Appendix E

WATER SUPPLY ASSESSMENT

WATER SUPPLY ASSESSMENT

PARKWAY VILLAGE SPECIFIC PLAN

PN: 200726

Prepared for:

City of Lancaster
44933 Fern Ave.
Lancaster, CA 93534

Prepared by:

Michael Baker International
5 Hutton Center Drive, Suite 500
Santa Ana, CA 92707

Contact: John Nagle, P.E.
(949) 422-5478

REGISTERED PROFESSIONAL ENGINEER
JOHN M. NAGLE
No. 46972
CIVIL
STATE OF CALIFORNIA

August 2025

TABLE OF CONTENTS

Table of Contents i
List of Tables iii
List of Figures iv
Acronyms and Abbreviations v
Acronyms and Abbreviations (Cont.) vi
1 Introduction 2
2 Project Description 3
2.1 Project Location 3
2.2 Project Characteristics 3
2.3 Environmental Setting 4
2.4 Proposed Developments 4
3 WSA Subject to Senate Bill 610 8
3.1 Is the Project Subject to CEQA? 8
3.2 Is it a “Project” as Defined by CWC Section 10912? 8
3.3 Is There a Public Water System to Serve the Project? 9
3.4 Is There a Current UWMP that Accounts for the Project Demand? 11
4 Water Supply 12
4.1 District 40 Water Supply 12
4.1.1 District 40 System Description 12
4.1.2 District 40’s Existing Water Supply 12
4.1.3 District 40’s Projected Water Supply 13
4.2 Groundwater Supply 14
4.2.1 Antelope Valley Groundwater Basin Description 15
4.2.2 Basin Adjudication 15
4.2.3 Regional Groundwater Management 16
4.2.4 Sustainable Groundwater Management Act 17
4.2.5 Historical Groundwater Pumping 17
4.2.6 Regional Groundwater Supply Reliability 17
5 Water Supply Reliability 18
5.1 Dry Years Supply 18
5.2 AVEK’s Supply Reliability 18

6 Water Demand 20
6.1 Project Demand 20
6.2 District 40 Demand 21
6.2.1 Existing Demand 21
6.2.2 Projected Demand 22
7 Is the Projected Water Supply Sufficient for the Project? 23
7.1 Normal Year Water Supply and Demand 23
7.2 Single-Dry Year Water Supply and Demand 24
7.3 Multiple-Dry Year Water Supply and Demand 24
8 Conclusions 27
9 References 28
APPENDIX A - ANTELOPE VALLEY GROUNDWATER ADJUDICATION JUDGMENT
APPENDIX B - VENTURA WATER FINAL DEMAND FACTOR STUDY

LIST OF TABLES

Table 1. 2020 UWMP Table 6-8. Retail: Water Supplies – Actual (AFY) 13
Table 2. 2020 UWMP Table 6-9. Retail: Water Supplies – Projected (AFY) 14
Table 3. 2020 UWMP Table 6-1A. Groundwater Volumes Available 16
Table 4. 2020 UWMP Table 6-1. Retail: Groundwater Volume Pumped (AFY) 17
Table 5. 2020 UWMP Table 7-1. Retail Basis of Water Year Data (Reliability Assessment)..... 19
Table 6 Estimated Water Use for Irrigation..... 20
Table 7. Project Demand 21
Table 8. 2020 UWMP Table 4-1. Retail: Demands for Potable and Non-Potable Water - Actual 22
Table 9. 2020 UWMP Table 4-2. Retail: Use for Potable and Non-Potable Water – Projected .. 22
Table 10. 2020 UWMP Table 7-2. Retail: Normal Year Water Supply and Demand Comparison 23
Table 11. 2020 UWMP Table 7-3. Single Dry Year Supply and Demand Comparison (AFY) 24
Table 12. 2020 UWMP Table 7-4. Multiple Dry Years Supply and Demand Comparison (AFY) 25

LIST OF FIGURES

Figure 1: Regional Map 5
Figure 2: Site Vicinity 6
Figure 3: Conceptual Site Plan 7
Figure 4: District 40 Atlas Map 10

ACRONYMS AND ABBREVIATIONS

ac-ft	acre-feet
AFY	acre-feet per year
APN	Assessor Parcel Number
AVEK	Antelope Valley-East Kern Agency
AVGB	Antelope Valley Groundwater Basin
AVLC	Antelope Valley Logistics Center - West
AVRWMG	Antelope Valley Regional Water Management Group
AVSWCA	Antelope Valley State Water Contractors Association
CASGEM	California Statewide Groundwater Elevation Monitoring
CEQA	California Environmental Quality Act
Court	Superior Court of California
CWC	California Water Code
District 40	Los Angeles County Waterworks District 40
DWR	California Department of Water Resources
ESFR	Early Suppression, Fast Response
gpd	gallons per day
GPCD	gallons per capita per day
gpm	gallons per minute
IRWM	Integrated Regional Water Management
IS/MND	Initial Study/Mitigated Negative Declaration
LCID	Littlerock Creek Water District
MAWA	Maximum Applied Water Allowance
MOU	Memorandum of Understanding
QHWD	Quartz Hill Water District
RCSD	Rosamond Community Service District
SB	Senate Bill
SGMA	Sustainable Groundwater Management Act

ACRONYMS AND ABBREVIATIONS (CONT.)

SR	State Route
SWP	State Water Project
SWRCB	California State Water Resources Control Board
UWMP	Urban Water Management Plan
USBR	Bureau of Reclamation
WSCP	Water Supply Contingency Plan
WSA	Water Supply Assessment

1 INTRODUCTION

This Water Supply Assessment (WSA) was prepared for the Parkway Village Specific Plan pursuant to California Water Code (CWC) Section 10910, as amended by Senate Bill 610 (SB 610). It identifies sources of water supply for the Project to determine if supply is adequate to meet the Project's water demand. A WSA under SB 610 must demonstrate there is sufficient water supply for the next 20 years, based on normal, single-dry, and multiple-dry years, to meet the demand of the Project, plus existing and planned future use. The water supply and demand information presented covers a 20-year period, in increments of 5 years. The estimated water demands for the Project is 4,125 AFY.

This WSA is included as part of the Environmental Impact Report (EIR) prepared for the Project pursuant to the California Environmental Quality Act (CEQA). CWC Section 10911 requires that the WSA be included in any environmental document pursuant to California Public Resources Code Division 13.

To fully comply with the requirements of SB 610, this report follows the organization of the *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001* (Guidebook) developed by the California Department of Water Resources (DWR). Section 2 of this report provides a description of the Project and Sections 3 through 7 provide the WSA under SB 610.

Upon completion of this WSA, the Los Angeles County Waterworks District 40 (District 40), the likely water supplier for the Project, will provide a Notice of Determination for if adequate water supplies are available for the Project. This will be included into the Project's environmental documentation. A brief summary of District 40 and its service area is included in Section 4.1.1.

Consistent with the provisions of SB 610, neither this WSA nor its approval shall be construed to create a right or entitlement to water service or any specific level of water service, and shall not impose, expand, or limit any duty concerning the obligation of District 40 to provide certain service to its existing customers or to any future potential customers.

This WSA does not constitute a will-serve, plan of service, or agreement to provide water service to the Project, and does not entitle the Project, Project Applicant, or any other person or entity to any right, priority or allocation in any supply, capacity, or facility. To receive water service, the Project will be subject to an agreement with District 40, together with any and all applicable fees, charges, plans and specifications, conditions, and any and all other applicable District 40 requirements in place and as amended from time to time. Nor does anything in the WSA prevent or otherwise interfere with District 40's discretionary authority to declare a water shortage emergency in accordance with the CWC.

2 PROJECT DESCRIPTION

2.1 Project Location

The project site consists of approximately 435 acres in the central portion of the City of Lancaster. The project site is generally bound by Avenue K, Sierra Highway, 10th Street West, Avenue K-8 and the eastern side of the apartment complex at approximately 6th Street West. The Montecito Apartment Complex located at the northeast corner of Avenue L and 10th Street West and the gas station at the southeast corner of Avenue K-8 and 10th Street are not part of the Project Site. The area is proposed to be developed over a 20-year period. See **Figure 1** for a regional map showing the Project Site. See **Figure 2** for a Site Vicinity Map.

The specific Los Angeles County Assessor Parcel Numbers (APNs) included within the project site include the following: 3128-001-005, -008,-009, -015 thru -019, -021, -022;3128-002-001 thru -005, -014, -017 thru -020, -900, -901; 3128-004-011, -013, -017, -024, -025, -900, -902, -903; 3128-005-001 thru -038; 3128-006-001 thru -007, -009, -010, -017 thru -025, -027 thru -029, -031, -032, -046, -049 thru -052, -054 thru -060, -062 and -900 thru -906 (**Figure 3**).

2.2 Project Characteristics

The approximately 435-acre site currently consists mostly of vacant land. Beginning at the intersection of West Avenue K and Sierra Highway, the Project boundary extends to the south along Sierra Highway for approximately 5,250 feet. The boundary turns west at West Avenue L for approximately 4,225 feet, then turns north at an existing commercial development. The project boundary line travels north adjacent to the existing commercial development for approximately 440 feet to Avenue K-15 and then turns west traveling approximately 850 feet to 10th Street West. It then turns north for approximately 1,600 feet to an existing gas station. The project boundary then travels east along the gas station property line approximately 395 feet and turns north and travels approximately 520 feet to West Avenue K-8. The project boundary line travels east along Avenue K-8 for approximately 1,560 feet and turns north, paralleling 5th Street West for approximately 2,650 feet to meet West Avenue K. Finally, the project boundary line turns east and travels approximately 2,460 feet to the intersection of West Avenue K and Sierra Highway. The site contains various commercial properties which are located along the eastern border of the site adjacent to Sierra Highway and at the south end of the site along West Avenue L. **Figure 3** demonstrates the site boundaries and some of the surrounding developments.

The proposed project provides a mixed-use, walkable community with a variety of commercial, residential, medical, and open space/public uses/recreational area. The residential uses would include traditional single-family residences, single family residences on smaller lots, townhomes, condominiums, and apartment complexes. The project site would be divided into multiple planning areas dedicated to different types of uses as shown in **Figure 3**.

Access to the project site would be provided via Sierra Highway, 10th Street, Avenue K, and Avenue L. As shown in **Figure 3**, the project includes 4,246 residential units and 130 hotel rooms. 150,000 square feet of commercial in the Town Center (TC) areas. 415,000 square feet of office, medical office, assisted living, and uses supportive of office in the Business (B) areas. 185,000

square feet of commercial uses in the Workshop (W) areas. 8.7 acres for school use, 26 acres for parks, and 10.2 acres for an aquatic center.

2.3 Environmental Setting

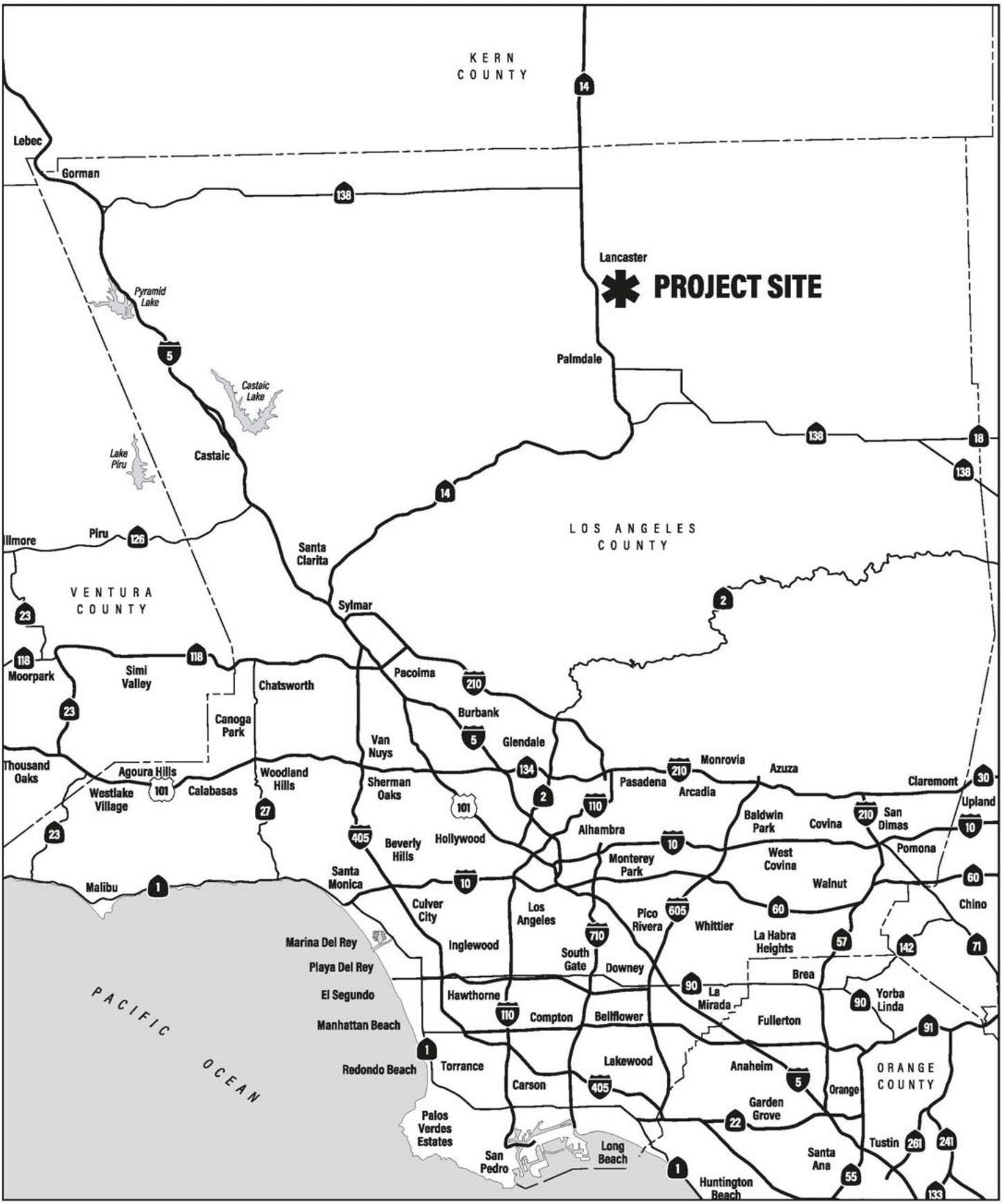
The Project site is situated in a geographic sub-region of the southwestern Mojave Desert known as Antelope Valley. The region is commonly referred to as the “High Desert” due to its approximate elevation of 2,900 ft above sea level. The Mojave Desert is bounded to the west by the Tehachapi Mountains and to the south by the San Gabriel and San Bernardino Mountains. The Project site and surrounding area are relatively flat. The site is mostly vacant, and undeveloped with a couple collections of existing developments along Avenue L, Sierra Highway, Avenue K, Avenue K-8, and 5th Street.

Hot summers, cool winters, low humidity, infrequent precipitation, and generally clear skies characterize the climate of the Antelope Valley area. According to the NOAA Weather Station Lancaster WM J Fox Fld, CA US USW 00003159 data ranging from 1991 to 2020, the daily low temperatures in winter range from 29.3 °F to 37.1 °F. The daily high temperatures in summer range from 86.9 °F to 98.6 °F in the summer. The mean annual rainfall is recorded at 6.81 inches per year, snowfall is typically 0 inches per year. Additionally, humidity rarely exceeds 50%.

The J Fox Fld weather station is located approximately 6 miles to the northwest of the project site, adjacent to the Apollo Community Regional Park at 4555 W Ave G, Lancaster, CA 93536.

2.4 Proposed Developments

As noted previously, the project includes 4,246 residential units and 130 hotel rooms. 150,000 square feet of commercial in the Town Center (TC) areas. 415,000 square feet of office, medical office, assisted living, and uses supportive of office in the Business (B) areas. 185,000 square feet of commercial uses in the Workshop (W) areas. 8.7 acres for school use, 26 acres for parks, and 10.2 acres for an aquatic center.



PARKWAY VILLAGE SPECIFIC PLAN
WATER SUPPLY ASSESSMENT

Regional Vicinity

Michael Baker INTERNATIONAL

NOT TO SCALE

08/2025 • JN 200726

Figure 1

Source: Google Earth Pro, August 2025

Michael Baker INTERNATIONAL

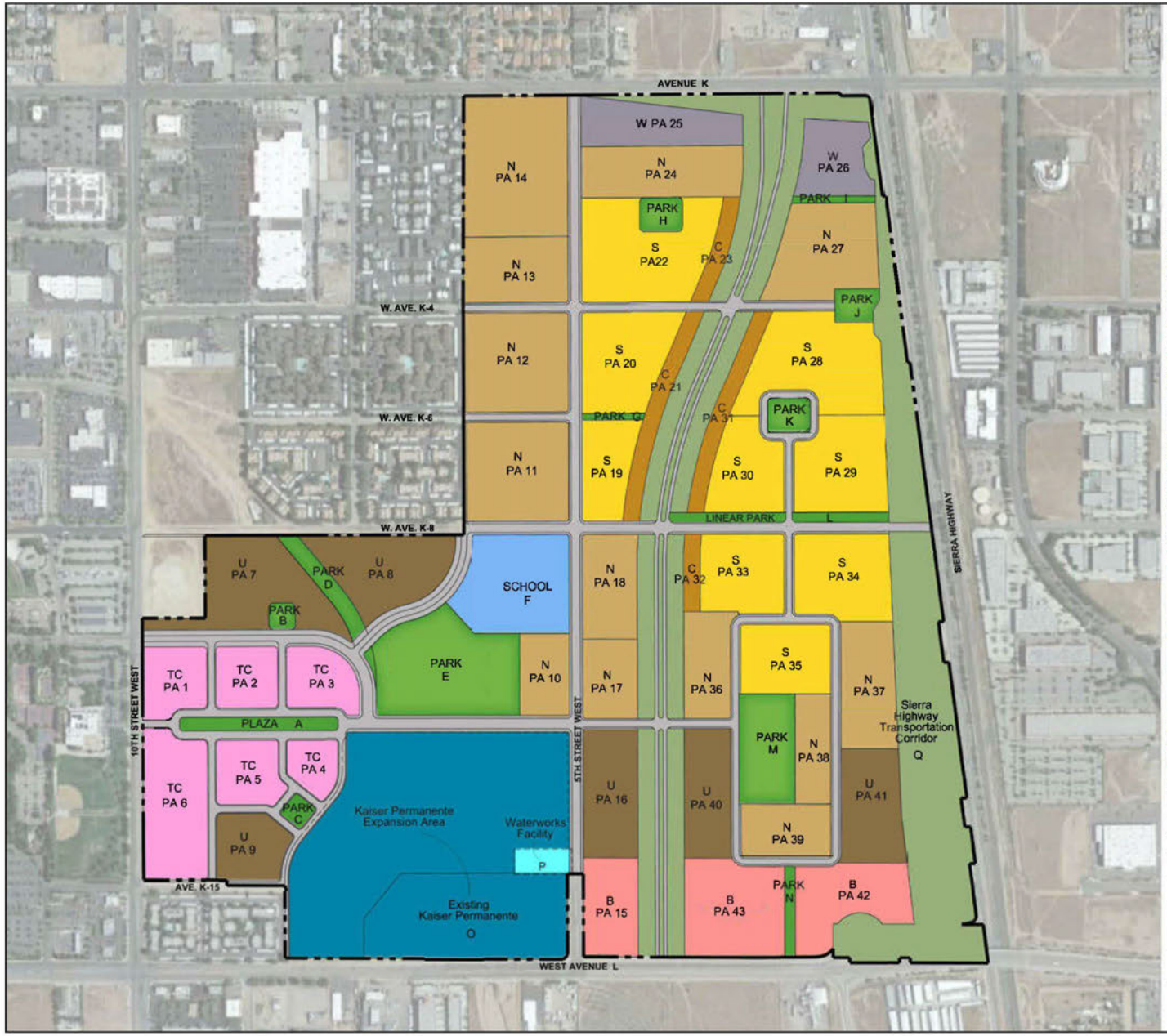
NOT TO SCALE

08/2025 • JN 200726

PARKWAY VILLAGE SPECIFIC PLAN
WATER SUPPLY ASSESSMENT

Site Vicinity

Figure 2



SITE SUMMARY

PA	USES	ACREAGE	DENSITY du/acre	UNITS
1	Town Center (TC)	3.6	30	108
2	Town Center (TC)	3.2	30	96
3	Town Center (TC)	3.4	30	102
4	Town Center (TC)	2.1	30	63
5	Town Center (TC)	3.4	30	102
6	Town Center (TC)	7.8	30	234
7	Urban (U)*	8.7	40	348
8	Urban (U)*	7.2	40	288
9	Urban (U)	3.7	40	148
10	Neighborhood (N)	3.4	15	51
11	Neighborhood (N)	8.7	15	131
12	Neighborhood (N)	8.7	15	131
13	Neighborhood (N)	5.8	15	87
14	Neighborhood (N)	12.2	15	183
15	Business (B)	4.5		
16	Urban (U)	5.9	40	236
17	Neighborhood (N)	3.6	15	54
18	Neighborhood (N)	4.8	15	72
19	Suburban (S)	4.2	8	34
20	Suburban (S)	7.0	8	56
21	Corridor (C)	3.0	30	±115
22	Suburban (S)	10.0	8	80
23	Corridor (C)	1.5	30	±57
24	Neighborhood (N)	6.9	15	104
25	Workshop (W)	5.4	8	44
26	Workshop (W)	4.3	8	35
27	Neighborhood (N)	7.8	15	117
28	Suburban (S)	9.7	8	78
29	Suburban (S)	7.0	8	56
30	Suburban (S)	5.2	8	42
31	Corridor (C)	3.0	30	±115
32	Corridor (C)	1.1	30	±42
33	Suburban (S)	5.5	8	44
34	Suburban (S)	6.8	8	55
35	Suburban (S)	5.2	8	42
36	Neighborhood (N)	4.2	15	63
37	Neighborhood (N)	5.8	15	87
38	Neighborhood (N)	3.3	15	50
39	Neighborhood (N)	4.0	15	60
40	Urban (U)	5.1	40	204
41	Urban (U)	5.8	40	232
42	Business (B)	6.5		
43	Business (B)	7.9		
A	Mixed-Use Plaza	1.8		
B	Park	0.6		
C	Park	0.6		
D	Park	1.8		
E	Park	11.0		
F	School	8.7		
G	Park/Paseo	0.3		
H	Park	1.2		
I	Park/Paseo	0.5		
J	Park	1.1		
K	Park	1.2		
L	Park	1.8		
M	Park	5.1		
N	Linear Park	0.8		
O	Existing Kaiser Permanente and Expansion Area	48.1		
P	Los Angeles County Waterworks Facility	1.2		
Q	Sierra Highway Transportation Corridor (SHTC)	71.8		
	Circulation and Parkways	40.2		
	Total Area	434.7		4,246

