscapes, demonstration gardens, residential and business assistant grants and energy and water efficiency improvements.

In February 2014, in response to the current drought, Council approved staff's recommendation to request customers to voluntarily reduce their water usage by 10%. Subsequently in September 2014 the City Council declared a Water Shortage Emergency as local water supplies continued to drop during the third year of California's historic drought and correlated with the State Water Resources Control Board's July 2014 action. In addition to water waste prohibitions, the Council approved the Water Shortage Task Force's recommendation to move to a Stage 3 Water Shortage Emergency with an overall 20% mandatory water conservation requirement.

Ventura Water instituted several mandatory water conservation measures including sprinkler irrigation systems may run only two days per week between the hours of 6 p.m. to 9 a.m.; handheld hoses used to wash cars must have a shutoff nozzle; fountains must use recycled water; and hosing down hard surfaces like driveways or sidewalks is prohibited.

The City offers free water conservation aids and on-site residential water surveys to help customers save water and has held several outreach events and contests to promote conservation. In addition several classes related to water conservation are offered or sponsored in part by the City as follows:

- Water Wise Gardening Classes
- Graywater and Rainwater Harvesting
- Control Your Controllers
- Irrigation Scheduling 101

In March 2015 City Council approved a new incentive program for customers who reduce outside water use recommended by the Water Shortage Task Force. The incentive plan focuses on more efficient irrigation devices and a turf removal and replacement incentive when property owners install a low-water alternative to grass.

#### **6. *Water Shortage Task Force***

The City Council created the Water Supply Strategy Task Force, later functionally renamed the Water Shortage Task Force (Task Force), on July 21, 2014 to advise the City Council as actions were needed to respond to dwindling water supplies due to the prolonged drought. The Task Force addressed revisions to the City's Water Shortage Event Contingency Plan, the development of an incentive program to assist residents in their drought response and proposed a drought rate structure to assist Ventura Water with a full cost recovery of revenue loss during a water shortage.

In June 2015 Council approved the four-tiered (drought) water rate structure recommended by the Task Force that sends a strong message for conservation of Ventura's local resources. The rates increased to achieve full revenue recovery within each tier or customer class, and by doing so, further encourage conservation.

#### **7. *Water Shortage Event Contingency Plan***

It was proposed at the July 7, 2014 City Council Meeting that the existing Water Shortage Event Contingency Plan, a required section of the City's 2010 Urban Water Management Plan, be updated with community input to provide a framework to address a range of potential events that could result in serious water shortages, including drought, earthquakes or water supply failures. In response, the City Council asked that a Task Force be created to make recommendations to the revision of the Water Shortage Event Contingency Plan to establish what water shortage actions should be undertaken by the City and its water customers that would be most acceptable and appropriate for Ventura. In addition, the Task Force members were asked to provide a customer perspective of the perceived effectiveness of different incentives to reduce water usage, as well as potential rate options to reduce water use. On March 9, 2015, the City Council approved the Water Shortage Event Contingency Plan prepared by the members



of the Water Shortage Task Force which incorporates the agreed policy considerations by the members of the Task Force.

#### **8. *Establish Water Rights Dedication and Water Resource Net Zero (In Lieu) Fee Ordinance and Resolution***

As stated in the 2013 CWRR, Ventura Water took the concept of a water rights ordinance to Council in September 2012. Council directed staff to prepare a draft water rights ordinance and return to Council. Public Workshops on the concept of a water rights ordinance were held in July and October of 2013 and several presentations were made at public meetings. In March 2014 staff gave a presentation to Council at a special workshop on the proposed Water Dedication and In-Lieu Fee Ordinance and Resolution. The Ordinance to Establish Water Dedication and In-Lieu Fee Requirements for New or Intensified Development and its associated resolution establishes a mechanism whereby developers can dedicate adequate water supplies to support a proposed new or intensified development or pay an in-lieu fee so that the City can develop the necessary water supplies. In addition, if a developer is able to demonstrate extraordinary efficiency they could receive credit for the water savings, and thereby reduce the in-lieu fee they could be required to pay. Ventura Water returned to Council in June 2014 and recommended that Council approve the proposed Water Dedication and In-Lieu Fee Ordinance and Resolution, rather than approve the ordinance at that time the Council discussed the formation of a Water Commission to investigate the topic. The Water Commission has been diligently working on a draft Water Rights Dedication and Water Resource Net Zero Fee Ordinance and Resolution for the past eight months. The Water Commission approved a final draft at the March 22, 2016 meeting for recommendation to Council in April 2016.