*Transit Hub

ADDITIONAL USES	
TOWN CENTER (TC)	Up to 150,000 SF of Commercial uses Hotel (s) total up to 130 rooms
BUSINESS (B)	Transit Focus Up to 415,000 SF of Office, Medical Office, Assisted/ Supportive Living and other sub-medical uses May also include uses supportive of office space, small restaurant, financial institutions, office supply retail, professional services
WORKSHOP (W)	Up to 185,000 SF of Commercial, including indoor technical schools, fitness centers, and gymnasiums

Source: KTGY, August 2025

Michael Baker INTERNATIONAL

NOT TO SCALE

08/2025 • JN 200726

PARKWAY VILLAGE SPECIFIC PLAN
WATER SUPPLY ASSESSMENT

Conceptual Map

Figure 3

3 WSA SUBJECT TO SENATE BILL 610

SB 610 seeks to improve the link between water supply availability and land use planning for large development projects. If the project is subject to the California Environmental Quality Act (CEQA), and if it is defined as a "project" defined by CWC Section 10912, a WSA must be prepared.

The following sections address the questions that must be answered by a WSA:

- Is the Project subject to CEQA?
- Is it a "project" as defined by CWC Section 10912?
- Is there a public water system to serve the Project?
- Is there a current Urban Water Management Plan (UWMP) that accounts for the Project demand?
- Is the projected water supply sufficient for the Project?

3.1 Is the Project Subject to CEQA?

CWC Section 10910 states:

(a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act Division 13 (commencing with Section 21000) of the Public Resources Code, under Section 21080 of the Public Resources Code shall comply with this part.

The Project will undergo environment review pursuant to the requirements of CEQA.

3.2 Is it a "Project" as Defined by CWC Section 10912?

CWC Section 10912 states:

For the purposes of this part, the following terms have the following meanings:

(a) "Project" means any of the following:
- *(1) A proposed residential development of more than 500 dwelling units.*
- *(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.*
- *(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.*
- *(4) A proposed hotel or motel, or both, having more than 500 rooms.*
- *(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.*
- *(6) A mixed-use project that includes one or more of the projects specified in this subdivision.*
- *(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.*

(b) If a public water system has fewer than 5,000 service connections, then "project" means any proposed residential, business, commercial, hotel or motel, or industrial development

that would account for an increase of 10 percent or more in the number of the public water system's existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections.

The Project includes a residential development of 4,246 dwelling units. Therefore, it is considered a "project" under CWC Section 10912. The Project also includes 130 hotel rooms, 150,000 square feet of commercial in the Mixed Use – A areas, 415,000 square feet of office, medical office, assisted living, and uses supportive of office in the Mixed Use – B areas, 185,000 square feet of commercial uses in the Mixed Use – C area, 8.7 acres for school uses, 30.2 acres for parks, 200 bed hospital, up to 500,000 square feet of medical-related uses, and 11 acres for an aquatic center.

3.3 Is There a Public Water System to Serve the Project?

CWC Section 10912 states:

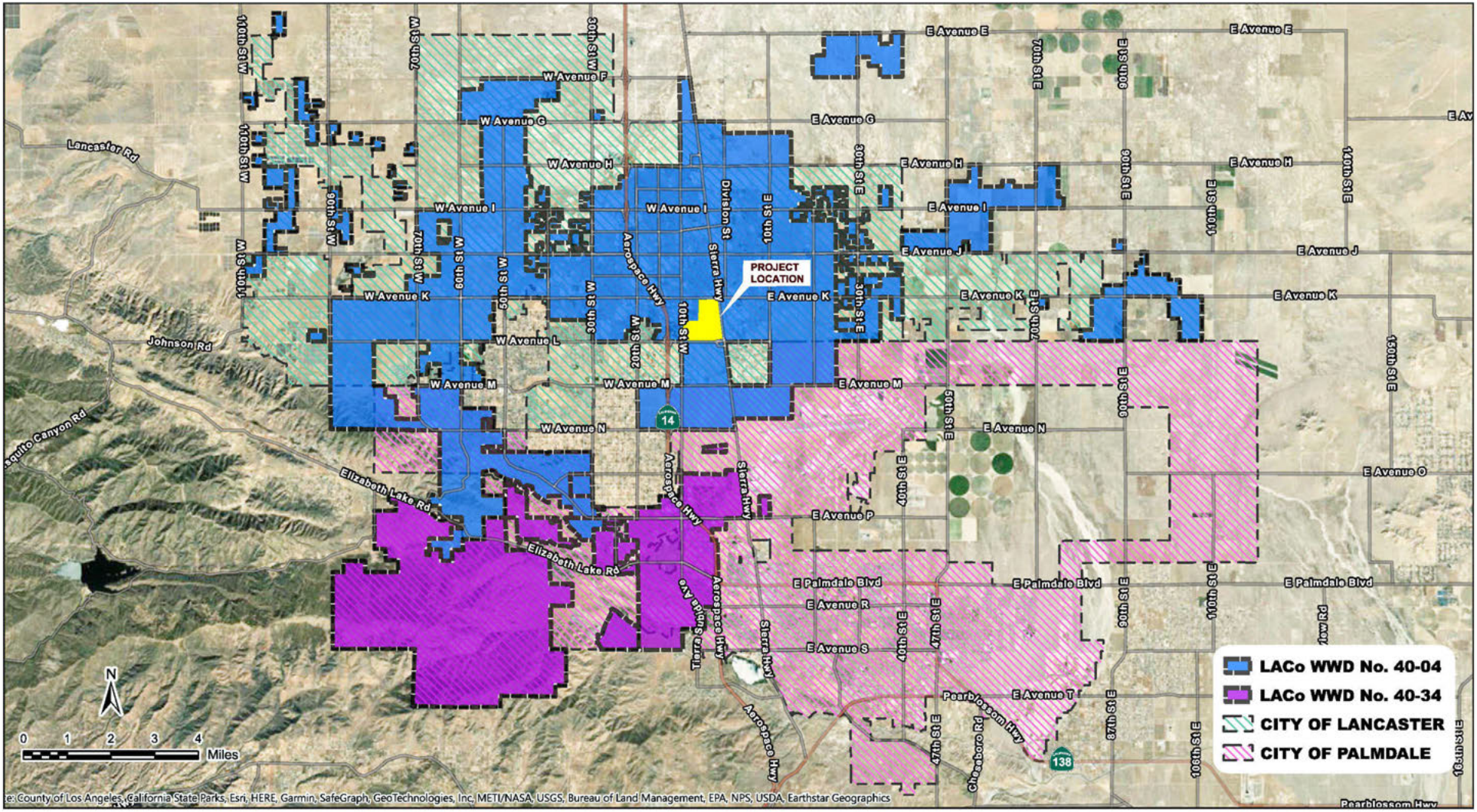
(c) "Public water system" means a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections. A public water system includes all of the following:

(1) Any collection, treatment, storage, and distribution facility under control of the operator of the system which is used primarily in connection with the system.

(2) Any collection or pretreatment storage facility not under the control of the operator that is used primarily in connection with the system.

(3) Any person who treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption.

The Project is located in an area that is currently serviced by Los Angeles County Waterworks District 40. According to the District 40 service boundary map (**Figure 4**), all parcels are located within District 40's service boundary. Therefore, it is assumed that the Los Angeles County Waterworks District 40 will serve the Project.



Source: County of Los Angeles, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, Earthstar Geographics

PARKWAY VILLAGE SPECIFIC PLAN
WATER SUPPLY ASSESSMENT

Michael Baker INTERNATIONAL

NOT TO SCALE

08/2025 • JN 200726

Los Angeles County Waterworks District 40 Service Area Map

Figure 4

3.4 Is There a Current UWMP that Accounts for the Project Demand?

CWC Section 10910 states:

(c)

(1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

Although District 40's 2020 UWMP does not specifically indicate a commitment to serve the Project, the projected water demand calculated in 2020 UWMP is based on gallons per capita per day (GPCD) and projected population. This projection included in the UWMP accounted for anticipated development within the service areas, including the Project. Therefore, a discussion of the water supplies from the potential sources is included in this WSA and is presented in Sections 4 through 7.

It should also be noted that when the 2020 UWMP was prepared, California was in its 4th consecutive year of drought, and has just recovered from nearly 10 consecutive years of drought. Future UWMPs may consider evaluating the multiple dry water years differently to account for the uncertainty of future drought conditions and durations.

4 WATER SUPPLY

4.1 District 40 Water Supply

CWC Section 10910 states:

(d)

(1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.

(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:

(A) Written contracts or other proof of entitlement to an identified water supply.

(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.

(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.

(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

4.1.1 District 40 System Description

The Los Angeles County Waterworks (District 40) was formed under CWC Division 16 to supply water throughout the Antelope Valley area. The District is operated by the Los Angeles County Public Works, Waterworks Division and is governed by the Los Angeles County Board of Supervisors. The District originally comprised of 8 regions and serves customers in Lancaster, Palmdale, and the unincorporated communities of Pearblossom, Littlerock, Sun Village, Rock Creek, Northeast Los Angeles County, and Lake Los Angeles. In November 1993, the 8 regions consolidated into a single district. District 40 service area is approximately 232 square miles.

4.1.2 District 40's Existing Water Supply

District 40's water supply is sourced from a combination of purchased imported water and groundwater. District 40 purchases its imported water from the Antelope Valley-East Kern Water Agency (AVEK) and is AVEK's largest municipal customer.

AVEK is a regional water wholesaler that supplies surface water to portions of Los Angeles, Kern, and Ventura County. The majority of AVEK's water is received as imported water from the State Water Project (SWP). AVEK has estimated that it receives 58% of its total water supplies from the SWP, through DWR, in an average year (District 40 2021/2020 UWMP). AVEK's total allotment from the SWP, also referred to as Table A water, is 144,844 ac-ft per year (AFY). A copy of the most recent water lease agreement between District 40 and AVEK can be found in

District 40's 2020 UWMP. Per the agreement, any "carry over" water, water allocated to District 40 but is not used in a given year, must be transferred to District 40 (2020 UWMP).

District 40's groundwater is drawn from the underlying Antelope Valley Groundwater Basin (AVGB). Groundwater from the AVGB is an important source and has historically been District 40's secondary supply source (2020 UWMP). The AVGB is described in detail in the following section. A summary of District 40's existing water supply and quantities in 2020 is provided in **Table 1**.

It should be noted that the supply tables provided herein are based on the best available information as of October 2021.

Table 1. 2020 UWMP Table 6-8. Retail: Water Supplies – Actual (AFY)

Water Supply	Additional Detail on Water Supply	2020	
		Actual Volume	Water Quality
Purchased	AVEK	31,552	Drinking Water
Groundwater	Antelope Valley Groundwater Basin	14,266	Drinking Water
Recycled Water	Refill lake at Apollo Park &City of Lancaster	361	Recycled Water
	Total	**46,179**	

Source: LACWD's 2020 UWMP

4.1.3 District 40's Projected Water Supply

To meet the demands associated with future growth, District 40 has identified ways it will meet future demands with increased water conservation reduction actions through the Districts Water Shortage Contingency Plan in the event of a severe drought scenarios. District 40's projected water supply is summarized in **Table 2**.

Table 2. 2020 UWMP Table 6-9. Retail: Water Supplies – Projected (AFY)

Water Supply	Additional Detail on Water Supply	2025 Reasonably Available Volume	2030 Reasonably Available Volume	2035 Reasonably Available Volume	2040 Reasonably Available Volume	2045 Reasonably Available Volume
Purchased Water or Imported Water		57,300	55,800	54,200	52,700	52,700
Ground-water		23,289	23,289	23,289	23,289	23,289
Purchased Water or Imported water	New supply from AVEK	1,733	1,733	1,733	1,733	1,733
Recycled Water		764	902	1,102	1,302	1,302
	Total	**83,086**	**81,724**	**80,324**	**79,024**	**79,024**

Notes:

1. A normal year is assumed. Doesn't Include rights to carry over water. Imported water return flows are calculated based on 2020 imported water use. As of 2020, the groundwater adjudication judgment provides non-overlying production rights of 6,789 ac-ft and approximately 3,500 ac-ft of unused Federal Reserve Rights. Return flows of 39% is based on District 40's use of SWP water supply (10,400 ac-ft). District 40 also leases approximately 2,600 ac-ft of groundwater rights from AVEK for a total of 23,298 ac-ft.
2. Groundwater does not include return flows from new supply. It is expected that new supply will generate return flows for District 40 but are not shown for simplicity.
3. Return flows from new supply are not included for clarity in interpreting Supply and Demand Assessment DWR tables 7-2, 7-3, and 7-4 of District 40's 2020 UWMP.
4. AVEK Table A SWP Allocation is 144,844 ac-ft, and AVEK indicated that the long-term average is 58% of their Table A allocation which is 84,010 ac-ft. District 40 typically purchases about 70% of that volume, which is 58,800 ac-ft.
5. Recycled water supplies are shown to equate to recycled water demands, but there is greater reasonably available volume of recycled water. However, there are no additional uses for the recycled water.

Source: LACWD's 2020 UWMP

6. Revised Table 6-9 in 2020 UWMP with a correction of a typo for the Groundwater supply volumes.

4.2 Groundwater Supply

CWC Section 10910 states:

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will

become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631

4.2.1 Antelope Valley Groundwater Basin Description

The AVGB is located in the western Mojave Desert and covers a surface area of 1,580 square miles in Kern, Los Angeles, and San Bernardino Counties. The basin underlies an extensive alluvial valley and consists of two main aquifers: an upper aquifer and a lower aquifer. The upper aquifer, which is the primary source of groundwater for the valley, is generally unconfined whereas the lower aquifer is generally confined. An unconfined aquifer is an aquifer which has the water table as its upper boundary. Unconfined aquifers occur near the ground surface. A confined aquifer is an aquifer that is bounded above and below by confining beds. Confined aquifers generally occur at significant depth below the ground surface (USBR 2021). The average annual rainfall for the basin ranges from 5 to 10 inches Recharge to the basin is primarily from runoff from surrounding mountains and hills. The estimated storage of the basin is 70,000,000 ac-ft (DWR 2004).

4.2.2 Basin Adjudication

In December 2015, the Superior Court of California (Court) issued a ruling for the adjudication of groundwater in the Antelope Valley. In an adjudicated area, the groundwater rights of all the overlying parties and appropriators are determined by the Court. Overlying parties are property owners that possess land above the aquifer. Appropriators, also called non-overlying parties, encompass public users, such as municipalities, that are entitled to the use of the surplus of water available after overlying parties' rights are satisfied.

The adjudication identified the basin in a state of overdraft, which it seeks to resolve through four phases of evaluation:

- Defined the boundaries of the basin
- Considered hydraulic connection throughout the basin
- Established the safe yield
- Quantified groundwater production (Todd Groundwater 2019)

The primary method for overcoming the overdraft is the establishment of the safe yield during Phase 3. The adjudication has determined, in the Phase 3 trial decision, that the minimum safe yield is 110,000 AFY which will vary annually depending on the volume of water that is imported.

This is only a significantly simplified summary of the basin's adjudication; the complete adjudication judgement is included in **Appendix A**. District 40's ability to produce groundwater is subject to the 2015 judgement. District 40 has non-overlying production rights of 6,789 ac-ft, approximately 3,500 ac-ft of unused federal reserve rights and return flows equivalent to 39% of the District 40's 5-year average of purchased SWP water supply (2020 UWMP). Federal reserve rights are allocations of water set aside by the federal government when it reserves land for the public domain (SWRCB 2020). Return flow is water that is returned to the surface or groundwater. A summary of District 40's groundwater rights, and other groundwater sources is provided in **Table 3**.

Table 3. 2020 UWMP Table 6-1A. Groundwater Volumes Available

Description of Right	District 40 Annual Groundwater Right (ac-ft)
Non-overlying production right	6,789
55% of the unused Federal Reserve Right	3,500
Imported water return flows (39% of previous 5-year average of imported supplies	10,400
AVEK lease	2,600
Total	**23,289**

Note: Non-overlying production right as provided by the Adjudication. Approximate values for Unused Federal Reserve Right and AVEK lease. Imported Water return flows are actuals as of 2020.
Source: LACWD's 2020 UWMP

As part of the 2015 judgment, a "Watermaster" board was appointed by the Court to implement and enforce the judgment. The Watermaster board is empowered to impose a replacement fee on any party that pumps more than its allocated right. The Watermaster board is composed of one representative each from AVEK and District 40, one other public water supplier representative, and two landowner representatives (2020 UWMP).

4.2.3 Regional Groundwater Management

Integrated Regional Water Management (IRWM) is a collaborative effort to best manage all aspects of water resources in a region. Funding programs for IRWM were created when State voters passed Proposition 50 in November 2002, Proposition 84 in November 2006, and Proposition 1 in 2014. In an effort to implement IRWM in the Antelope Valley region, a number of agencies joined together to form the Antelope Valley Regional Water Management Group (AVRWMG). In 2007, they signed an MOU and developed the Antelope Valley IRWM Plan. The

plan has been updated in 2013 and 2019. Members of the ARWMG include District 40, AVEK, Antelope Valley State Water Contractors Association (AVSWCA), City of Lancaster, City of Palmdale, Littlerock Creek Water District (LCID), Los Angeles County Sanitation Districts (LACSD) 14 and 20, Palmdale Water District (PWD), Quartz Hill Water District (QHWD), and Rosamond Community Service District (RCSD) (AVRWMG 2019).

4.2.4 Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) was signed into California state law in 2014. It sets a framework for local groundwater agencies to sustainably protect and manage groundwater as a long-term resource.

The California Statewide Groundwater Elevation Monitoring (CASGEM) Program, developed in response to legislation enacted in 2009, tracks and monitors groundwater levels to help achieve the goals set out in SGMA. The CASGEM Program also ranks groundwater basins statewide based on importance and groundwater reliance. The CASGEM Program has ranked the AVGB as low priority (2020 UWMP). Although the AVGB is a low-priority basin per CASGEM, District 40 continues to follow certain CASGEM guidelines, including maintaining reporting requirements, to monitor conditions of the basin.

SGMA directs DWR to identify groundwater basins and sub-basins in conditions of critical overdraft. DWR identified such basins in Bulletin-118 (DWR 2004). DWR issued an updated draft list of critically overdrafted basins in February 2019 (DWR 2019).

The AVGB is not on the list because it is an adjudicated basin (2020 UWMP).

4.2.5 Historical Groundwater Pumping

District 40's groundwater pumping from 2016 to 2020 is presented in **Table 4**.

Table 4. 2020 UWMP Table 6-1. Retail: Groundwater Volume Pumped (AFY)

Groundwater Type	Location or Basin Name	2016	2017	2018	2019	2020
Alluvial Basin	Antelope Valley Groundwater Basin	16,002	17,397	17,274	12,813	14,266
	Total	**16,002**	**17,397**	**17,274**	**12,813**	**14,266**

Source: LACWD's 2020 UWMP

4.2.6 Regional Groundwater Supply Reliability

Although District 40 does have considerable groundwater supplies allocated to it, it does not yet have the infrastructure available to extract all of this supply. Additional groundwater extraction capacity would be needed to reach these ideal groundwater production values. Additionally, changes to drinking water standards, particularly for Chromium-6, will significantly impact District 40's existing groundwater extraction capacity.

5 WATER SUPPLY RELIABILITY

5.1 Dry Years Supply

CWC Section 10910 (c) (3) States:

> *(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.*

To prepare for dry years when water demand cannot be met by normal supply, District 40 works to increase its local groundwater supplies through carryover water reserved in the basin. District 40 works with AVEK to use more surface water during wet years to allow AVEK to recharge and "bank" additional groundwater supplies. Water banking involves storing water in the aquifer during wet years and drawing it out during dry years. This opportunity exists inside and outside of the Antelope Valley. However, water banking inside the Antelope Valley is preferred because it minimizes the risks of conveyance interruptions (2020 UWMP).

AVEK has developed and is planning several groundwater banks to maximize the use of its SWP supply, including the Westside Water Bank, the Eastside Water Bank, the Upper Amargosa Creek Recharge Project, and the High Desert Water Bank.

5.2 AVEK's Supply Reliability

AVEK's supply reliability is important to understand because it will account for roughly 65% of District 40's supply between 2020 and 2040. AVEK's supply reliability begins by defining AVEK's average year supply. The average year supply is based on available records and is the average of the supplies between 1922 and 2003. In an average year, AVEK receives 58% of its Table A amount. Of that, 70% is available to District 40, which is roughly 58,800 AFY. For all years, it is assumed that District 40 will receive 70% of AVEK's Table A amount. Single-dry and multiple-dry year supplies can then be compared to the average year supply to evaluate the supply reliability (2020 UWMP).

When evaluating future supply, AVEK will compare the future supply to the supplies provided between 1988 and 1992, since this period represents AVEK's driest five-consecutive year historical sequence (2020 UWMP). Supplies from this period, along with the average year supply are presented in **Table 5** and are used in the evaluation presented in Section 7.

It should also be noted that when the 2020 UWMP was prepared, California was in its 4th consecutive year of drought, and has just recovered from nearly 10 consecutive years of drought. Future UWMPs may consider evaluating the multiple dry water years differently to account for the uncertainty of future drought conditions and durations.

Table 5. 2020 UWMP Table 7-1. Retail Basis of Water Year Data (Reliability Assessment)

Year Type	Base Year	Volume Available (ac-ft/yr)[a]	Percentage of Table A SWP Supply[b]
Average Year	1922-2003 avg	58,800	58%
Single-Dry Year	1977	5,000	5%
Consecutive Dry Years 1st Year	1988	12,500	12%
Consecutive Dry Years 2nd Year	1989	32,700	32%
Consecutive Dry Years 3rd Year	1990	13,500	13%
Consecutive Dry Years 4th Year	1991	25,900	26%
Consecutive Dry Years 5th Year	1992	18,200	18%

[a]Volume available to LACWD from AVEK's supply, which is typically 70% of AVEK's available supply from SWP. This does not include AVEK's banked groundwater supply. Volumes are rounded to the nearest 100.
[b]This is the percentage of Table A SWP supply for AVEK.
Source: LACWD's 2020 UWMP

District 40 has a considerable groundwater supply allocated to it; however, it does not yet have infrastructure available to extract all the allocated supply. Additional groundwater extraction capacity is needed to reach the planned groundwater production values. Furthermore, District 40's groundwater extraction capacity will be impacted due to the changes to drinking water standards, particularly related to Chromium-6.

District 40 has developed a Water Shortage Contingency Plan (WSCP) that proposes to increase its infrastructure in response to the growing demands and changing regulations. District 40 will implement measures in their WSCP to meet future gaps between water supply and demand during drought scenarios.

6 WATER DEMAND

6.1 Project Demand

Water demand for the Project consists of commercial, residential, medical, and open space/public uses. The water demand was calculated based on demand factors for each land use. To conserve potable water use, the Project should consider utilizing recycled water for non-drinking construction activities such as dust control and soil compaction. The Lancaster Water Reclamation Plant is located 8 miles northwest of the Project site. Per the Notice of Preparation (NoP) 30.2 acres or 1,315,512 square feet will be irrigated. **Table 6** is summarizing the estimated water use for irrigation based on Estimated Total Water Use (ETWU) and Maximum Applied Water Allowance (MAWA).

Table 6 Estimated Water Use for Irrigation

Valve #	Description	Water Use	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	Landscape Area (ft^2)	ETAF x Area (ft^2)	Estimated Total Water-Use (ETWU) (Gal/Year)
1	Park Area Irrigation (shrubs)	LOW	0.2	Bubbler	0.81	0.247	1,052,410	259,945	11,458,907
2	Trees Moderate Water Use	MOD	0.5	Bubbler	0.81	0.617	263,102	162,334	7,156,004
Estimated Total Water Use (ETWU)							**1,315,512**	**422,279**	**18,614,911**
Maximum Allowed Water Allowance (MAWA)							**1,315,512**	**657,756**	**28,995,200**

[a] Reference Evapotranspiration ET_0 Factor used is 71.1
[b] Evapotranspiration Adjustment Factor = ETAF
[b] Irrigation Efficiency for Bubbler is assumed to be the same as Drip system
[c] ETAF x Area for MAWA demand estimates assume 50% residential (ETAF = 0.55) and 50% commercial (ETAF = 0.45) irrigation. Combined ETAF = 0.50

According to **Table 6**, estimated total yearly water use for irrigation is 28,995,200 gallons (daily water use of 79,439 gallons/day) Therefore the water demand factor for irrigation is 60.36 gpd/kft^2 (79,439 /1,316). The calculated water demand for the Project is summarized in **Table 7**. It should be noted that demand categories used to estimate water demands do not match many of the land use categories proposed as part of the NoP; therefore, the NoP land use categories were organized into the demand categories that most closely matched. A summary of this relationship is included below:

- Town Center (TC) is categorized as Commercial, Hotel, and High Density Residential
- Aquatic Center in PA 1, 2, and 3 within Town Center (TC) is categorized as Recreation Facility
- Urban (U) and Corridor (C) are categorized as High Density Residential
- Neighborhood (N) and Suburban (S) are categorized as Medium Density Residential
- Workshop (W) is categorized as School and Medium Density Residential

- Business (B), related uses supporting Kaiser's needs, and Sierra Highway Transportation Corridor (SHTC) are categorized as Office
- Mix-Use Plaza is categorized as Commercial/Retail

Table 7. Project Demand

Land Use	Use Area (ft^2)	Dwelling Units/Rooms	Water Demand Factor [1]	Water Demand (gpd)	Water Demand (AFY)
Medium Density Residential [2]	-	1,756	732 gpd/du [3]	1,285,392	1,440
High Density Residential [2]	-	2,490	732 gpd/du [3]	1,822,680	2,042
Hotel [4]	-	130	81 gpcd	12,636	14
Commercial (Town Center)	150,000	-	175 gpd/ksf	26,250	29
Commercial (Workshop)	185,000	-	175 gpd/ksf	32,375	36
Commercial (Mixed-Use Plaza)	78,400	-	175 gpd/ksf	13,720	15
Recreation Facility	444,312	-	100 gpd/ac	1,020	1
School	378,972	-	28 gpd/ksf	10,611	12
Office	5,690,116	-	72 gpd/ksf	409,688	459
Park/Irrigation	1,132,560	-	60.36 gpd/ksf	68,361	77
Total	**8,059,360**	**-**	**-**	**3,682,734**	**4,125**

[1] Demand factors for residential, commercial, hotel, school, office, and recreation facility land uses were sourced from Ventura Water Final Demand Factor Study.
[2] Medium density residential is considered to be approximately 8-15 du/acre and high density residential is considered to be approximately 30-40 du/acre.
[3] Per LA Waterworks, medium and high residential are assumed to be 0.82 AFY/du converted to 732 gpd/du.
[4] Per LA Waterworks, Hotel is assumed to be 81 gpcd and based on 1.5 people per room with 80% occupancy.

6.2 District 40 Demand

6.2.1 Existing Demand

District 40 currently serves 58,607 service connections. Water use is categorized into sectors and includes single-family, multi-family, commercial, industrial, and institutional/governmental customers. Water use sectors in 2020 are based on District 40's water sales and production records (2020 UWMP). A summary of District 40's existing water demands is shown in **Table 8**.

Table 8. 2020 UWMP Table 4-1. Retail: Demands for Potable and Non-Potable Water - Actual

Use Type	2020 Actual		
	Additional Description	Level of Treatment when Delivered	Volume (ac-ft/yr)
Single-Family		Drinking Water	29,191
Multi-Family		Drinking Water	3,866
Commercial		Drinking Water	7,167
Industrial		Drinking Water	82
Institutional/Governmental	Includes large landscapes	Drinking Water	2,544
Other Potable	Includes construction meters	Drinking Water	266
Other	Includes other authorized consumption such as firefighting, flushing of water mains, and fire flow tests	Drinking Water	539
Losses[a]		Drinking Water	2,163
		Total	**45,818**

[a]2020 water loss data is pending validation.
Source: 2020 UWMP

6.2.2 Projected Demand

Customers of District 40 continue to surpass the targeted level of water conservation set by District 40. However, factors such as fluctuation in the climate over the last five years, the global pandemic, and education of the AVGB have significantly impacted water demand within District 40. Other impacts include the new planned developments in urban areas of Palmdale and Lancaster. To ensure the projected supply will be sufficient to meet the projected demand, especially imported water, the projected demand also considered impacts when precipitation in the Northern Sierra Mountains differs greatly from the historical 10-year average rainfall (2020 UWMP). District 40's projected water demand through 2045 is summarized in **Table 9**.

Table 9. 2020 UWMP Table 4-2. Retail: Use for Potable and Non-Potable Water – Projected

Use Type	Projected Water Use, ac-ft/yr				
	2025	2030	2035	2040	2045
Single-Family	40,919	43,706	46,599	49,601	52,116
Multi-Family	2,212	2,364	2,518	2,683	2,819
Commercial[a]	3,112	2,617	2,178	1,780	1,870
Industrial	3,315	3,546	3,777	4,022	4,226
Institutional/Governmental[a]	1,035	870	726	595	625
Losses[b]	3,808	3,998	4,202	4,419	4,643
Total	**54,400**	**57,100**	**60,000**	**63,100**	**66,300**

[a]The 2025 - 2040 projected water demand is based on GPCD times the projected population.
[b]Losses are assumed to be 7% of projected water demand.
Source: 2020 UWMP

7 IS THE PROJECTED WATER SUPPLY SUFFICIENT FOR THE PROJECT?

The main question to answer in a WSA is:

> *Will the water supplier's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection meet the projected water demand of the proposed project, in addition to the water supplier's existing and planned future uses, including agricultural and manufacturing uses?*

The following sections provide a comparison of normal, single-dry, and multiple dry year demand and supply for District 40, including water demand associated with the project.

7.1 Normal Year Water Supply and Demand

Table 10 presents District 40's normal water year scenario, showing a comparison of current and projected water supply for the current and projected demand. It is anticipated that the proposed Project demands of 3,019 AFY would be met with increased water conservation reduction actions through the District's Water Shortage Contingency Plan in the event of a severe drought scenario. The project demands are lower than the estimated system-wide water losses; therefore, meeting the Project's demand is not anticipated to be an issue.

Table 10. 2020 UWMP Table 7-2. Retail: Normal Year Water Supply and Demand Comparison

	2025	2030	2035	2040	2045
Supply Totals[a]	83,086	81,724	80,324	79,024	79,024
AVEK SWP[b]	57,300	55,800	54,200	52,700	52,700
District's Groundwater Production Rights[b]	6,789	6,789	6,789	6,789	6,789
District's Unused Federal Reserve Right	3,500	3,500	3,500	3,500	3,500
District's Imported Water Return Flows	10,400	10,4000	10,4000	10,4000	10,4000
District/AVEK Lease	2,600	2,600	2,600	2,600	2,600
New supply from AVEK[c]	1,733	1,733	1,733	1,733	1,733
Recycled Water[b,d]	764	902	1,102	1,302	1,302
Demand Totals[e]	55,164	58,002	61,102	64,402	67,602
Difference (Supply Minus Demand)	**27,922**	**23,722**	**19,222**	**14,622**	**11,422**

[a]Supply total from revised DWR Table 6-9 with a correction of a typo.
[b]Supply from DWR Tables 6-9.
[c]New supply projections are based on anticipated new water supply that will be acquired by AVEK for developers. These projections are consistent with the developer demands (Projections provided by New Water Supply and Development Services for the District).
[d]Recycled water supply volumes are set equal to projected water demand.
[e]Demand from DWR Table 4-3.
Source: 2020 UWMP

7.2 Single-Dry Year Water Supply and Demand

Table 11 presents District 40's single-dry water year scenario, showing a comparison of single-dry year water supply for the projected demand. The single-dry year scenario is based on the driest year on record for AVEK, 1977. District 40 and AVEK determined that water demand in the single-dry year will remain the same as a normal year.

In the single-dry year scenario, AVEK can meet District 40's demand by pumping groundwater from its banked supplies. No supply deficit is anticipated.

Table 11. 2020 UWMP Table 7-3. Single Dry Year Supply and Demand Comparison (AFY)

	2025	2030	2035	2040	2045
Supply Totals	55,164	58,002	61,102	64,402	67,602
AVEK SWP	5,000	5,000	5,000	5,000	5,000
AVEK Groundwater from Banked Supplies	24,378	27,078	29,978	33,078	36,278
District 40's Groundwater Production Rights	6,789	6,789	6,789	6,789	6,789
District 40's Unused Federal Reserve Right	3,500	3,500	3,500	3,500	3,500
District 40's Imported Water Return Flows	10,400	10,400	10,400	10,400	10,400
District 40/AVEK Lease	2,600	2,600	2,600	2,600	2,600
New supply from AVEK[a]	1,733	1,733	1,733	1,733	1,733
Recycled Water[b]	764	902	1,102	1,302	1,302
Demand Totals[c]	55,164	58,002	61,102	64,402	67,602
Difference (Supply Minus Demand)	**0**	**0**	**0**	**0**	**0**

[a]New supply projections are based on anticipated new water supply that will be acquired by AVEK for developers. These projections are consistent with the developer demands (Projections provided by New Water Supply and Development Services for the District). Return flows from new supply are not included for clarity in interpreting Supply and Demand Assessment tables 7-2, 7-3, and 7-4.

[b]Recycled water supply volumes are projected water use and not reasonably available volumes.

[c]Demand from DWR Table 4-3.

Source: 2020 UWMP

7.3 Multiple-Dry Year Water Supply and Demand

Table 12 presents District 40's multiple-dry water year scenario, showing a comparison of single-dry year water supply for the projected demand. The multiple-dry year scenario is based on five consecutive dry years. District 40 and AVEK determined that water demand in a multiple-dry year scenario will remain the same as a normal year.

In the multiple-dry year scenario, AVEK can meet District 40's demand by pumping groundwater from its banked supplies. No supply deficit is anticipated.

Table 12. 2020 UWMP Table 7-4. Multiple Dry Years Supply and Demand Comparison (AFY)

	Supply/Demand	2025	2030	2035	2040	2045
First Year	Supply Totals	55,164	58,002	61,102	64,402	67,602
	AVEK SWP	12,500	12,500	12,500	12,500	12,500
	AVEK Groundwater from Banked Supplies	16,878	19,578	22,487	25,578	28,778
	District 40's Groundwater Production Rights	6,789	6,789	6,789	6,789	6,789
	District's Unused Federal Reserve Right	3,500	3,500	3,500	3,500	3,500
	District's Imported Water Return Flows	10,400	10,400	10,400	10,400	10,400
	District/AVEK Lease	2,600	2,600	2,600	2,600	2,600
	New Supply from AVEK[a]	1,733	1,733	1,733	1,733	1,733
	Recycled Water[b]	764	902	1,102	1,302	1,302
	Demand Totals[c]	55,164	58,002	61,102	64,402	67,602
	Difference (Supply Minus Demand)	**0**	**0**	**0**	**0**	**0**
Second Year	Supply Totals	59,776	59,914	61,102	64,402	67,602
	AVEK SWP	32,700	32,700	32,700	32,700	32,700
	AVEK Groundwater from Banked Supplies	0	0	2,278	5,378	8,578
	District 40's Groundwater Production Rights	6,789	6,789	6,789	6,789	6,789
	District's Unused Federal Reserve Right	3,500	3,500	3,500	3,500	3,500
	District's Imported Water Return Flows	10,400	10,400	10,400	10,400	10,400
	District/AVEK Lease	2,600	2,600	2,600	2,600	2,600
	New Supply from AVEK[a]	1,733	1,733	1,733	1,733	1,733
	Recycled Water[b]	764	902	1,102	1,302	1,302
	Demand Totals[c]	55,164	58,002	61,102	64,402	67,602
	Difference (Supply Minus Demand)	**4,612**	**1,912**	**0**	**0**	**0**
Third Year	Supply Totals	55,164	58,002	61,102	64,402	67,602
	AVEK SWP	13,500	13,500	13,500	13,500	13,500
	AVEK Groundwater from Banked Supplies	15,878	18,578	21,478	24,578	27,778
	District 40's Groundwater Production Rights	6,789	6,789	6,789	6,789	6,789
	District's Unused Federal Reserve Right	3,500	3,500	3,500	3,500	3,500
	District's Imported Water Return Flows	10,400	10,400	10,400	10,400	10,400
	District/AVEK Lease	2,600	2,600	2,600	2,600	2,600
	New Supply from AVEK[a]	1,733	1,733	1,733	1,733	1,733

	Supply/Demand	2025	2030	2035	2040	2045
	Recycled Water[b]	764	902	1,102	1,302	1,302
	Demand Totals[c]	55,164	58,002	61,102	64,402	67,602
	Difference (Supply Minus Demand)	**0**	**0**	**0**	**0**	**0**
Fourth Year	Supply Totals	55,164	58,002	61,102	64,402	67,602
	AVEK SWP	25,900	25,900	25,900	25,900	25,900
	AVEK Groundwater from Banked Supplies	3,478	6,178	9,078	12,178	15,378
	District 40's Groundwater Production Rights	6,789	6,789	6,789	6,789	6,789
	District's Unused Federal Reserve Right	3,500	3,500	3,500	3,500	3,500
	District's Imported Water Return Flows	10,400	10,400	10,400	10,400	10,400
	District/AVEK Lease	2,600	2,600	2,600	2,600	2,600
	New Supply from AVEK[a]	1,733	1,733	1,733	1,733	1,733
	Recycled Water[b]	764	902	1,102	1,302	1,302
	Demand Totals[c]	55,164	58,002	61,102	64,402	67,602
	Difference (Supply Minus Demand)	**0**	**0**	**0**	**0**	**0**
Fifth Year	Supply Totals	55,164	58,002	61,102	64,402	67,602
	AVEK SWP	18,200	18,200	18,200	18,200	18,200
	AVEK Groundwater from Banked Supplies	11,178	13,878	16,778	19,878	23,078
	District 40's Groundwater Production Rights	6,789	6,789	6,789	6,789	6,789
	District's Unused Federal Reserve Right	3,500	3,500	3,500	3,500	3,500
	District's Imported Water Return Flows	10,400	10,400	10,400	10,400	10,400
	District/AVEK Lease	2,600	2,600	2,600	2,600	2,600
	New Supply from AVEK[a]	1,733	1,733	1,733	1,733	1,733
	Recycled Water[b]	764	902	1,102	1,302	1,302
	Demand Totals[c]	55,164	58,002	61,102	64,402	67,602
	Difference (Supply Minus Demand)	**0**	**0**	**0**	**0**	**0**

[a]New supply projections are based on anticipated new water supply that will be acquired by AVEK for developers. These projections are consistent with the developer demands (Projections provided by New Water Supply and Development Services for the District 40). Return flows from new supply are not included for clarity in interpreting Supply and Demand Assessment tables 7-2, 7-3, and 7-4.