#### **9. *Water Commission***

The City Council approved in January 2015 an ordinance establishing a Water Commission to serve in an advisory capacity to the Council on various policy topics related to water resources. The Council further amended the ordinance in May 2015 and a seven member Water Commission with two alternate members was formed as part of Ventura Water's ongoing public outreach and education effort, and to help with long term planning.

The Water Commission will review and make advisory recommendations regarding water rates; water resource infrastructure projects in the five-year capital improvement program; the integrated water resource management plan; water supply options; the Urban Water Management Plan approval process; a water dedication and net zero fee requirement; and other water resources issues.



The Water Commission has reviewed and discussed the following topics noted below since their initial meeting in June 2015 through March 2016.

- Overview of the City's Water Resources and Production for Past Ten Years
- Overview of Local Groundwater Basins
- Overview of the Santa Clara River Estuary Studies
- History and Development of Water Rights Dedication and Water Resource Net Zero Fee Ordinance and Resolution
- Status of Water Wise Incentive Program
- Public Outreach Program
- Model Water Efficient Landscape Ordinance
- Proposed 2016-2022 Capital Improvement Program
- Water Shortage Rate Implementation Progress Report
- Sustainable Groundwater Management Act (SGMA)
- Planning Process
- Upper Ventura River GSA Boundaries
- Recycled Water Program
- Implementation of Water Wise Incentive Program

## 5. CONCLUSIONS & RECOMMENDATIONS

### A. CONCLUSIONS

The City's total water demand for the most recent calendar year (2015) of data was 14,194 AFY. Over the past five years (2011-2015), the City experienced an average annual water demand of 16,693 AFY, and over the past ten years (2006-2015), the annual average water demand was 17,623 AFY. Although there have been extenuating circumstances that have occurred over the previous five year period, including an extended economic downturn, significant restrictions to the imported water supply to southern California, legal challenges to the Ventura River water supply and multiple years of drought conditions, it is recommended to include a larger data set to predict a "typical" average annual water demand. However, the City has identified a large industrial user that has significantly, and permanently, reduced their dependence on potable water in recent years. Therefore, the City has been comfortable that the 5-year average is more reflective of the current demand condition. This report uses the 5-year average however, due to the continued drought number the City may need to revisit using the 10-year average sooner than previously believed. Therefore the current baseline water demand is established to be 16,693 AFY.

The 5-year average has continued to decrease due to the approved water rate increases as well as the Council approving, in June 2015, a four tiered (drought) water rate structure and the February 2014 City call for 10% voluntary conservation followed by the September 2014 City declaration of a Stage 3 Water Emergency that required customers to reduce their use by 20% due to the prolonged drought. We recommend that the City reconsider using the 5-year average and use a 10-year average in the next CWRR. The continued decrease in the 5-year average may provide the City a false sense of security of its existing supply sources as the decrease can be mainly attributed to customer conservation not increased water supply. Some customers may be able to provide relief by continue or additional conservation measures but at some point additional supply sources will be warranted to provide reliability and preserve quality of life.

The City has a total of 51 projects that are under construction or approved for development that are not utilizing water and are not included in the current baseline water demands. These projects include an additional 749,762 SF of non-residential development and 2,868 residential dwelling units. By developing water usage factors based on recent consumption data, the City can more accurately predict the additional future water demand for the approved development projects. Using the City-specific water usage factors, the under construction and approved development projects will generate an additional annual average water demand of 1,360 AFY.