[b]Recycled water supply volumes are set equal to projected water demand.

[c]Demand from DWR Table 4-3.

Source: 2020 UWMP

8 CONCLUSIONS

This WSA assessed water supplies available during normal, single-dry, multiple-dry water years to see if they can meet the projected water demand of the proposed Project, in addition to the water supplier's existing and planned future uses. The Project will add 4,125 AFY of water demand in the current year. Water demand for the Project was calculated using demand factors for each of the Project land uses. The Project is located in an area that is currently serviced by Los Angeles County Waterworks District 40's water system, according to the service boundary map. Therefore, it is assumed that the Project demand can be met by the Los Angeles County Waterworks District 40's water system.

District 40 has sufficient supply to meet the current and projected supply during normal, single-dry, and multiple-dry years. In single-dry and multiple-dry years, AVEK, the primary supply of District 40, can meet District 40's demand together with the Project's demand by pumping groundwater from its banked supplies.

It should be noted that though District 40's 2020 UWMP concludes there are supplies to meet demand, District 40's water supply is very near the limit of what the region is able to accommodate, and the District relies heavily on its WSCP conservation actions to make up the difference in multi-year drought periods. The Project will add stress to an already stressed supply. With new extreme drought scenarios, it is growing more uncertain whether the region will be able to meet the demands of this and other large development projects.

Upon completion of this WSA, the Los Angeles County Waterworks District 40 (District 40), the likely water supplier for the Project, will provide a Notice of Determination for if adequate water supplies are available for the Project. This will be included into the Project's environmental documentation.

Consistent with the provisions of SB 610, neither this WSA nor its approval shall be construed to create a right or entitlement to water service or any specific level of water service, and shall not impose, expand, or limit any duty concerning the obligation of District 40 to provide certain service to its existing customers or to any future potential customers.

This WSA does not constitute a will-serve, plan of service, or agreement to provide water service to the Project, and does not entitle the Project, Project Applicant, or any other person or entity to any right, priority or allocation in any supply, capacity, or facility. To receive water service, the Project will be subject to an agreement with District 40, together with any and all applicable fees, charges, plans and specifications, conditions, and any and all other applicable District 40 requirements in place and as amended from time to time. Nor does anything in the WSA prevent or otherwise interfere with District 40's discretionary authority to declare a water shortage emergency in accordance with the CWC.

9 REFERENCES

AVRWMG (Antelope Valley Regional Water Management Group). 2019. Antelope Valley Integrated Regional Water Management Plan 2019 Update. Accessed at: https://pw.lacounty.gov/wwd/avirwmp/docs/finalplan/2019%20Final%20AV%20IRWMP.pdf

District 40 (Los Angeles County Waterworks District 40). 2021. 2020 Urban Water Management Plan for Los Angeles County Waterworks District No. 40 Antelope Valley. Accessed at: https://dpw.lacounty.gov/wwd/web/Documents/D40_AV2020_UWMP%20FINAL.pdf

DWR (California Department of Water Resources). 2003. Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001. Accessed at: http://sntbberry.cityofsanteeca.gov/sites/FanitaRanch/Public/Remainder%20of%20the%20Record/(2)%20Reference%20Documents%20from%20EIR%20&%20Technical%20Reports/Tab%20185%20-%202003-10%20CDWR%20Guidebook%20for%20Impl%20SB%20610.pdf

DWR (California Department of Water Resources). 2004. California's Groundwater Bulletin-118, Antelope Valley Groundwater Basin. Accessed at: https://water.ca.gov/programs/groundwater-management/bulletin-118

DWR (California Department of Water Resources). 2019. Bulletin-118, Critically Overdrafted Basins. Accessed at: https://water.ca.gov/Programs/Groundwater-Management/Bulletin-118/Critically-Overdrafted-Basins

Los Angeles County. Water Management Plan and 2020 Urban Water Management Plan. Accessed at: https://pw.lacounty.gov/wwd/web/Publications/WMP.aspx.

NOAA (National Oceanic Atmospheric Administration). Website, accessed at: https://www.ncei.noaa.gov/access/us-climate-normals/#dataset=normals-daily&timeframe=30&location=CA&station=USW00003159&month=3.

Superior Court of the State of California - County of Los Angeles - Central District. 2015. Judicial Council Coordination Proceeding No. 44088, Stipulation Exhibit 1: Antelope Valley Groundwater Cases, Proposed Judgment and Physical Solution. (Appendix A).

SWRCB (California State Water Resources Control Board). 2020. Website, accessed at: https://www.waterboards.ca.gov/waterrights/board_info/water_rights_process.html

Todd Groundwater. 2019. Antelope Valley Watermaster 2018 Annual Report. Accessed at: https://avwatermaster.net/wp-content/uploads/2019/07/190729-2018-Annual-Report-FINAL-Reduced.pdf

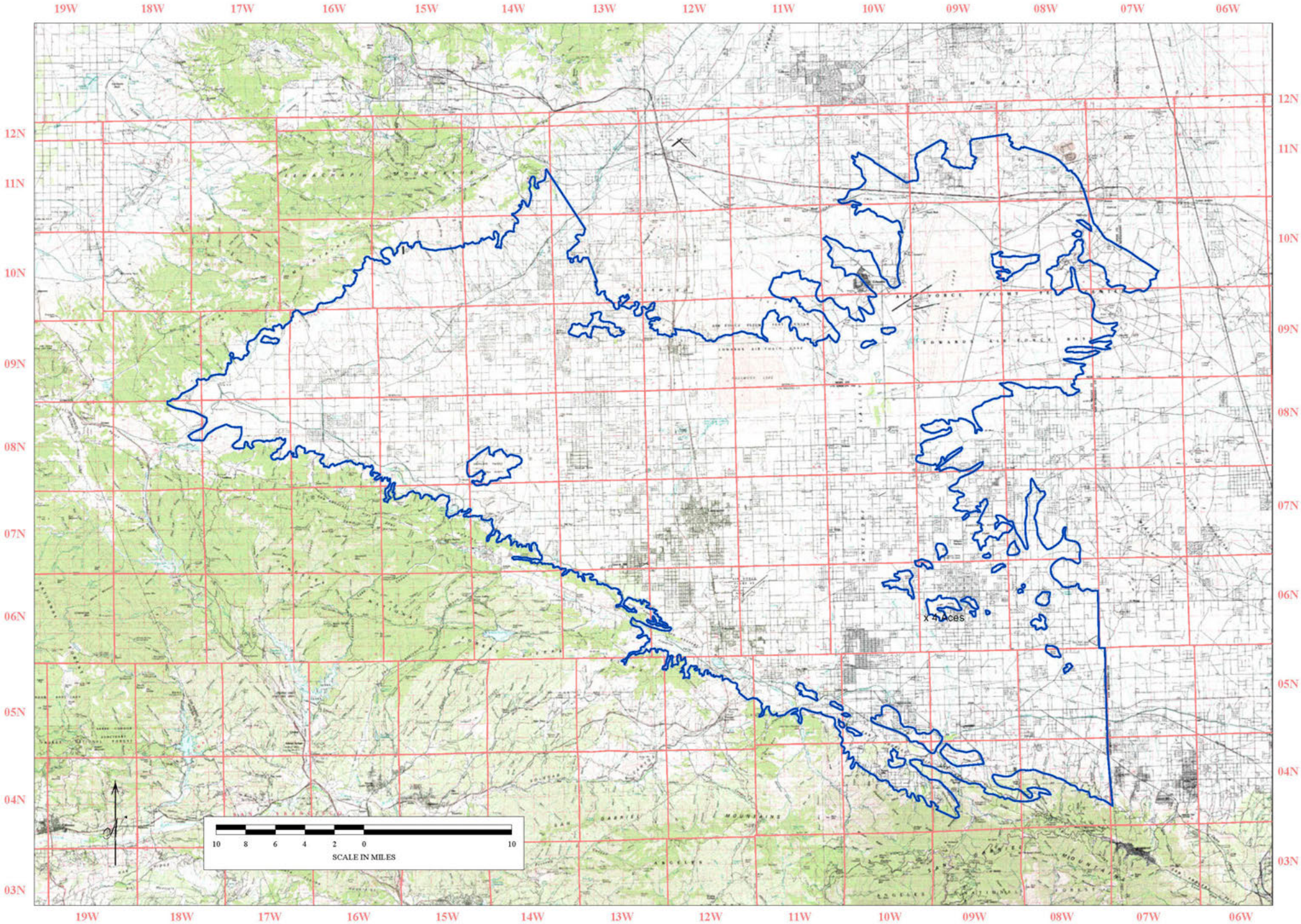
USBR (Bureau of Reclamation). 2021. Website, accessed at: https://www.usbr.gov/lc/yuma/programs/YAWMS/GROUNDWATER

Water Systems Consulting. 2021. Antelope Valley-East Kern Water Agency 2020 Urban Water Management Plan. Accessed at: https://www.avek.org/files/2a8e325f5/AVEK+2020+UWMP_Public+Draft_210525.pdf

Wood Rodgers. Ventura Water Final Demand Factor Study. April 2020. Accessed at: https://www.cityofventura.ca.gov/DocumentCenter/View/21211/Water-Demand-Factor-Study

APPENDIX A

ANTELOPE VALLEY GROUNDWATER ADJUDICATION JUDGMENT



Jurisdictional Boundary
Antelope Valley Groundwater Adjudication

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF LOS ANGELES – CENTRAL DISTRICT

ANTELOPE VALLEY GROUNDWATER CASES Included Actions: Los Angeles County Waterworks District No. 40 v. Diamond Farming Co., Superior Court of California, County of Los Angeles, Case No. BC 325201; Los Angeles County Waterworks District No. 40 v. Diamond Farming Co., Superior Court of California, County of Kern, Case No. S-1500-CV-254-348; Wm. Bolthouse Farms, Inc. v. City of Lancaster, Diamond Farming Co. v. City of Lancaster, Diamond Farming Co. v. Palmdale Water Dist., Superior Court of California, County of Riverside, Case Nos. RIC 353 840, RIC 344 436, RIC 344 668 RICHARD WOOD, on behalf of himself and all other similarly situated v. A.V. Materials, Inc., et al., Superior Court of California, County of Los Angeles, Case No. BC509546	Judicial Council Coordination Proceeding No. 4408 CLASS ACTION Santa Clara Case No. 1-05-CV-049053 Assigned to the Honorable Jack Komar **~~(PROPOSED)~~ JUDGMENT**

The matter came on for trial in multiple phases. A large number of parties representing the majority of groundwater production in the Antelope Valley Area of Adjudication ("Basin") entered into a written stipulation to resolve their claims and requested that the Court enter their [Proposed] Judgment and Physical Solution as part of the final judgment. As to all remaining parties, including those who failed to answer or otherwise appear, the Court heard the testimony of witnesses, considered the evidence, and heard the arguments of counsel. Good cause appearing, the Court finds and orders judgment as follows:

1. The Second Amended Stipulation For Entry of Judgment and Physical Solution among the stated stipulating parties is accepted and approved by the Court.

2. Consistent with the December 23 2015 Statement of Decision ("Decision"), the Court adopts the Proposed Judgment and Physical Solution attached hereto as Exhibit A and incorporated herein by reference, as the Court's own physical solution ("Physical Solution"). The Physical Solution is binding upon all parties.

3. In addition to the terms and provisions of the Physical Solution the Court finds as follows:

   a. Each of the Stipulating Parties to the Physical Solution has the right to pump groundwater from the Antelope Valley Adjudication Area as stated in the Decision and Physical Solution.

   b. The following entities are awarded prescriptive rights from the native safe yield against the Tapia Parties, defaulted parties identified in Exhibit 1 to the Physical Solution, and parties who did not appear at trial identified in Exhibit B attached hereto, in the following amounts:

Los Angeles County Waterworks District No. 40	17,659.07 AFY
Palmdale Water District	8,297.91 AFY
Littlerock Creek Irrigation District	1,760 AFY
Quartz Hill Water District	1,413 AFY
Rosamond Community Services District	1,461.7 AFY
Palm Ranch Irrigation District	960 AFY

Desert Lake Community Services District	318 AFY
California Water Service Company	655 AFY
North Edwards Water District	111.67 AFY

No other parties are subject to these prescriptive rights.

c. Each of the parties referred to in the Decision as Supporting Landowner Parties has the right to pump groundwater from the Antelope Valley Adjudication Area as stated in the Decision and in Paragraph 5.1.10 of the Physical Solution in the following amounts:

i.	Desert Breeze MHP, LLC	18.1 AFY
ii.	Milana VII, LLC dba Rosamond Mobile Home Park	21.7 AFY
iii.	Reesdale Mutual Water Company	23 AFY
iv.	Juanita Eyherabide, Eyherabide Land Co., LLC and Eyherabide Sheep Company, collectively	12 AFY
v.	Clan Keith Real Estate Investments, LLC., dba Leisure Lake Mobile Estates	64 AFY
vi.	White Fence Farms Mutual Water Co. No. 3	4 AFY
vii.	LV Ritter Ranch LLC	0 AFY
viii.	Rosar Enterprises, Inc., Hi-Grade Materials Co., and CJR, a General Partnership	200 AFY

d. Each member of the Small Pumper Class can exercise an overlying right pursuant to the Physical Solution. The Judgment Approving Small Pumper Class Action Settlements is attached as Exhibit C ("Small Pumper Class Judgment") and is incorporated herein by reference.

e. Cross-defendant Charles Tapia, as an individual and as Trustee of Nellie Tapia Family Trust (collectively, "The Tapia Parties") has no right to pump groundwater from the Antelope Valley Adjudication Area except under the terms of the Physical Solution.

f. Phelan Piñon Hills Community Services District ("Phelan") has no right to pump groundwater from the Antelope Valley Adjudication Area except under the terms of the Physical Solution.

g. The Willis Class members have an overlying right that is to be exercised in accordance with the Physical Solution.

h. All defendants or cross-defendants who failed to appear in any of these coordinated and consolidated cases are bound by the Physical Solution and their overlying rights, if any, are subject to the prescriptive rights of the Public Water Suppliers. A list of the parties who failed to appear is attached hereto as Exhibit D.

i. Robar Enterprises, Inc., Hi-Grade Materials Co., and CJR, a general partnership (collectively, "Robar") are

_____

_____

_____

_____.

4. Each party shall designate the name, address and email address, to be used for all subsequent notices and service of process by a designation to be filed within thirty days after entry of this Judgment. The list attached as Exhibit A to the Small Pumper Class Judgment shall be used for notice purposes initially, until updated by the Class members and/or Watermaster. The designation may be changed from time to time by filing a written notice with the Court. Any party desiring to be relieved of receiving notice may file a waiver of notice to be approved by the Court. The Court will maintain a list of parties and their respective addresses to whom notice or service of process is to be sent. If no designation is made as required herein, a party's designee shall be deemed to be the attorney of record or, in the absence of an attorney of record, the party at its specified address.

5. All real property owned by the parties within the Basin is subject to this Judgment. It is binding upon all parties, their officers, agents, employees, successors and assigns. Any party, or executor of a deceased party, who transfers real property that is subject to this Judgment shall notify any transferee thereof of this Judgment.

This Judgment shall not bind the parties that cease to own real property within the Basin, and cease to use groundwater, except to the extent required by the terms of an instrument, contract, or other agreement.

The Clerk shall enter this Judgment.

Dated: Dec 23, 2015

JUDGE OF THE SUPERIOR COURT

EXHIBIT A

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF LOS ANGELES - CENTRAL DISTRICT

Coordination Proceeding Special Title (Rule 1550(b)) **ANTELOPE VALLEY GROUNDWATER CASES**	Judicial Council Coordination Proceeding No. 4408 **Santa Clara Case No.: 1-05-CV-049053** Judge: The Honorable Jack Komar, Dept. 17 [PROPOSED] JUDGMENT AND PHYSICAL SOLUTION

I. DESCRIPTION OF LITIGATION 1
1. PROCEDURAL HISTORY 1
1.1 Initiation of Litigation. 1
1.2 General Adjudication Commenced 2
1.3 Other Actions 3
1.4 McCarran Amendment Issues 4
1.5 Phased Trials 4
1.6 Defaults 5
2. GENERAL ADJUDICATION DOES NOT APPLY TO SURFACE WATER 5
II. DECREE 6
3. JURISDICTION, PARTIES, DEFINITIONS 6
3.1 Jurisdiction. 6
3.2 Parties 6
3.3 Factual and Legal Issues 6
3.4 Need for a Declaration of Rights and Obligations for a Physical Solution 6
3.5 Definitions 7
4. SAFE YIELD AND OVERDRAFT 15
4.1 Safe Yield 15
4.2 Overdraft 15
5. PRODUCTION RIGHTS 15
5.1 Allocation of Rights to Native Safe Yield 15
5.1.1 Overlying Production Rights 16
5.1.2 Non-Pumper Class Rights 16
5.1.3 Small Pumper Class Production Rights 17
5.1.4 Federal Reserved Water Right 19
5.1.5 State of California Production Rights 20
5.1.6 Non-Overlying Production Rights 23
5.1.7 City of Lancaster 23

5.1.8 Antelope Valley Joint Union High School District 24
5.1.9 Construction of Solar Power Facilities 24
5.1.10 Production Rights Claimed by Non-Stipulating Parties 24
5.2 Rights to Imported Water Return Flows. 25
5.2.1 Rights to Imported Water Return Flows 25
5.2.2 Water Imported Through AVEK 25
5.2.3 Water Not Imported Through AVEK 26
5.3 Rights to Recycled Water 26
6. INJUNCTION 27
6.1 Injunction Against Unauthorized Production 27
6.2 Injunction Re Change in Purpose of Use Without Notice to The Watermaster 27
6.3 Injunction Against Unauthorized Capture of Stored Water 27
6.4 Injunction Against Transportation From Basin 28
6.5 Continuing Jurisdiction 28
III. PHYSICAL SOLUTION 29
7. GENERAL 29
7.1 Purpose and Objective 29
7.2 Need For Flexibility 29
7.3 General Pattern of Operations 29
7.4 Water Rights 30
8. RAMPDOWN 30
8.1 Installation of Meters 30
8.2 Rampdown Period 30
8.3 Reduction of Production During Rampdown 30
8.4 Drought Program During Rampdown for Participating Public Water Suppliers 31
9. ASSESSMENTS. 32
9.1 Administrative Assessment 32
9.2 Replacement Water Assessment 33

9.3 Balance Assessment 35

10. SUBAREAS 36

10.1 Central Antelope Valley Subarea 36

10.2 West Antelope Valley Subarea 37

10.3 South East Subarea 37

10.4 Willow Springs Subarea 37

10.5 Rogers Lake Subarea 37

11. INCREASE IN PRODUCTION BY THE UNITED STATES 37

11.1 Notice of Increase of Production Under Federal Reserved Water Right 38

11.2 Water Substitution to Reduce Production by United States 38

12. MOVEMENT OF PUBLIC WATER SUPPLIERS PRODUCTION FACILITIES 38

12.1 No Requirement to Move Public Water Suppliers' Production Wells 38

13. FEDERAL APPROVAL 39

14. STORAGE 39

15. CARRY OVER 40

15.1 In Lieu Production Right Carry Over 40

15.2 Imported Water Return Flow Carry Over 41

15.3 Production Right Carry Over 41

16. TRANSFERS 42

16.1 When Transfers are Permitted 42

16.2 Transfers to Non-Overlying Production Right Holders 42

16.3 Limitation on Transfers of Water by Antelope Valley United Mutuals Group 42

17. CHANGES IN POINT OF EXTRACTION AND NEW WELLS 43

17.1 Notice of New Well 43

17.2 Change in Point of Extraction by the United States 43

18. WATERMASTER 44

18.1 Appointment of Initial Watermaster 44

18.2 Standard of Performance 45
18.3 Removal of Watermaster 45
18.4 Powers and Duties of the Watermaster 46
18.5 Watermaster Engineer 48
18.6 Recommendations of the Watermaster Engineer 56
18.7 Interim Approvals by the Court 56
19. ADVISORY COMMITTEE 56
19.1 Authorization 56
19.2 Compensation 56
19.3 Powers and Functions 56
19.4 Advisory Committee Meetings 56
19.5 Subarea Advisory Management Committees 57
20. MISCELLANEOUS PROVISIONS 58
20.1 Water Quality 58
20.2 Actions Not Subject to CEQA Regulation 58
20.3 Court Review of Watermaster Actions 58
20.4 Multiple Production Rights 59
20.5 Payment of Assessments 59
20.6 Designation of Address for Notice and Service 59
20.7 Service of Documents 60
20.8 No Abandonment of Rights 60
20.9 Intervention After Judgment 60
20.10 Judgment Binding on Successors, etc. 61
20.11 Costs 61
20.12 Headings; Paragraph References 61
20.13 No Third Party Beneficiaries 61
20.14 Severability 61

20.15 Cooperation; Further Acts 61
20.16 Exhibits and Other Writings 61

INDEX OF EXHIBITS AND APPENDICES

Exhibits:

Exhibit 1: Listing of Parties Against Which a Default Judgment Has Been Entered.

Exhibit 2: Map of Area Adjudicated in This Action.

Exhibit 3: Non-Overlying Production Rights.

Exhibit 4: Overlying Production Rights

Exhibit 5: Phase 3 Trial Decision.

Exhibit 6: Map of boundaries of Edwards Air Force Base.

Exhibit 7: Map of boundaries of Air Force Plant 42.

Exhibit 8: Rights to Produce Imported Water Return Flows.

Exhibit 9: Map of the Watershed of the Basin.

Exhibit 10: Map of Subareas.

Appendices:

Appendix A: Non-Pumper Class Judgment.

Appendix B: Non-Pumper Class Stipulation of Settlement.

A number of Parties have agreed and stipulated to entry of a Judgment consistent with the terms of this Judgment and Physical Solution (hereafter "this Judgment"). The stipulations of the Parties are conditioned upon further proceedings that will result in a Judgment binding all Parties to the Action. The Court, having considered the pleadings, the stipulations of the Parties, and the evidence presented, and being fully informed in the matter, approves the Physical Solution[1] contained herein. This Judgment is entered as a Judgment binding on all Parties served or appearing in this Action, including without limitation, those Parties which have stipulated to this Judgment, are subject to prior settlement(s) and judgment(s) of this Court, have defaulted or hereafter stipulate to this Judgment.

I. DESCRIPTION OF LITIGATION

1. PROCEDURAL HISTORY

1.1 Initiation of Litigation.

On October 29, 1999, Diamond Farming Company ("Diamond Farming") filed in the Riverside County Superior Court (Case No. RIC 344436) the first complaint in what would become these consolidated complex proceedings known as the Antelope Valley Groundwater Cases. Diamond Farming's complaint names as defendants the City of Lancaster, Palmdale Water District, Antelope Valley Water Company, Palm Ranch Irrigation District, Quartz Hill Water District, Rosamond Community Services District, and Mojave Public Utility District.

On February 22, 2000, Diamond Farming filed another complaint in the Riverside County Superior Court (Case No. RIC 344468). The two Diamond Farming actions were subsequently consolidated.

On January 25, 2001, Wm. Bolthouse Farms, Inc. ("Bolthouse") filed a complaint in the same Court against the same entities, as well as Littlerock Creek Irrigation District and Los Angeles Waterworks Districts Nos. 37 and 40 (Case No. RIC 353840).

[1] A "physical solution" describes an agreed upon or judicially imposed resolution of conflicting claims in a manner that advances the constitutional rule of reasonable and beneficial use of the state's water supply. (*City of Santa Maria v. Adam* (2012) 211 Cal. App. 4th 266, 288.) It is defined as "an equitable remedy designed to alleviate overdrafts and the consequential depletion of water resources in a particular area, consistent with the constitutional mandate to prevent waste and unreasonable water use and to maximize the beneficial use of this state's limited resource." (*California American Water v. City of Seaside* (2010) 183 Cal. App. 4th 471, 480.)

The Diamond Farming and Bolthouse complaints variously allege that unregulated pumping by these named public agencies (collectively the Public Water Suppliers) has irreparably harmed Diamond Farming and Bolthouse's rights to produce Groundwater from the Antelope Valley Groundwater Basin, and interfered with their rights to put that Groundwater to reasonable and beneficial uses on property they own or lease. Diamond Farming and Bolthouse's complaints seek a determination of their water rights and to quiet title as to the same.

In 2001, the Diamond Farming and Bolthouse actions were consolidated in the Riverside County Superior Court.

In August 2002, a Phase 1 trial commenced in the Riverside County Superior Court in the consolidated Diamond Farming/Bolthouse proceedings for the purpose of determining the geographic boundary of the area to be adjudicated. That Phase 1 trial was not concluded and the Court did not determine any issues or make any factual findings at that time.

1.2 General Adjudication Commenced.

In 2004, Los Angeles County Waterworks District No. 40 ("District No. 40") initiated a general Groundwater adjudication for the Antelope Valley Ground Water Basin by filing identical complaints for declaratory and injunctive relief in the Los Angeles and Kern County Superior Courts (Los Angeles County Superior Court Case No. BC 325201 and Kern County Superior Court Case No. S-1500-CV 254348). District No. 40's complaints sought a judicial determination of the respective rights of the Parties to produce Groundwater from the Antelope Valley Groundwater Basin.

On December 30, 2004, District No. 40 petitioned the Judicial Council of California for coordination of the above-referenced actions. On June 17, 2005, the Judicial Council of California granted the petition and assigned the "Antelope Valley Groundwater Cases" (Judicial Council Coordination Proceeding No. 4408) to this Court (Santa Clara County Superior Court Case No. 1-05-CV-049053 (Hon. Jack Komar)).

For procedural purposes, the Court requested that District No. 40 refile its complaint as a first amended cross-complaint in the now coordinated proceedings. Joined by the

other Public Water Suppliers, District No. 40 filed a first amended cross-complaint seeking declaratory and injunctive relief and an adjudication of the rights to all Groundwater within the Antelope Valley Groundwater Basin. The Public Water Suppliers' cross-complaint, as currently amended, requests an adjudication to protect the public's water supply, prevent water quality degradation, and stop land subsidence. Some of the Public Water Suppliers allege they have acquired prescriptive and equitable rights to the Groundwater in the Basin. They allege the Basin has been in overdraft for more than five consecutive Years and they have pumped water from the Basin for reasonable and beneficial purposes in an open, notorious, and continuous manner. They allege each non-public cross-defendant had actual or constructive notice of these activities, sufficient to establish prescriptive rights in their favor. In order to alleviate overdraft conditions and protect the Basin, the Public Water Suppliers also request a physical solution.

1.3 <u>Other Actions</u>

In response to the Public Water Suppliers first amended cross-complaint, numerous Parties filed cross-complaints seeking various forms of relief.

On August 30, 2006, Antelope Valley-East Kern Water Agency ("AVEK") filed a cross-complaint seeking declaratory and injunctive relief and claiming overlying rights and rights to pump the supplemental yield attributable to return flows from State Water Project water imported to the Basin.

On January 11, 2007, Rebecca Lee Willis filed a class action complaint in the Los Angeles County Superior Court (Case No. BC 364553) for herself and on behalf of a class of non-pumping overlying property owners ("Non-Pumper Class"), through which she sought declaratory relief and money damages from various public entities. Following certification, the Non-Pumper Class entered into a settlement agreement with the Public Water Suppliers concerning the matters at issue in the class complaint. On September 22, 2011, the Court approved the settlement through an amended final judgment.

On June 2, 2008, Richard A. Wood filed a class action complaint for himself and on behalf of a class of small property owners in this action ("Small Pumper Class"), *Wood v. Los*

Angeles Co. Waterworks Dist. 40, et al., (Case No.: BC 391869) through which he sought declaratory relief and money damages from various public entities. The Small Pumper Class was certified on September 2, 2008.

On February 24, 2010, following various orders of coordination, the Court granted the Public Water Suppliers' motion to transfer and consolidate all complaints and cross-complaints in this matter, with the exception of the complaint in Sheldon R. Blum, etc. v. Wm. Bolthouse Farms, Inc. (Santa Clara County Superior Court Case No. 1-05-CV-049053), which remains related and coordinated.

1.4 McCarran Amendment Issues

The Public Water Suppliers' cross-complaint names Edwards Air Force Base, California and the United States Department of the Air Force as cross-defendants, seeking the same declaratory and injunctive relief as sought against the other cross-defendants. This Judgment, or any other determination in this case regarding rights to water, is contingent on a Judgment satisfying the requirements of the McCarran Amendment, 43 U.S.C. §666. The United States reserves all rights to object or otherwise challenge any interlocutory judgment and reserves all rights to appeal a Judgment that does not satisfy the requirements of the McCarran Amendment.

1.5 Phased Trials

The Court has divided the trial in this matter into multiple phases, four of which have been tried.

Through the Phase 1 trial, the Court determined the geographical boundaries of the area adjudicated in this Action which is defined as the Basin. On November 3, 2006, the Court entered an order determining that issue.

Through the Phase 2 trial, the Court determined that all areas within the Basin are hydrologically connected and a single aquifer, and that there is sufficient hydraulic connection between the disputed areas and the rest of the Basin such that the Court must include the disputed areas within the adjudication area. The Court further determined that it would be premature to make

any determinations regarding, *inter alia*, claims that portions of the Basin should be treated as a separate area for management purposes. On November 6, 2008, the Court entered its Order after Phase Two Trial on Hydrologic Nature of Antelope Valley.

Through the Phase 3 trial, the Court determined the Basin is in a current state of overdraft and the safe yield is 110,000 acre-feet per Year. The Court found the preponderance of the evidence presented established that setting the safe yield at 110,000 acre-feet per Year will permit management of the Basin in such a way as to preserve the rights of the Parties in accordance with the California Constitution and California law. On July 13, 2011, the Court filed its Statement of Decision.

Through the Phase 4 trial, the Court determined the overall Production occurring in the Basin in calendar Years 2011 and 2012.

1.6 <u>Defaults</u>

Numerous Parties have failed to respond timely, or at all, to the Public Water Suppliers' cross-complaint, as amended, and their defaults have been entered. The Court has given the defaulted Parties notice of this Judgment and Physical Solution, together with the opportunity to be heard regarding this Judgment, and hereby enters default judgments against all such Parties and incorporates those default judgments into this Judgment. Pursuant to such default judgments a defaulted Party has no right to Produce Groundwater from the Basin. All Parties against which a default judgment has been entered are identified on Exhibit 1, attached hereto and incorporated herein by reference.

2. <u>GENERAL ADJUDICATION DOES NOT APPLY TO SURFACE WATER</u>.

Pursuant to California law, surface water use since 1914 has been governed by the Water Code. This Judgment does not apply to surface water as defined in the Water Code and is not intended to interfere with any State permitted or licensed surface water rights or pre-1914 surface water right. The impact of any surface water diversion should be considered as part of the State Water Resources Control Board permitting and licensing process and not as part of this Judgment.

II. DECREE

3. JURISDICTION, PARTIES, DEFINITIONS.

3.1 Jurisdiction. This Action is an *inter se* adjudication of all claims to the rights to Produce Groundwater from the Basin alleged between and among all Parties. This Court has jurisdiction over the subject matter and Parties herein to enter a Judgment declaring and adjudicating the rights to reasonable and beneficial use of water by the Parties in the Action pursuant to Article X, section 2 of the California Constitution.

3.2 Parties. The Court required that all Persons having or claiming any right, title or interest to the Groundwater within the Basin be notified of the Action. Notice has been given pursuant to the Court's order. All Public Water Suppliers, landowners, Non-Pumper Class and Small Pumper Class members and other Persons having or making claims have been or will be included as Parties to the Action. All named Parties who have not been dismissed have appeared or have been given adequate opportunity to appear.

3.3 Factual and Legal Issues. The complaints and cross-complaints in the Action frame many legal issues. The Action includes over 4,000 Parties, as well as the members of the Non-Pumper Class and the members of the Small Pumper Class. The Basin's entire Groundwater supply and Groundwater rights, extending over approximately 1390 square miles, have been brought to issue. The numerous Groundwater rights at issue in the case include, without limitation, overlying, appropriative, prescriptive, and federal reserved water rights to Groundwater, rights to return flows from Imported Water, rights to recycled water, rights to stored Imported Water subject to the Watermaster rules and regulations, and rights to utilize the storage space within the Basin. After several months of trial, the Court made findings regarding Basin characteristics and determined the Basin's Safe Yield. The Court's rulings and judgments in this case, including the Safe Yield determination, form the basis for this Judgment.

3.4 Need for a Declaration of Rights and Obligations for a Physical Solution. A Physical Solution for the Basin, based on a declaration of water rights and a formula for allocation of rights and obligations, is necessary to implement the mandate of Article X,

section 2 of the California Constitution and to protect the Basin and the Parties' rights to the Basin's water resources. The Physical Solution governs Groundwater, Imported Water and Basin storage space, and is intended to ensure that the Basin can continue to support existing and future reasonable and beneficial uses. A Physical Solution requires determining individual Groundwater rights for the Public Water Suppliers, landowners, Non-Pumper Class and Small Pumper Class members, and other Parties within the Basin. The Physical Solution set forth in this Judgment: (1) is a fair and reasonable allocation of Groundwater rights in the Basin after giving due consideration to water rights priorities and the mandate of Article X, section 2 of the California Constitution; (2) provides for a reasonable sharing of Imported Water costs; (3) furthers the mandates of the State Constitution and State water policy; and (4) is a remedy that gives due consideration to applicable common law rights and priorities to use Basin water and storage space without substantially impairing such rights. Combined with water conservation, water reclamation, water transfers, water banking, and improved conveyance and distribution methods within the Basin, present and future Imported Water sources are sufficient both in quantity and quality to assure implementation of a Physical Solution. This Judgment will facilitate water resource planning and development by the Public Water Suppliers and individual water users.

3.5 **Definitions**. As used in this Judgment, the following terms shall have the meanings set forth herein:

3.5.1 **Action**. The coordinated and consolidated actions included in the Antelope Valley Groundwater Cases, Judicial Council Coordination Proceeding No. 4408, Santa Clara Superior Court Case No. 1-05-CV-049053.

3.5.2 **Adjusted Native Safe Yield**. The Native Safe Yield minus (1) the Production Right allocated to the Small Pumper Class under Paragraph 5.1.3, (2) the Federal Reserved Water Right under Paragraph 5.1.4, and (3) the State of California Production Right under Paragraph 5.1.5. The Adjusted Native Safe Yield as of the date of entry of this Judgment is 70,686.6 acre-feet per year.

3.5.3 <u>Administrative Assessment</u>. The amount charged by the Watermaster for the costs incurred by the Watermaster to administer this Judgment.

3.5.4 <u>Annual Period</u>. The calendar Year.

3.5.5 <u>Antelope Valley United Mutuals Group</u>. The members of the Antelope Valley United Mutuals Group are Antelope Park Mutual Water Company, Aqua-J Mutual Water Company, Averydale Mutual Water Company, Baxter Mutual Water Company, Bleich Flat Mutual Water Company, Colorado Mutual Water Co., El Dorado Mutual Water Company, Evergreen Mutual Water Company, Land Projects Mutual Water Co., Landale Mutual Water Co., Shadow Acres Mutual Water Company, Sundale Mutual Water Company, Sunnyside Farms Mutual Water Company, Inc., Tierra Bonita Mutual Water Company, West Side Park Mutual Water Co. and White Fence Farms Mutual Water Co., together with the successor(s)-in-interest to any member thereof. Each of the members of the Antelope Valley United Mutuals Group was formed when the owner(s) of the lands that were being developed incorporated the mutual water company and transferred their water rights to the mutual water company in exchange for shares of common stock. The mutual water company owns, operates and maintains the infrastructure for the production, storage, distribution and delivery of water solely to its shareholders. The shareholders of each of these mutual water companies, who are the owners of the real property that is situated within the mutual water company's service area, have the right to have water delivered to their properties, a right appurtenant to their land. [*See, Erwin v. Gage Canal Company* (1964) 226 Cal.App.2d 189].

3.5.6 <u>AVEK</u>. The Antelope Valley–East Kern Water Agency.

3.5.7 <u>Balance Assessment</u>. The amount of money charged by the Watermaster on all Production Rights, excluding the United States' actual Production, to pay for the costs, not including infrastructure, to purchase, deliver, produce in lieu, or arrange for alternative pumping sources in the Basin.

3.5.8 <u>Basin</u>. The area adjudicated in this Action as shown on Exhibit 2, attached hereto and incorporated herein by reference, which lies within the boundaries of the line

labeled "Boundaries of the Adjudicated Area" and described therein. The Basin generally encompasses the Antelope Valley bordered on the West and South by the San Gabriel and Tehachapi Mountains, with the eastern boundary being the Los Angeles-San Bernardino County line, as determined by the Court.

3.5.9 **Carry Over**. The right to Produce an unproduced portion of an annual Production Right or a Right to Imported Water Return Flows in a Year subsequent to the Year in which the Production Right or Right to Imported Water Return Flows was originally available.

3.5.10 **Conjunctive Use.** A method of operation of a groundwater basin under which Imported Water is used or stored in the Basin in Years when it is available; allowing the Basin to refill, and more Groundwater is Produced in Years when Imported Water is less available.

3.5.11 **Defaulting Party.** A Party who failed to file a responsive pleading and against which a default judgment has been entered. A list of Defaulting Parties is attached as Exhibit 1.

3.5.12 **Drought Program.** The water management program in effect only during the Rampdown period affecting the operations and Replacement Water Assessments of the participating Public Water Suppliers.

3.5.13 **Judgment.** A judgment, consistent with Cal.C.C.P. §§ 577 and 1908(a)(1) and 43 U.S.C. § 666, determining all rights to Groundwater in the Basin, establishing a Physical Solution, and resolving all claims in the Action.

3.5.14 **Groundwater.** Water beneath the surface of the ground and within the zone of saturation, excluding water flowing through known and definite channels.

3.5.15 **Imported Water.** Water brought into the Basin from outside the watershed of the Basin as shown in Exhibit 9.

3.5.16 **Imported Water Return Flows.** Imported Water that net augments the Basin Groundwater supply after use.

3.5.17 In Lieu Production. The amount of Imported Water used by a Producer in a Year instead of Producing an equal amount of that Producer's Production Right.

3.5.18 Material Injury. Material Injury means impacts to the Basin caused by pumping or storage of Groundwater that:

3.5.18.1 Causes material physical harm to the Basin, any Subarea, or any Producer, Party or Production Right, including, but not limited to, Overdraft, degradation of water quality by introduction of contaminants to the aquifer by a Party and/or transmission of those introduced contaminants through the aquifer, liquefaction, land subsidence and other material physical injury caused by elevated or lowered Groundwater levels. Material physical harm does not include "economic injury" that results from other than direct physical causes, including any adverse effect on water rates, lease rates, or demand for water.

3.5.18.2 If fully mitigated, Material Injury shall no longer be considered to be occurring.

3.5.19 Native Safe Yield. Naturally occurring Groundwater recharge to the Basin, including "return flows" from pumping naturally occurring recharge, on an average annual basis. Imported Water Return Flows are not included in Native Safe Yield.

3.5.20 New Production. Any Production of Groundwater from the Basin not of right under this Judgment, as of the date of this Judgment.

3.5.21 Non-Overlying Production Rights. The rights held by the Parties identified in Exhibit 3, attached hereto and incorporated herein by reference.

3.5.22 Non-Pumper Class. All private (i.e., non-governmental) Persons and entities that own real property within the Basin, as adjudicated, that are not presently pumping water on their property and did not do so at any time during the five Years preceding January 18, 2006. The Non-Pumper Class includes the successors-in-interest by way of purchase, gift, inheritance, or otherwise of such Non-Pumper Class members' land within the Basin. The Non-Pumper Class excludes (1) all Persons to the extent their properties are connected to a municipal water system, public utility, or mutual water company from which they receive water

service, (2) all properties that are listed as "improved" by the Los Angeles County or Kern County Assessor's offices, unless the owners of such properties declare under penalty of perjury that they do not pump and have never pumped water on those properties, and (3) those who opted out of the Non-Pumper Class. The Non-Pumper Class does not include landowners who have been individually named under the Public Water Suppliers' cross-complaint, unless such a landowner has opted into such class.