Therefore, the estimated water demand that the City is committed to supply totals 18,053 AFY. Assuming an average absorption rate of 350 dwelling units per (and the equivalent growth in non-residential development), it is anticipated that the currently under construction and approved projects will be completed by year 2024.

The 2016 CWRR projects out the demands to the Year 2030 which is beyond the year that the approved projects would be fully vested. In order to project out the estimated demand to the Year 2030 a growth rate of 0.55% (Department of Finance historical data for population) was used to estimate the increase in demand from the time all approved projects were fully vested (Year 2024) to the Year 2030.

The City's projected available water supply is constantly changing, depending upon environmental and legal constraints. The City's current (normal year) water supply is 21,006 AFY, however with drought conditions persisting in 2016, the available water supply may drop to 15,100 AFY in 2016 and could drop to 15,142 AFY in 2017.

The near-term water supply picture to meet the needs of the development projects that are under construction and approved will remain relatively the same as the existing condition, however the City can expect to increase the water supply from Casitas by 692 AFY (by 2024) to meet the additional water demand in the Casitas boundary.

Table 5-1 provides a comparison of the existing water demand and supply, and the near-term water demand and supply. It should be noted that the low end of the water supply range is less than the anticipated demand beginning in year 2015

The water supply range and demand projections are also depicted graphically in Figure 5-1.

**Table 5-1  
Demand vs. Supply Comparison**

Year	Demand <sup>[1]</sup> AFY	Supply Range <sup>[2]</sup>			
		Low		High	
		AFY	% Diff.	AFY	% Diff.
2015 (Drought)	16,693	14,888	-12.1%	16,888	1.2%
2016 (Drought)	16,859	15,100	-11.6%	16,959	0.6%
2017 (Drought)	17,025	15,142	-12.4%	17,001	-0.1%
2017	17,025	19,078	10.8%	20,937	18.7%
2018	17,191	19,162	10.3%	21,021	18.2%
2019	17,357	19,247	9.8%	21,106	17.8%
<b>2020</b>	<b>17,523</b>	<b>19,331</b>	<b>9.4%</b>	<b>23,690</b>	<b>26.0%</b>
2021	17,689	19,416	8.9%	23,775	25.6%
2022	17,855	19,500	8.4%	23,859	25.2%
2023	18,021	19,585	8.0%	23,944	24.7%
<b>2024</b>	<b>18,053</b>	<b>19,601</b>	<b>7.9%</b>	<b>23,960</b>	<b>24.7%</b>
<b>2030 <sup>[3]</sup></b>	<b>18,657</b>	<b>22,338</b>	<b>16.5%</b>	<b>28,214</b>	<b>33.9%</b>