3.5.23 Non-Pumper Class Judgment. The amended final Judgment that settled the Non-Pumper Class claims against the Public Water Suppliers approved by the Court on September 22, 2011.

3.5.24 Non-Stipulating Party. Any Party who had not executed a Stipulation for Entry of this Judgment prior to the date of approval of this Judgment by the Court.

3.5.25 Overdraft. Extractions in excess of the Safe Yield of water from an aquifer, which over time will lead to a depletion of the water supply within a groundwater basin as well as other detrimental effects, if the imbalance between pumping and extraction continues.

3.5.26 Overlying Production Rights. The rights held by the Parties identified in Exhibit 4, attached hereto and incorporated herein by reference.

3.5.27 Party (Parties). Any Person(s) that has (have) been named and served or otherwise properly joined, or has (have) become subject to this Judgment and any prior judgments of this Court in this Action and all their respective heirs, successors-in-interest and assigns. For purposes of this Judgment, a "Person" includes any natural person, firm, association, organization, joint venture, partnership, business, trust, corporation, or public entity.

3.5.28 Pre-Rampdown Production. The reasonable and beneficial use of Groundwater, excluding Imported Water Return Flows, at a time prior to this Judgment, or the Production Right, whichever is greater.

3.5.29 Produce(d). To pump Groundwater for existing and future reasonable beneficial uses.

3.5.30 Producer(s). A Party who Produces Groundwater.

3.5.31 Production. Annual amount of Groundwater Produced, stated in acre-feet of water.

3.5.32 Production Right. The amount of Native Safe Yield that may be Produced each Year free of any Replacement Water Assessment and Replacement Obligation. The total of the Production Rights decreed in this Judgment equals the Native Safe Yield. A Production Right does not include any right to Imported Water Return Flows pursuant to Paragraph 5.2.

3.5.33 Pro-Rata Increase. The proportionate increase in the amount of a Production Right, as provided in Paragraph 18.5.10, provided the total of all Production Rights does not exceed the Native Safe Yield.

3.5.34 Pro-Rata Reduction. The proportionate reduction in the amount of a Production Right, as provided in Paragraph 18.5.10, in order that the total of all Production Rights does not exceed the Native Safe Yield.

3.5.35 Public Water Suppliers. The Public Water Suppliers are Los Angeles County Waterworks District No. 40, Palmdale Water District, Quartz Hill Water District, Littlerock Creek Irrigation District, California Water Service Company, Desert Lake Community Services District, North Edwards Water District, City of Palmdale, City of Lancaster, Palm Ranch Irrigation District, Rosamond Community Services District, and West Valley County Water District.

3.5.36 Purpose of Use. The broad categories of type of water use including but not limited to municipal, irrigation, agricultural and industrial uses.

3.5.37 Rampdown. The period of time for Pre-Rampdown Production to be reduced to the Native Safe Yield in the manner described in this Judgment.

3.5.38 Recycled Water. Water that, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource.

3.5.39 Replacement Obligation. The obligation of a Producer to pay for Replacement Water for Production of Groundwater from the Basin in any Year in excess of the sum of such Producer's Production Right and Imported Water Return Flows.

3.5.40 Replacement Water. Water purchased by the Watermaster or otherwise provided to satisfy a Replacement Obligation.

3.5.41 Replacement Water Assessment. The amount charged by the Watermaster to pay for all costs incurred by the Watermaster related to Replacement Water.

3.5.42 Responsible Party. The Person designated by a Party as the Person responsible for purposes of filing reports and receiving notices pursuant to the provisions of this Judgment.

3.5.43 Safe Yield. The amount of annual extractions of water from the Basin over time equal to the amount of water needed to recharge the Groundwater aquifer and maintain it in equilibrium, plus any temporary surplus. [*City of Los Angeles v. City of San Fernando* (1975) 14 Cal. 3d 199, 278.]

3.5.44 Small Pumper Class. All private (i.e., non-governmental) Persons and entities that own real property within the Basin, as adjudicated, and that have been pumping less than 25 acre-feet per Year on their property during any Year from 1946 to the present. The Small Pumper Class excludes the defendants in *Wood v. Los Angeles Co. Waterworks Dist. 40, et al.*, any Person, firm, trust, corporation, or other entity in which any such defendants has a controlling interest or which is related to or affiliated with any such defendants, and the representatives, heirs, affiliates, successors-in-interest or assigns of any such excluded party. The Small Pumper Class also excludes all Persons and entities that are shareholders in a mutual water company**.** The Small Pumper Class does not include those who opted out of the Small Pumper Class.

3.5.45 Small Pumper Class Members. Individual members of the Small Pumper Class who meet the Small Pumper Class definition, and for purposes of this Judgment and any terms pertaining to water rights, where two or more Small Pumper Class Members reside

in the same household, they shall be treated as a single Small Pumper Class Member for purposes of determining water rights.

3.5.46 State of California. As used herein, State of California shall mean the State of California acting by and through the following State agencies, departments and associations: (1) The California Department of Water Resources; (2) The California Department of Parks and Recreation; (3) The California Department of Transportation; (4) The California State Lands Commission; (5) The California Department of Corrections and Rehabilitation; (6) The 50th District Agricultural Association; (7) The California Department of Veteran Affairs; (8) The California Highway Patrol; and, (9) The California Department of Military.

3.5.47 State Water Project. Water storage and conveyance facilities operated by the State of California Department of Water Resources from which it delivers water diverted from the Feather River and the Sacramento-San Joaquin Delta via the California Aqueduct to public agencies it has contracted with.

3.5.48 Stipulating Party. Any Party who has executed a Stipulation for Entry of this Judgment prior to the date of approval of this Judgment by the Court.

3.5.49 Stored Water. Water held in storage in the Basin, as a result of direct spreading or other methods, for subsequent withdrawal and use pursuant to agreement with the Watermaster and as provided for in this Judgment. Stored Water does not include Imported Water Return Flows.

3.5.50 Subareas. Portions of the Basin, as described in this document, divided for management purposes.

3.5.51 Total Safe Yield. The amount of Groundwater that may be safely pumped from the Basin on a long-term basis. Total Safe Yield is the sum of the Native Safe Yield plus the Imported Water Return Flows.

3.5.52 Watermaster. The Person(s) appointed by the Court to administer the provisions of this Judgment.

3.5.53 Watermaster Engineer. The engineering or hydrology expert or firm retained by the Watermaster to perform engineering and technical analysis and water administration functions as provided for in this Judgment.

3.5.54 District No. 40. Los Angeles County Waterworks District No. 40.

3.5.55 Year. Calendar year.

4. SAFE YIELD AND OVERDRAFT

4.1 Safe Yield: The Native Safe Yield of the Basin is 82,300 acre-feet per Year. With the addition of Imported Water Return Flows, the Total Safe Yield is approximately 110,000 acre-feet per Year, but will vary annually depending on the volume of Imported Water.

4.2 Overdraft: In its Phase 3 trial decision, the Court held that the Basin, defined by the Court's March 12, 2007 Revised Order After Hearing On Jurisdictional Boundaries, is in a state of overdraft based on estimate of extraction and recharge, corroborated by physical evidence of conditions in the Basin. Reliable estimates of the long-term extractions from the Basin have exceeded reliable estimates of the Basin's recharge by significant margins, and empirical evidence of overdraft in the Basin corroborates that conclusion. Portions of the aquifer have sustained a significant loss of Groundwater storage since 1951. The evidence is persuasive that current extractions exceed recharge and therefore that the Basin is in a state of overdraft. The Court's full Phase 3 trial decision is attached as Exhibit 5 and is incorporated herein by reference.

5. PRODUCTION RIGHTS

5.1 Allocation of Rights to Native Safe Yield. Consistent with the goals of this Judgment and to maximize reasonable and beneficial use of the Groundwater of the Basin pursuant to Article X, section 2 of the California Constitution, all the Production Rights established by this Judgment are of equal priority, except the Federal Reserved Water Right which is addressed in Paragraph 5.1.4, and with the reservation of the Small Pumper Class Members' right to claim a priority under Water Code section 106.

5.1.1 Overlying Production Rights. The Parties listed in Exhibit 4, attached hereto and incorporated herein by reference, have Overlying Production Rights. Exhibit 4 sets forth the following for each Overlying Production Right: (1) the Pre-Rampdown Production; (2) the Production Right; and (3) the percentage of the Production from the Adjusted Native Safe Yield.

5.1.1.1 The Parties listed on Exhibit 4 have the right to Produce Groundwater, on an annual basis, up to their Overlying Production Right set forth in Exhibit 4 for each Party. Each Party's Overlying Production Right is subject to the following conditions and limitations:

5.1.1.2 Pursuant to the terms of this Judgment, the Parties listed on Exhibit 4 have the right to Produce their Overlying Production Right for use on land they own or lease and without the need for Watermaster approval.

5.1.1.3 Overlying Production Rights may be transferred pursuant to the provisions of Paragraph 16 of this Judgment.

5.1.1.4 Overlying Production Rights are subject to Pro-Rata Reduction or Increase only pursuant to Paragraph 18.5.10.

5.1.2 Non-Pumper Class Rights. The Non-Pumper Class members claim the right to Produce Groundwater from the Native Safe Yield for reasonable and beneficial uses on their overlying land as provided for in this Judgment. On September 22, 2011, the Court approved the Non-Pumper Class Stipulation of Settlement through an amended final judgment that settled the Non-Pumper Class' claims against the Public Water Suppliers ("Non-Pumper Class Judgment"). A copy of the Non-Pumper Class Judgment and the Non-Pumper Class Stipulation of Settlement are attached for reference only as Appendices A and B. This Judgment is consistent with the Non-Pumper Class Stipulation of Settlement and Judgment. Future Production by a member of the Non-Pumper Class is addressed in the Physical Solution.

5.1.2.1 The Non-Pumper Class members shall have no right to transfer water pursuant to this Judgment.

5.1.3 Small Pumper Class Production Rights. Subject only to the closure of the Small Pumper Class membership, the Small Pumper Class's aggregate Production Right is 3806.4 acre-feet per Year. Allocation of water to the Small Pumper Class is set at an average Small Pumper Class Member amount of 1.2 acre-feet per existing household or parcel based upon the 3172 known Small Pumper Class Member parcels at the time of this Judgment. Any Small Pumper Class Member may Produce up to and including 3 acre-feet per Year per existing household for reasonable and beneficial use on their overlying land, and such Production will not be subject to Replacement Water Assessment. Production by any Small Pumper Class Member above 3 acre-feet per Year per household or parcel will be subject to Replacement Water Assessment, as set forth in this Judgment. Administrative Assessments for unmetered Production by Small Pumper Class Members shall be set based upon the allocation of 1.2 acre-feet per Year per household or parcel, whichever is the case; metered Production shall be assessed in accord with the actual Production. A Small Pumper Class Member who is lawfully, by permit, operating a shared well with an adjoining Small Pumper Class Member, shall have all of the same rights and obligations under this Judgment without regard to the location of the shared well, and such shared use is not considered a prohibited transfer of a pumping right under Paragraph 5.1.3.3.

5.1.3.1 The Production of Small Pumper Class Members of up to 3 acre-feet per Year of Groundwater per household or per parcel for reasonable and beneficial use shall only be subject to reduction if: (1) the reduction is based upon a statistically credible study and analysis of the Small Pumper Class' actual Native Safe Yield Production, as well as the nature of the use of such Native Safe Yield, over at least a three Year period; and (2) the reduction is mandated by Court order after notice to the Small Pumper Class Members affording a reasonable opportunity for the Court to hear any Small Pumper Class Member objections to such reduction, including a determination that Water Code section 106 may apply so as to prevent a reduction.

5.1.3.2 The primary means for monitoring the Small Pumper Class Members' Groundwater use under the Physical Solution will be based on physical inspection by

the Watermaster, including the use of aerial photographs and satellite imagery. All Small Pumper Class Members agree to permit the Watermaster to subpoena the electrical meter records associated with their Groundwater wells on an annual basis. Should the Watermaster develop a reasonable belief that a Small Pumper Class Member household is using in excess of 3 acre-feet per Year, the Watermaster may cause to be installed a meter on such Small Pumper Class Member's well at the Small Pumper Class Member's expense.

5.1.3.3 The pumping rights of Small Pumper Class Members are not transferable separately from the parcel of property on which the water is pumped, provided however a Small Pumper Class Member may move their water right to another parcel owned by that Small Pumper Class Member with approval of the Court. If a Small Pumper Class Member parcel is sold, absent a written contract stating otherwise and subject to the provisions of this Judgment, the water right for that Small Pumper Class Member parcel shall transfer to the new owners of that Small Pumper Class Member parcel. The pumping rights of Small Pumper Class Members may not be aggregated for use by a purchaser of more than one Small Pumper Class Member's property.

5.1.3.4 Defaults or default judgments entered against any Small Pumper Class Member who did not opt out of the Small Pumper Class are hereby deemed non-operative and vacated *nunc pro tunc*, but only with respect to their ownership of real property meeting the Small Pumper Class definition.

5.1.3.5 The Small Pumper Class shall be permanently closed to new membership upon issuance by the Court of its order granting final approval of the Small Pumper Class Settlement (the "Class Closure Date"), after the provision of notice to the Class of the Class Closure Date. Any Person or entity that does not meet the Small Pumper Class definition prior to the Class Closure Date is not a Member of the Small Pumper Class. Similarly, any additional household constructed on a Small Pumper Class Member parcel after the Class Closure Date is not entitled to a Production Right as set forth in Paragraphs 5.1.3 and 5.1.3.1.

5.1.3.6 Unknown Small Pumper Class Members are defined as: (1) those Persons or entities that are not identified on the list of known Small Pumper Class Members maintained by class counsel and supervised and controlled by the Court as of the Class Closure Date; and (2) any unidentified households existing on a Small Pumper Class Member parcel prior to the Class Closure Date. Within ten (10) Court days of the Class Closure Date, class counsel for the Small Pumper Class shall publish to the Court website and file with the Court a list of the known Small Pumper Class Members.

5.1.3.7 Given the limited number of additions to the Small Pumper Class during the more than five Years since the initial notice was provided to the Class, the Court finds that the number of potentially unknown Small Pumper Class Members and their associated water use is likely very low, and any Production by unknown Small Pumper Class Members is hereby deemed to be *de minimis* in the context of this Physical Solution and shall not alter the Production Rights decreed in this Judgment. However, whenever the identity of any unknown Small Pumper Class Member becomes known, that Small Pumper Class Member shall be bound by all provisions of this Judgment, including without limitation, the assessment obligations applicable to Small Pumper Class Members.

5.1.3.8 In recognition of his service as class representative, Richard Wood has a Production Right of up to five 5 acre-feet per Year for reasonable and beneficial use on his parcel free of Replacement Water Assessment. This Production Right shall not be transferable and is otherwise subject to the provisions of this Judgment.

5.1.4 Federal Reserved Water Right. The United States has a right to Produce 7,600 acre-feet per Year from the Native Safe Yield as a Federal Reserved Water Right for use for military purposes at Edwards Air Force Base and Air Force Plant 42. *See Cappaert v. United States*, 426 U.S. 128, 138 (1976); *United States v. New Mexico*, 438 U.S. 696, 700 (1978). Maps of the boundaries of Edwards Air Force Base and Plant 42 are attached hereto as Exhibits 6 and 7. The United States may Produce any or all of this water at any time for uses consistent with the purposes of its Federal Reserved Water Right. Water uses at Edwards Air Force Base and

Plant 42 as of the date of this Judgment are consistent with the military purposes of the facilities. The Federal Reserved Water Right to Produce 7,600 acre-feet per Year is not subject to Rampdown or any reduction including Pro-Rata Reduction due to Overdraft.

5.1.4.1 In the event the United States does not Produce its entire 7,600 acre-feet in any given Year, the unused amount in any Year will be allocated to the Non-Overlying Production Rights holders, except for Boron Community Services District and West Valley County Water District, in the following Year, in proportion to Production Rights set forth in Exhibit 3. This Production of unused Federal Reserved Water Right Production does not increase any Non-Overlying Production Right holder's decreed Non-Overlying Production Right amount or percentage, and does not affect the United States' ability to fully Produce its Federal Reserved Water Right as provided in Paragraph 5.1.4 in any subsequent Year. Upon entry of a judgment confirming its Federal Reserved Water Rights consistent with this Judgment, the United States waives any rights under State law to a correlative share of the Groundwater in the Basin underlying Edwards Air Force Base and Air Force Plant 42.

5.1.4.2 The United States is not precluded from acquiring State law based Production Rights in excess of its Federal Reserved Water Right through the acquisition of Production Rights in the Basin.

5.1.5 State of California Production Rights. The State of California shall have a Production Right of 207 acre-feet per Year from the Native Safe Yield and shall have the additional right to Produce Native Safe Yield as set forth in Paragraphs 5.1.5.3 and 5.1.5.4 below. This Production of Native Safe Yield shall not be subject to Pro-Rata Reduction. Any Production by the State of California above 207 acre-feet per Year that is not Produced pursuant to Paragraphs 5.1.5.3 and 5.1.5.4 below shall be subject to Replacement Assessments. All Production by the State of California shall also be subject to the Administrative Assessment and the Balance Assessment except in emergency situations as provided in Paragraph 5.1.5.4.3 below. Any Production of Native Safe Yield pursuant to Paragraphs 5.1.5.3 and 5.1.5.4 below shall not reduce any other Party's Production Rights pursuant to this Judgment.

5.1.5.1 The State of California's Production Right in the amount of 207 acre-feet per Year is allocated separately to each of the State agencies, departments, and associations as listed below in Paragraph 5.1.5.2. Notwithstanding the separate allocations, any Production Right, or portion thereof, of one of the State agencies, departments, and associations may be transferred or used by the other State agencies, departments, and associations on parcels within the Basin. This transfer shall be done by agreement between the State agencies, departments, or associations without a Replacement Water Assessment and without the need for Watermaster approval. Prior to the transfer of another State agency, department, or association's Production Right, the State agency, department, or association receiving the ability to use the Production Right shall obtain written consent from the transferor. Further, the State agency, department, or association receiving the Production Right shall notify the Watermaster of the transfer.

5.1.5.2 The Production Rights are allocated as follows and may be exercised by the following nine (9) State agencies:

5.1.5.2.1 The California Department of Water Resources-104 acre- feet per Year.

5.1.5.2.2 The California Department of Parks and Recreation-9 acre-feet per Year.

5.1.5.2.3 The California Department of Transportation -47 acre-feet per Year.

5.1.5.2.4 The California State Lands Commission-3 acre-feet per Year

5.1.5.2.5 The California Department of Corrections and Rehabilitation-3 acre-feet per Year.

5.1.5.2.6 The 50th District Agricultural Association-32 acre-feet per Year.

5.1.5.2.7 The California Department of Veteran Affairs-3 acre-feet per Year.

5.1.5.2.8 The California Highway Patrol -3 acre- feet per Year.

5.1.5.2.9 The California Department of Military-3 acre-feet per Year.

5.1.5.3 If at any time, the amount of water supplied to the State of California by District No. 40, AVEK, or Rosamond Community Service District is no longer available or no longer available at reasonable rates to the State of California, the State of California shall have the additional right to Produce Native Safe Yield to meet its reasonable and beneficial needs up to 787 acre-feet per Year, the amount provided by District No. 40, AVEK and Rosamond Community Services District to the State of California in the Year 2013.

5.1.5.4 The following provisions will also apply to each specific agency listed below:

5.1.5.4.1 California Department of Corrections & Rehabilitation (CDCR). In addition to its Production Right pursuant to Paragraphs 5.1.5.2.5 and 5.1.5.3, CDCR may also pump Groundwater: (1) to the extent necessary to conduct periodic maintenance of its well pumping equipment; and (2) as a supplementary source of drinking water or as an emergency back-up supply as set forth in Water Code section 55338.

5.1.5.4.2 California Department of Water Resources (DWR). In addition to its Production pursuant to Paragraphs 5.1.5.2.1 and 5.1.5.3 above, DWR may also pump Native Safe Yield from the area adjacent to and beneath the California Aqueduct and related facilities at a time and in an amount it determines is reasonably necessary to protect the physical integrity of the California Aqueduct and related facilities from high Groundwater. Further, notwithstanding provisions of this Judgment prohibiting the export of Native Safe Yield from the Basin, DWR may place the Native Safe Yield that it pumps for the protection of the California Aqueduct into the California Aqueduct, whether or not such Native Safe Yield is

ultimately returned to the Basin. However, DWR and AVEK shall use their best efforts to enter into an agreement allowing AVEK to recapture the Native Safe Yield DWR puts into the California Aqueduct and return it to the Basin.

5.1.5.4.3 Department of Military. The Department of Military may Produce additional Groundwater in an amount necessary to protect and promote public health and safety during an event deemed to be an emergency by the Department of Military pursuant to California Government Code sections 8567 and 8571, and California Military and Veterans Code sections 143 and 146. Such Production shall be free from any assessment, including any Administrative, Balance, or Replacement Water Assessment.

5.1.5.4.4 The California Department of Veterans Affairs. The California Department of Veteran Affairs has begun the expansion and increased occupancy project of the Veterans Home of California – Lancaster facility owned by the State of California by and on behalf of the California Department of Veterans Affairs. The California Department of Veterans Affairs fully expects that it will be able to purchase up to an additional 40 acre-feet per Year for use at this facility from District No. 40.

5.1.6 **Non-Overlying Production Rights**. The Parties listed in Exhibit 3 have Production Rights in the amounts listed in Exhibit 3. Exhibit 3 is attached hereto, and incorporated herein by reference. Non-Overlying Production Rights are subject to Pro-Rata Reduction or Increase only pursuant to Paragraph 18.5.10.

5.1.7 **City of Lancaster.** The City of Lancaster ("Lancaster") can Produce up to 500 acre-feet of Groundwater for reasonable and beneficial uses at its National Soccer Complex. Such production shall only be subject to Administrative Assessment and no other assessments. Lancaster will stop Producing Groundwater and will use Recycled Water supplied from District No. 40, when it becomes available, to meet the reasonable and beneficial water uses of the National Soccer Complex. Lancaster may continue to Produce up to 500 acre-feet of Groundwater until Recycled Water becomes available to serve the reasonable and beneficial water uses of the National Soccer Complex. Nothing in this paragraph shall be

construed as requiring Lancaster to have any responsibility for constructing, or in any way contributing to the cost of, any infrastructure necessary to deliver Recycled Water to the National Soccer Complex.

5.1.8 Antelope Valley Joint Union High School District. Antelope Valley Joint Union High School District is a public school entity duly organized and existing under the laws of the State of California. In addition to the amounts allocated to Antelope Valley Joint Union High School District ("AVJUHSD") and pursuant to Exhibit 4, AVJUHSD can additionally produce up to 29 acre-feet of Groundwater for reasonable and beneficial uses on its athletic fields and other public spaces. When recycled water becomes available to Quartz Hill High School (located at 6040 West Avenue L, Quartz Hill, CA 93535) which is a site that is part of AVJUHSD, at a price equal to or less than the lowest cost of any of the following: Replacement Obligation, Replacement Water, or other water that is delivered to AVJUHSD at Quartz Hill High School, AVJUHSD will stop producing the 29 acre-feet of Groundwater allocated to it and use recycled water as a replacement to its 29 acre-feet production. AVJUHSD retains its production rights and allocation pursuant to Exhibit 4 of this Judgment.

5.1.9 Construction of Solar Power Facilities. Any Party may Produce Groundwater in excess of its Production Right allocated to it in Exhibit 4 for the purpose of constructing a facility located on land overlying the Basin that will generate, distribute or store solar power through and including December 31, 2016 and shall not be charged a Replacement Water Assessment or incur a Replacement Obligation for such Production in excess of its Production Rights. Any amount of such production in excess of the Production Right through and including December 31, 2016 shall be reasonable to accomplish such construction but shall not exceed 500 acre-feet per Year for all Parties using such water.

5.1.10 Production Rights Claimed by Non-Stipulating Parties. Any claim to a right to Produce Groundwater from the Basin by a Non-Stipulating Party shall be subject to procedural or legal objection by any Stipulating Party. Should the Court, after taking evidence, rule that a Non-Stipulating Party has a Production Right, the Non-Stipulating Party

shall be subject to all provisions of this Judgment, including reduction in Production necessary to implement the Physical Solution and the requirements to pay assessments, but shall not be entitled to benefits provided by Stipulation, including but not limited to Carry Over pursuant to Paragraph 15 and Transfers pursuant to Paragraph 16. If the total Production by Non-Stipulating Parties is less than seven percent (7%) of the Native Safe Yield, such Production will be addressed when Native Safe Yield is reviewed pursuant to Paragraph 18.5.9. If the total Production by Non-Stipulating Parties is greater than seven percent (7%) of the Native Safe Yield, the Watermaster shall determine whether Production by Non-Stipulating Parties would cause Material Injury, in which case the Watermaster shall take action to mitigate the Material Injury, including, but not limited to, imposing a Balance Assessment, provided however, that the Watermaster shall not recommend any changes to the allocations under Exhibits 3 and 4 prior to the redetermination of Native Safe Yield pursuant to Paragraph 18.5.9. In all cases, however, whenever the Watermaster re-determines the Native Safe Yield pursuant to Paragraph 18.5.9, the Watermaster shall take action to prevent Native Safe Yield Production from exceeding the Native Safe Yield on a long-term basis.

5.2 <u>Rights to Imported Water Return Flows</u>.

5.2.1 Rights to Imported Water Return Flows. Return Flows from Imported Water used within the Basin which net augment the Basin Groundwater supply are not a part of the Native Safe Yield. Subject to review pursuant to Paragraph 18.5.11, Imported Water Return Flows from Agricultural Imported Water use are 34% and Imported Water Return Flows from Municipal and Industrial Imported Water use are 39% of the amount of Imported Water used.

5.2.2 Water Imported Through AVEK. The right to Produce Imported Water Return Flows from water imported through AVEK belongs exclusively to the Parties identified on Exhibit 8, attached hereto, and incorporated herein by reference. Each Party shown on Exhibit 8 shall have a right to Produce an amount of Imported Water Return Flows in any Year equal to the applicable percentage multiplied by the average amount of Imported Water used

by that Party within the Basin in the preceding five Year period (not including Imported Stored Water in the Basin). Any Party that uses Imported Water on lands outside the Basin but within the watershed of the Basin shall be entitled to Produce Imported Water Return Flows to the extent such Party establishes to the satisfaction of the Watermaster the amount that its Imported Water Return Flows augment the Basin Groundwater supply. This right shall be in addition to that Party's Overlying or Non-Overlying Production Right. Production of Imported Water Return Flows is not subject to the Replacement Water Assessment. All Imported Water Return Flows from water imported through AVEK and not allocated to Parties identified in Exhibit 8 belong exclusively to AVEK, unless otherwise agreed by AVEK. Notwithstanding the foregoing, Boron Community Services District shall have the right to Produce Imported Water Return Flows, up to 78 acre-feet annually, based on the applicable percentage multiplied by the average amount of Imported Water used by Boron Community Services District outside the Basin, but within its service area in the preceding five Year period (not including Imported Stored Water in the Basin) without having to establish that the Imported Water Return Flows augment the Basin Groundwater supply.

5.2.3 Water Not Imported Through AVEK. After entry of this Judgment, a Party other than AVEK that brings Imported Water into the Basin from a source other than AVEK shall notify the Watermaster each Year quantifying the amount and uses of the Imported Water in the prior Year. The Party bringing such Imported Water into the Basin shall have a right to Produce an amount of Imported Water Return Flows in any Year equal to the applicable percentage set forth above multiplied by the average annual amount of Imported Water used by that Party within the Basin in the preceding five Year period (not including Imported Stored Water in the Basin).

5.3 <u>Rights to Recycled Water</u>. The owner of a waste water treatment plant operated for the purpose of treating wastes from a sanitary sewer system shall hold the exclusive right to the Recycled Water as against anyone who has supplied the water discharged into the waste water collection and treatment system. At the time of this Judgment those Parties that

produce Recycled Water are Los Angeles County Sanitation Districts No. 14 and No. 20, Rosamond Community Services District, and Edwards Air Force Base. Nothing in this Judgment affects or impairs this ownership or any existing or future agreements for the use of Recycled Water within the Basin.

6. INJUNCTION

6.1 Injunction Against Unauthorized Production. Each and every Party, its officers, directors, agents, employees, successors, and assigns, except for the United States, is ENJOINED AND RESTRAINED from Producing Groundwater from the Basin except pursuant to this Judgment. Without waiving or foreclosing any arguments or defenses it might have, the United States agrees that nothing herein prevents or precludes the Watermaster or any Party from seeking to enjoin the United States from Producing water in excess of its 7,600 acre-foot per Year Reserved Water Right if and to the extent the United States has not paid the Replacement Assessments for such excess Production or entered into written consent to the imposition of Replacement Assessments as described in Paragraph 9.2.

6.2 Injunction Re Change in Purpose of Use Without Notice to The Watermaster. Each and every Party, its officers, directors, agents, employees, successors, and assigns, is ENJOINED AND RESTRAINED from changing its Purpose of Use of Groundwater at any time without notifying the Watermaster.

6.3 Injunction Against Unauthorized Capture of Stored Water. Each and every Party, its officers, directors, agents, employees, successors and assigns, is ENJOINED AND RESTRAINED from claiming any right to Produce the Stored Water that has been recharged in the Basin, except pursuant to a Storage Agreement with the Watermaster, and as allowed by this Judgment, or pursuant to water banking operations in existence and operating at the time of this Judgment as identified in Paragraph 14. This Paragraph does not prohibit Parties from importing water into the Basin for direct use, or from Producing or using Imported Water Return Flows owned by such Parties pursuant to Paragraph 5.2.

6.4 **Injunction Against Transportation From Basin.** Except upon further order of the Court, each and every Party, its officers, agents, employees, successors and assigns, is ENJOINED AND RESTRAINED from transporting Groundwater hereafter Produced from the Basin to areas outside the Basin except as provided for by the following. The United States may transport water Produced pursuant to its Federal Reserved Water Right to any portion of Edwards Air Force Base, whether or not the location of use is within the Basin. This injunction does not prevent Saint Andrew's Abbey, Inc., U.S. Borax and Tejon Ranchcorp/Tejon Ranch Company from conducting business operations on lands both inside and outside the Basin boundary, and transporting Groundwater Produced consistent with this Judgment for those operations and for use on those lands outside the Basin and within the watershed of the Basin as shown in Exhibit 9. This injunction also does not apply to any California Aqueduct protection dewatering Produced by the California Department of Water Resources. This injunction does not apply to the recovery and use of stored Imported Water by any Party that stores Imported Water in the Basin pursuant to Paragraph 14 of this Judgment.

6.4.1 **Export by Boron and Phelan Piñon Hills Community Services Districts.**

6.4.1.1 The injunction does not prevent Boron Community Services District from transporting Groundwater Produced consistent with this Judgment for use outside the Basin, provided such water is delivered within its service area.

6.4.1.2 The injunction does not apply to any Groundwater Produced within the Basin by Phelan Piñon Hills Community Services District and delivered to its service areas, so long as the total Production does not exceed 1,200 acre-feet per Year, such water is available for Production without causing Material Injury, and the District pays a Replacement Water Assessment pursuant to Paragraph 9.2, together with any other costs deemed necessary to protect Production Rights decreed herein, on all water Produced and exported in this manner.

6.5 **Continuing Jurisdiction.** The Court retains and reserves full jurisdiction, power and authority for the purpose of enabling the Court, upon a motion of a Party or Parties

noticed in accordance with the notice procedures of Paragraph 20.6 hereof, to make such further or supplemental order or directions as may be necessary or appropriate to interpret, enforce, administer or carry out this Judgment and to provide for such other matters as are not contemplated by this Judgment and which might occur in the future, and which if not provided for would defeat the purpose of this Judgment.

III. PHYSICAL SOLUTION

7. GENERAL

7.1 Purpose and Objective. The Court finds that the Physical Solution incorporated as part of this Judgment: (1) is a fair and equitable basis for satisfaction of all water rights in the Basin; (2) is in furtherance of the State Constitution mandate and the State water policy; and (3) takes into account water rights priorities, applicable public trust interests and the Federal Reserved Water Right. The Court finds that the Physical Solution establishes a legal and practical means for making the maximum reasonable and beneficial use of the waters of the Basin by providing for the long-term Conjunctive Use of all available water in order to meet the reasonable and beneficial use requirements of water users in the Basin. Therefore, the Court adopts, and orders the Parties to comply with this Physical Solution.

7.2 Need For Flexibility. This Physical Solution must provide flexibility and adaptability to allow the Court to use existing and future technological, social, institutional, and economic options in order to maximize reasonable and beneficial water use in the Basin.

7.3 General Pattern of Operations. A fundamental premise of the Physical Solution is that all Parties may Produce sufficient water to meet their reasonable and beneficial use requirements in accordance with the terms of this Judgment. To the extent that Production by a Producer exceeds such Producer's right to Produce a portion of the Total Safe Yield as provided in this Judgment, the Producer will pay a Replacement Water Assessment to the Watermaster and the Watermaster will provide Replacement Water to replace such excess production according to the methods set forth in this Judgment.

7.4 **Water Rights.** A Physical Solution for the Basin based upon a declaration of water rights and a formula for allocation of rights and obligations is necessary to implement the mandate of Article X, section 2 of the California Constitution. The Physical Solution requires quantifying the Producers' rights within the Basin in a manner which will reasonably allocate the Native Safe Yield and Imported Water Return Flows and which will provide for sharing Imported Water costs. Imported Water sources are or will be available in amounts which, when combined with water conservation, water reclamation, water transfers, and improved conveyance and distribution methods within the Basin, will be sufficient in quantity and quality to assure implementation of the Physical Solution. Sufficient information and data exists to allocate existing water supplies, taking into account water rights priorities, within the Basin and as among the water users. The Physical Solution provides for delivery and equitable distribution of Imported Water to the Basin.

8. RAMPDOWN

8.1 **Installation of Meters.** Within two (2) Years from the entry of this Judgment all Parties other than the Small Pumper Class shall install meters on their wells for monitoring Production. Each Party shall bear the cost of installing its meter(s). Monitoring or metering of Production by the Small Pumper Class shall be at the discretion of the Watermaster, subject to the provisions of Paragraph 5.1.3.2.

8.2 **Rampdown Period.** The "Rampdown Period" is seven Years beginning on the January 1 following entry of this Judgment and continuing for the following seven (7) Years.

8.3 **Reduction of Production During Rampdown.** During the first two Years of the Rampdown Period no Producer will be subject to a Replacement Water Assessment. During Years three through seven of the Rampdown Period, the amount that each Party may Produce from the Native Safe Yield will be progressively reduced, as necessary, in equal annual increments, from its Pre-Rampdown Production to its Production Right. Except as is determined to be exempt during the Rampdown period pursuant to the Drought Program provided for in

Paragraph 8.4, any amount Produced over the required reduction shall be subject to Replacement Water Assessment. The Federal Reserved Water Right is not subject to Rampdown.

8.4 **Drought Program During Rampdown for Participating Public Water Suppliers.** During the Rampdown period a drought water management program ("Drought Program") will be implemented by District No. 40, Quartz Hill Water District, Littlerock Creek Irrigation District, California Water Service Company, Desert Lake Community Services District, North Edwards Water District, City of Palmdale, and Palm Ranch Irrigation District, (collectively, "Drought Program Participants"), as follows:

8.4.1 During the Rampdown period, District No. 40 agrees to purchase from AVEK each Year at an amount equal to 70 percent of District No. 40's total annual demand if that amount is available from AVEK at no more than the then current AVEK treated water rate. If that amount is not available from AVEK, District No. 40 will purchase as much water as AVEK makes available to District No. 40 at no more than the then current AVEK treated water rate. Under no circumstances will District No. 40 be obligated to purchase more than 50,000 acre-feet of water annually from AVEK. Nothing in this Paragraph affects AVEK's water allocation procedures as established by its Board of Directors and AVEK's Act.

8.4.2 During the Rampdown period, the Drought Program Participants each agree that, in order to minimize the amount of excess Groundwater Production in the Basin, they will use all water made available by AVEK at no more than the then current AVEK treated water rate in any Year in which they Produce Groundwater in excess of their respective rights to Produce Groundwater under this Judgment. During the Rampdown period, no Production by a Drought Program Participant shall be considered excess Groundwater Production exempt from a Replacement Water Assessment under this Drought Program unless a Drought Program Participant has utilized all water supplies available to it including its Production Right to Native Safe Yield, Return Flow rights, unused Production allocation of the Federal Reserved Water Rights, Imported Water, and Production rights previously transferred from another party. Likewise, no Production by a Drought Program Participant will be considered excess

Groundwater Production exempt from a Replacement Water Assessment under this Drought Program in any Year in which the Drought Program Participant has placed water from such sources described in this Paragraph 8.4.2 into storage or has transferred such water to another Person or entity.

8.4.3 During the Rampdown period, the Drought Program Participants will be exempt from the requirement to pay a Replacement Water Assessment for Groundwater Production in excess of their respective rights to Produce Groundwater under this Judgment up to a total of 40,000 acre-feet over the Rampdown Period with a maximum of 20,000 acre-feet in any single Year for District No. 40 and a total of 5,000 acre-feet over the Rampdown Period for all other Drought Program Participants combined. During any Year that excess Groundwater is produced under this Drought Program, all Groundwater Production by the Drought Program Participants will be for the purpose of a direct delivery to customers served within their respective service areas and will not be transferred to other users within the Basin.

8.4.4 Notwithstanding the foregoing, the Drought Program Participants remain subject to the Material Injury limitation as provided in this Judgment.

8.4.5 Notwithstanding the foregoing, the Drought Program Participants remain subject to a Balance Assessment as provided in Paragraph 9.3 of this Judgment.

9. <u>ASSESSMENTS</u>.

9.1 <u>Administrative Assessment</u>. Administrative Assessments to fund the Administrative Budget adopted by the Watermaster shall be levied uniformly on an annual basis against (1) each acre foot of a Party's Production Right as described in Paragraph 5.1, (2) each acre foot of a Party's right to Produce Imported Water Return Flows as determined pursuant to Paragraph 5.2, (3) each acre foot of a Party's Production for which a Replacement Water Assessment has been imposed pursuant to Paragraph 9.2, and (4) during the Rampdown, each acre foot of a Party's Production in excess of (1)-(3), above, excluding Production from Stored Water and/or Carry Over water, except that the United States shall be subject to the Administrative Assessment only on the actual Production of the United States. During the

Rampdown the Administrative Assessment shall be no more than five (5) dollars per acre foot, or as ordered by the Court upon petition of the Watermaster. Non-Overlying Production Rights holders using the unused Production allocation of the Federal Reserved Water Right shall be subject to Administrative Assessments on water the Non-Overlying Production Rights holders Produce pursuant to Paragraph 5.1.4.1.

9.2 **Replacement Water Assessment.** In order to ensure that each Party may fully exercise its Production Right, there will be a Replacement Water Assessment. Except as is determined to be exempt during the Rampdown period pursuant to the Drought Program provided for in Paragraph 8.4, the Watermaster shall impose the Replacement Water Assessment on any Producer whose Production of Groundwater from the Basin in any Year is in excess of the sum of such Producer's Production Right and Imported Water Return Flow available in that Year, provided that no Replacement Water Assessment shall be imposed on the United States except upon the United States' written consent to such imposition based on the appropriation by Congress, and the apportionment by the Office of Management and Budget, of funds that are available for the purpose of, and sufficient for, paying the United States' Replacement Water Assessment. The Replacement Water Assessment shall not be imposed on the Production of Stored Water, In-Lieu Production or Production of Imported Water Return Flows. The amount of the Replacement Water Assessment shall be the amount of such excess Production multiplied by the cost to the Watermaster of Replacement Water, including any Watermaster spreading costs. All Replacement Water Assessments collected by the Watermaster shall be used to acquire Imported Water from AVEK, Littlerock Creek Irrigation District, Palmdale Water District, or other entities. AVEK shall use its best efforts to acquire as much Imported Water as possible in a timely manner. If the Watermaster encounters delays in acquiring Imported Water which, due to cost increases, results in collected assessment proceeds being insufficient to purchase all Imported Water for which the Assessments were made, the Watermaster shall purchase as much water as the proceeds will allow when the water becomes available. If available Imported Water is insufficient to fully meet the Replacement Water obligations under contracts, the Watermaster

shall allocate the Imported Water for delivery to areas on an equitable and practicable basis pursuant to the Watermaster rules and regulations.