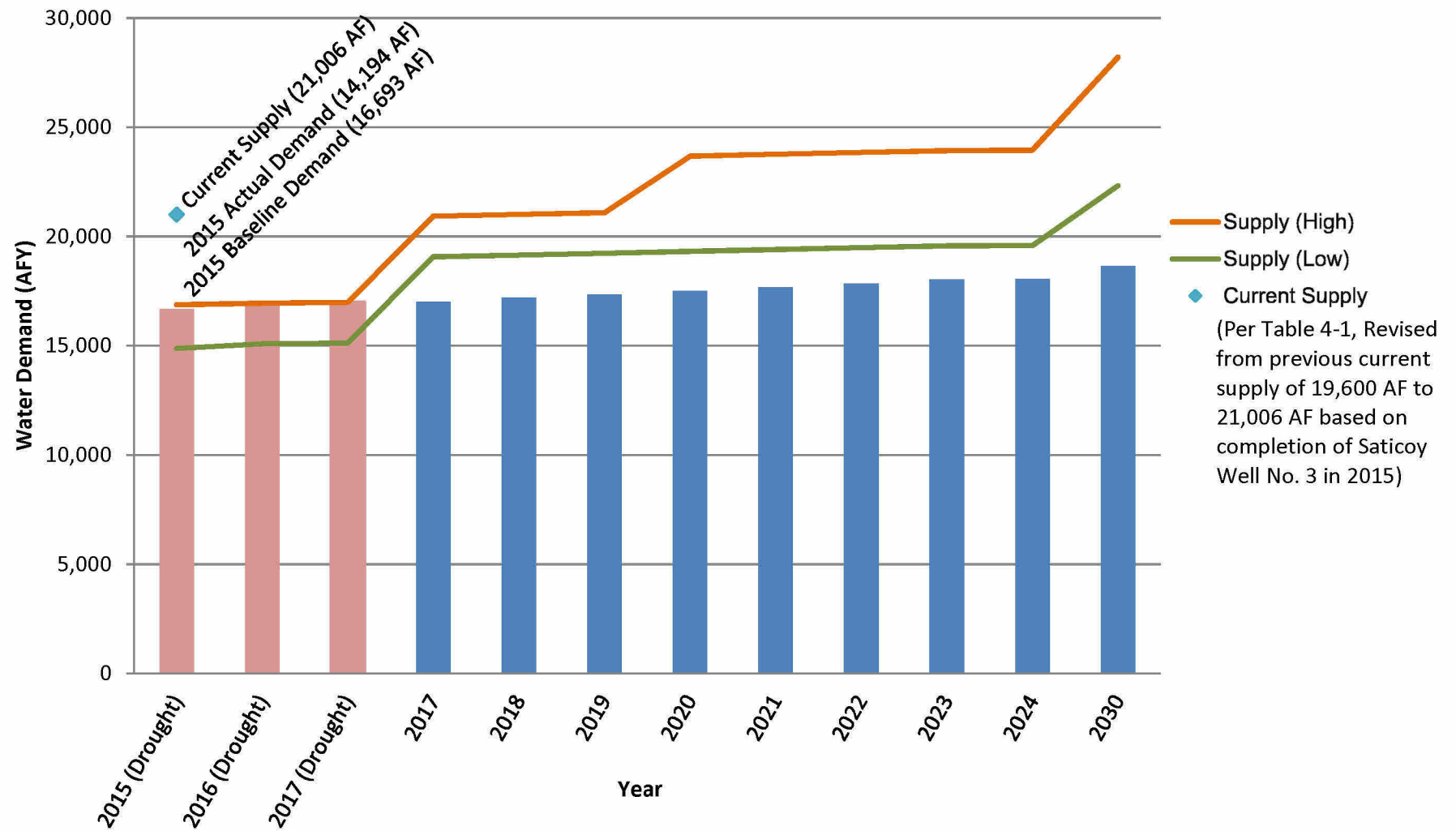
[1] Per Table 3-8.

[2] Per Table 4-2, 2015 (Drought) supply range from 2015 CWRR.

[3] Projected demand using 0.55% growth rate to 2030. The 0.55% growth rate per the Department of Finance historical data was used to estimate the increase in demand.



**Figure 5-1  
Demand vs. Supply Comparison**



## B. RECOMMENDATIONS

The results of this Report indicate that the spread between the current water demand and the current water supply is very tight, and if the drought persists the supply could be less than the demand. This presents significant challenges for the City moving forward in the ability to allocate water supply to development projects that will generate additional water demands. The recommendations for the City moving forward include:

1. Track the total water consumption on an annual basis.
2. Re-calculate the 3-year, 5-year and 10-year water consumption averages on an annual basis.
3. Update the water supply portfolio on an annual basis.
4. Update the existing land use data on an annual basis. This can be done through a system that tracks the development projects as the transition from "Approved" to "Under Construction" and "Under Construction" to "Existing".
5. All future development projects should be evaluated based on current supply and demand conditions.
6. Consider adding a new project type in the land use tracking spreadsheet for approved projects under CIP or other City approval processes.
7. Use the City-specific water usage factors to calculate the water demand of all development projects as the projects proceed through the City process prior to approval.
8. Continue to develop water supply through demand side management, securing water rights, establishing a net zero (in-lieu) fee ordinance and continue to integrate the new water supply sources into the City's water supply portfolio.