9.2.1 The Non-Pumper Class Stipulation of Settlement, executed by its signatories and approved by the Court in the Non-Pumper Class Judgment, specifically provides for imposition of a Replacement Water Assessment on Non-Pumper Class members. This Judgment is consistent with the Non-Pumper Class Stipulation of Settlement and Judgment. The Non-Pumper Class members specifically agreed to pay a replacement assessment if that member produced "more than its annual share" of the Native Safe Yield less the amount of the Federal Reserved Right. (See Appendix B at paragraph V., section D. Replacement Water.) In approving the Non-Pumper Class Stipulation of Settlement this Court specifically held in its Order after Hearing dated November 18, 2010, that "the court determination of physical solution cannot be limited by the Class Settlement." The Court also held that the Non-Pumper Class Stipulation of Settlement "may not affect parties who are not parties to the settlement."

9.2.2 Evidence presented to the Court demonstrates that Production by one or more Public Water Suppliers satisfies the elements of prescription and that Production by overlying landowners during portion(s) of the prescriptive period exceeded the Native Safe Yield. At the time of this Judgment the entire Native Safe Yield is being applied to reasonable and beneficial uses in the Basin. Members of the Non-Pumper Class do not and have never Produced Groundwater for reasonable beneficial use as of the date of this Judgment. Pursuant to *Pasadena v. Alhambra* (1949) 33 Cal 2d 908, 931-32 and other applicable law, the failure of the Non-Pumper Class members to Produce any Groundwater under the facts here modifies their rights to Produce Groundwater except as provided in this Judgment. Because this is a comprehensive adjudication pursuant to the McCarran Amendment, consistent with the California Supreme Court decisions, including *In Re Waters of Long Valley Creek Stream System* (1979) 25 Cal. 3d 339, this Court makes the following findings: (1) certainty fosters reasonable and beneficial use of water and is called for by the mandate of Article X, section 2; (2) because of this mandate for certainty and in furtherance of the Physical Solution, any New Production, including that by a

member of the Non-Pumper Class must comply with the New Production Application Procedure specified in Paragraph 18.5.13; (3) as of this Judgment no member of the Non-Pumper Class has established a Production Right to the reasonable and beneficial use of Groundwater based on their unexercised claim of right to Produce Groundwater; (4) if in the future a member of the Non-Pumper Class proposes to Produce Groundwater for reasonable and beneficial use, the Watermaster as part of the New Production Application Procedure, has the authority to determine whether such a member has established that the proposed New Production is a reasonable and beneficial use in the context of other existing uses of Groundwater and then-current Basin conditions; and (5) the Watermaster's determinations as to the approval, scope, nature and priority of any New Production is reasonably necessary to the promotion of the State's interest in fostering the most reasonable and beneficial use of its scarce water resources. All provisions of this Judgment regarding the administration, use and enforcement of the Replacement Water Assessment shall apply to each Non-Pumper Class member that Produces Groundwater. Prior to the commencement of Production, each Producing Non-Pumper Class member shall install a meter and report Production to the Watermaster. The Court finds that this Judgment is consistent with the Non-Pumper Stipulation of Settlement and Judgment.

9.3 **Balance Assessment.** In order to ensure that after Rampdown each Party may fully exercise its Production Right, there may be a Balance Assessment imposed by the Watermaster. The Balance Assessment shall be assessed on all Production Rights, excluding the United States' actual Production, but including that portion of the Federal Reserved Right Produced by other Parties, in an amount determined by the Watermaster. A Balance Assessment may not be imposed until after the end of the Rampdown. In determining whether to adopt a Balance Assessment, and in what amount, the Watermaster Engineer shall consider current Basin conditions as well as then-current pumping existing after Rampdown exclusive of any consideration of an effect on then-current Basin conditions relating to Production of Groundwater pursuant to the Drought Program which occurred during the Rampdown, and shall only assess a

Balance Assessment or curtail a Party's Production under section 9.3.4 below, to avoid or mitigate Material Injury that is caused by Production after the completion of the Rampdown.

9.3.1 Any proceeds of the Balance Assessment will be used to purchase, deliver, produce in lieu, or arrange for alternative pumping sources of water in the Basin, but shall not include infrastructure costs.

9.3.2 The Watermaster Engineer shall determine and collect from any Party receiving direct benefit of the Balance Assessment proceeds an amount equal to that Party's avoided Production costs.

9.3.3 The Balance Assessment shall not be used to benefit the United States unless the United States participates in paying the Balance Assessment.

9.3.4 The Watermaster Engineer may curtail the exercise of a Party's Production Right under this Judgment, except the United States' Production, if it is determined necessary to avoid or mitigate a Material Injury to the Basin and provided that the Watermaster provides an equivalent quantity of water to such Party as a substitute water supply, with such water paid for from the Balance Assessment proceeds.

10. **SUBAREAS.** Subject to modification by the Watermaster the following Subareas are recognized:

10.1 **Central Antelope Valley Subarea**. The Central Antelope Valley Subarea is the largest of the five Subareas and underlies Rosamond, Quartz Hill, Lancaster, Edwards AFB and much of Palmdale. This Subarea also contains the largest amount of remaining agricultural land use in the Basin. The distinctive geological features of the Central Antelope Valley Subarea are the presence of surficial playa and pluvial lake deposits; the widespread occurrence of thick, older pluvial lake bed deposits; and alluvial deposits from which Groundwater is produced above and below the lake bed deposits. The Central Antelope Valley Subarea is defined to be east of the largely buried ridge of older granitic and tertiary rocks exposed at Antelope Buttes and extending beyond Little Buttes and Tropico Hill. The Central Subarea is defined to be southwest and

northeast of the extension of the Buttes Fault, and northwest of an unnamed fault historically identified from Groundwater level differences, as shown on Exhibit 10.

10.2 **West Antelope Valley Subarea**. The West Antelope Valley Subarea is the second largest subarea. The area is characterized by a lack of surficial lake bed deposits, and little evidence of widespread subsurface lake beds, and thick alluvial deposits. The Western Antelope Valley Subarea is defined to be south of the Willow Springs-Cottonwood Fault and west of a largely buried ridge of older granitic and tertiary rocks that are exposed at Antelope Buttes and Little Buttes, and continue to Tropico Hill, as shown on Exhibit 10.

10.3 **South East Subarea**. The South East Subarea is characterized by granitic buttes to the north, shallow granitic rocks in the southwest, and a lack of lake bed deposits. The South East Subarea is defined to encompass the remainder of the Basin from the unnamed fault between the Central and South East subareas, to the county-line boundary of the Basin. Notably, this area contains Littlerock and Big Rock creeks that emanate from the mountains to the south and discharge onto the valley floor.

10.4 **Willow Springs Subarea.** The Willow Springs Subarea is separated from the West Antelope Subarea primarily because the Willow Springs fault shows some signs of recent movement and there is substantial Groundwater hydraulic separation between the two adjacent areas, suggesting that the fault significantly impedes Groundwater flow from the Willow Springs to the lower West Antelope Subarea. Otherwise, the Willow Springs Subarea is comparable in land use to the West Antelope Subarea, with some limited agricultural land use and no municipal development, as shown on Exhibit 10.

10.5 **Rogers Lake Subarea**. The Rogers Lake Subarea is characterized by surficial pluvial Lake Thompson and playa deposits, and a narrow, fault-bound, central trough filled with alluvial deposits. The area is divided into north and south subareas on opposite sides of a buried ridge of granite rock in the north lake, as shown on Exhibit 10.

11. INCREASE IN PRODUCTION BY THE UNITED STATES.

11.1 Notice of Increase of Production Under Federal Reserved Water Right. After the date of entry of this Judgment, the United States shall provide the Watermaster with at least ninety (90) days advanced notice if Production by the United States is reasonably anticipated to increase more than 200 acre-feet per Year in a following 12 month period.

11.2 Water Substitution to Reduce Production by United States. The United States agrees that maximizing Imported Water is essential to improving the Basin's health and agrees that its increased demand can be met by either increasing its Production or by accepting deliveries of Imported Water of sufficient quality to meet the purpose of its Federal Reserved Water Right under the conditions provided for herein. Any Party may propose a water substitution or replacement to the United States to secure a reduction in Groundwater Production by the United States. Such an arrangement would be at the United States' sole discretion and subject to applicable federal law, regulations and other requirements. If such a substitution or replacement arrangement is agreed upon, the United States shall reduce Production by the amount of Replacement Water provided to it, and the Party providing such substitution or replacement of water to the United States may Produce a corresponding amount of Native Safe Yield free from Replacement Water Assessment in addition to their Production Right.

12. MOVEMENT OF PUBLIC WATER SUPPLIERS PRODUCTION FACILITIES.

12.1 No Requirement to Move Public Water Suppliers' Production Wells. One or more of the Public Water Suppliers intend to seek Federal or State legislation to pay for all costs related to moving the Public Water Suppliers Production wells to areas that will reduce the impact of Public Water Supplier Production on the United States' current Production wells. The Public Water Suppliers shall have no responsibility to move any Production wells until Federal or State legislation fully funding the costs of moving the wells is effective or until required to do so by order of this Court which order shall not be considered or made by this Court until the seventeenth (17th) Year after entry of this Judgment. The Court may only make such an order if it finds that the Public Water Supplier Production from those wells is causing Material

Injury. The Court shall not impose the cost of moving the Public Water Supplier Production Facilities on any non-Public Water Supplier Party to this Judgment.

13. FEDERAL APPROVAL. This Judgment is contingent on final approval by the Department of Justice. Such approval will be sought upon final agreement of the terms of this Judgment by the settling Parties. Nothing in this Judgment shall be interpreted or construed as a commitment or requirement that the United States obligate or pay funds in contravention of the Anti-Deficiency Act, 31 U.S.C. § 1341, or any other applicable provision of law. Nothing in this Judgment, specifically including Paragraphs 9.1, 9.2 and 9.3, shall be construed to deprive any federal official of the authority to revise, amend, or promulgate regulations. Nothing in this Judgment shall be deemed to limit the authority of the executive branch to make recommendations to Congress on any particular piece of legislation. Nothing in this Judgment shall be construed to commit a federal official to expend federal funds not appropriated by Congress. To the extent that the expenditure or advance of any money or the performance of any obligation of the United States under this Judgment is to be funded by appropriation of funds by Congress, the expenditure, advance, or performance shall be contingent upon the appropriation of funds by Congress that are available for this purpose and the apportionment of such funds by the Office of Management and Budget and certification by the appropriate Air Force official that funding is available for this purpose, and an affirmative obligation of the funds for payment made by the appropriate Air Force official. No breach of this Judgment shall result and no liability shall accrue to the United States in the event such funds are not appropriated or apportioned.

14. STORAGE. All Parties shall have the right to store water in the Basin pursuant to a Storage Agreement with the Watermaster. If Littlerock Creek Irrigation District or Palmdale Water District stores Imported Water in the Basin it shall not export from its service area that Stored Water. AVEK, Littlerock Creek Irrigation District or Palmdale Water District may enter into exchanges of their State Water Project "Table A" Amounts. Nothing in this Judgment limits or modifies operation of preexisting banking projects (including AVEK, District No. 40, Antelope Valley Water Storage LLC, Tejon Ranchcorp and Tejon Ranch Company, Sheep Creek Water

Co., Rosamond Community Services District and Palmdale Water District) or performance of preexisting exchange agreements of the Parties. The Watermaster shall promptly enter into Storage Agreements with the Parties at their request. The Watermaster shall not enter into Storage Agreements with non-Parties unless such non-Parties become expressly subject to the provisions of this Judgment and the jurisdiction of the Court. Storage Agreements shall expressly preclude operations which will cause a Material Injury on any Producer. If, pursuant to a Storage Agreement, a Party has provided for pre-delivery or post-delivery of Replacement Water for the Party's use, the Watermaster shall credit such water to the Party's Replacement Water Obligation at the Party's request. Any Stored Water that originated as State Water Project water imported by AVEK, Palmdale Water District or Littlerock Creek Irrigation District may be exported from the Basin for use in a portion of the service area of any city or public agency, including State Water Project Contractors, that are Parties to this action at the time of this Judgment and whose service area includes land outside the Basin. AVEK may export any of its Stored State Project Water to any area outside its jurisdictional boundaries and the Basin provided that all water demands within AVEK's jurisdictional boundaries are met. Any Stored Water that originated as other Imported Water may be exported from the Basin, subject to a requirement that the Watermaster make a technical determination of the percentage of the Stored Water that is unrecoverable and that such unrecoverable Stored Water is dedicated to the Basin.

15. <u>CARRY OVER</u>

15.1 <u>In Lieu Production Right Carry Over</u>. Any Producer identified in Paragraph 5.1.1, 5.1.5 and 5.1.6 can utilize In Lieu Production by purchasing Imported Water and foregoing Production of a corresponding amount of the annual Production of Native Safe Yield provided for in Paragraph 5 herein. In Lieu Production must result in a net reduction of annual Production from the Native Safe Yield in order to be entitled to the corresponding Carry Over benefits under this paragraph. In Lieu Production does not make additional water from the Native Safe Yield available to any other Producer. If a Producer foregoes pumping and uses Imported Water In Lieu of Production, the Producer may Carry Over its right to the unproduced portion of

its Production Right for up to ten (10) Years. A Producer must Produce its full current Year's Production Right before any Carry Over water is Produced. Carry Over water will be Produced on a first-in, first-out basis. At the end of the Carry Over period, the Producer may enter into a Storage Agreement with the Watermaster to store unproduced portions, subject to terms and conditions in the Watermaster's discretion. Any such Storage Agreements shall expressly preclude operations, including the rate and amount of extraction, which will cause a Material Injury to another Producer or Party, any subarea or the Basin. If not converted to a Storage Agreement, Carry Over water not Produced by the end of the tenth Year reverts to the benefit of the Basin and the Producer no longer has a right to the Carry Over water. The Producer may transfer any Carry Over water or Carry Over water stored pursuant to a Storage Agreement.

15.2 **Imported Water Return Flow Carry Over.** If a Producer identified in Paragraph 5.1.1, 5.1.5 and 5.1.6 fails to Produce its full amount of Imported Water Return Flows in the Year following the Year in which the Imported Water was brought into the Basin, the Producer may Carry Over its right to the unproduced portion of its Imported Water Return Flows for up to ten (10) Years. A Producer must Produce its full Production Right before any Carry Over water, or any other water, is Produced. Carry Over water will be Produced on a first-in, first-out basis. At the end of the Carry Over period, the Producer may enter into a Storage Agreement with the Watermaster to store unproduced portions, subject to terms and conditions in the Watermaster's discretion. Any such Storage Agreements shall expressly preclude operations, including the rate and amount of extraction, which will cause a Material Injury to another Producer or Party, any subarea or the Basin. If not converted to a Storage Agreement, Carry Over water not Produced by the end of the tenth Year reverts to the benefit of the Basin and the Producer no longer has a right to the Carry Over water. The Producer may transfer any Carry Over water or Carry Over water stored pursuant to a Storage Agreement.

15.3 **Production Right Carry Over.** If a Producer identified in Paragraph 5.1.1, 5.1.5 and 5.1.6 fails to Produce its full Production Right in any Year, the Producer may Carry Over its right to the unproduced portion of its Production Right for up to ten (10) Years. A

Producer must Produce its full Production Right before any Carry Over water, or any other water, is Produced. Carry Over water will be Produced on a first-in, first-out basis. At the end of the Carry Over period, the Producer may enter into a Storage Agreement with the Watermaster to store unproduced portions, subject to terms and conditions in the Watermaster's discretion. Any such Storage Agreements shall expressly preclude operations, including the rate and amount of extraction, which will cause a Material Injury to another Producer or Party, any subarea or the Basin. If not converted to a Storage Agreement, Carry Over water not Produced by the end of the tenth Year reverts to the benefit of the Basin and the Producer no longer has a right to the Carry Over water. The Producer may transfer any Carry Over water or Carry Over water stored pursuant to a Storage Agreement.

16. TRANSFERS.

16.1 When Transfers are Permitted. Pursuant to terms and conditions to be set forth in the Watermaster rules and regulations, and except as otherwise provided in this Judgment, Parties may transfer all or any portion of their Production Right to another Party so long as such transfer does not cause Material Injury. All transfers are subject to hydrologic review by the Watermaster Engineer.

16.2 Transfers to Non-Overlying Production Right Holders. Overlying Production Rights that are transferred to Non-Overlying Production Right holders shall remain on Exhibit 4 and be subject to adjustment as provided in Paragraph 18.5.10, but may be used anywhere in the transferee's service area.

16.3 Limitation on Transfers of Water by Antelope Valley United Mutuals Group. After the date of this Judgment, any Overlying Production Rights pursuant to Paragraph 5.1.1, rights to Imported Water Return Flows pursuant to Paragraph 5.2, rights to Recycled Water pursuant to Paragraph 5.3 and Carry Over water pursuant to Paragraph 15 (including any water banked pursuant to a Storage Agreement with the Watermaster) that are at any time held by any member of the Antelope Valley United Mutuals Group may only be transferred to or amongst other members of the Antelope Valley United Mutuals Group, except as provided in Paragraph

16.3.1. Transfers amongst members of the Antelope Valley United Mutuals Group shall be separately reported in the Annual Report of the Watermaster pursuant to Paragraphs 18.4.8 and 18.5.17. Transfers amongst members of the Antelope Valley United Mutuals Group shall not be deemed to constitute an abandonment of any member's non-transferred rights.

16.3.1 Nothing in Paragraph 16.3 shall prevent Antelope Valley United Mutuals Group members from transferring Overlying Production Rights to Public Water Suppliers who assume service of an Antelope Valley United Mutuals Group member's shareholders.

16.4 Notwithstanding section 16.1, the Production Right of Boron Community Services District shall not be transferable. If and when Boron Community Services District permanently ceases all Production of Groundwater from the Basin, its Production Right shall be allocated to the other holders of Non-Overlying Production Rights, except for West Valley County Water District, in proportion to those rights.

17. **CHANGES IN POINT OF EXTRACTION AND NEW WELLS.** Parties may change the point of extraction for any Production Right to another point of extraction so long as such change of the point of extraction does not cause Material Injury. A replacement well for an existing point of extraction which is located within 300 feet of a Party's existing well shall not be considered a change in point of extraction.

17.1 **Notice of New Well**. Any Party seeking to construct a new well in order to change the point of extraction for any Production Right to another point of extraction shall notify the Watermaster at least 90 days in advance of drilling any well of the location of the new point of extraction and the intended place of use of the water Produced.

17.2 **Change in Point of Extraction by the United States**. The point(s) of extraction for the Federal Reserved Water Right may be changed, at the sole discretion of the United States, and not subject to the preceding limitation on Material Injury, to any point or points within the boundaries of Edwards Air Force Base or Plant 42. The point(s) of extraction for the Federal Reserved Water Right may be changed to points outside the boundaries of

Edwards Air Force Base or Plant 42, provided such change in the point of extraction does not cause Material Injury. In exercising its discretion under this Paragraph 17.2, the United States shall consider information in its possession regarding the effect of Production from the intended new point of extraction on the Basin, and on other Producers. Any such change in point(s) of extraction shall be at the expense of the United States. Nothing in this Paragraph is intended to waive any monetary claim(s) another Party may have against the United States in federal court based upon any change in point of extraction by the United States.

18. <u>WATERMASTER</u>

18.1 <u>Appointment of Initial Watermaster</u>.

18.1.1 Appointment and Composition: The Court hereby appoints a Watermaster. The Watermaster shall be a five (5) member board composed of one representative each from AVEK and District No. 40, a second Public Water Supplier representative selected by District No. 40, Palmdale Water District, Quartz Hill Water District, Littlerock Creek Irrigation District, California Water Service Company, Desert Lake Community Services District, North Edwards Water District, City of Palmdale, City of Lancaster, Palm Ranch Irrigation District, and Rosamond Community Services District, and two (2) landowner Parties, exclusive of public agencies and members of the Non-Pumper and Small Pumper Classes, selected by majority vote of the landowners identified on Exhibit 4 (or their successors in interest) based on their proportionate share of the total Production Rights identified in Exhibit 4. The United States may also appoint a non-voting Department of Defense (DoD) Liaison to the Watermaster committee to represent DoD interests. Participation by the DoD Liaison shall be governed by Joint Ethics Regulation 3-201. The opinions or actions of the DoD liaison in participating in or contributing to Watermaster proceedings cannot bind DoD or any of its components.

18.1.2 Voting Protocol for Watermaster Actions:

18.1.2.1 The Watermaster shall make decisions by unanimous vote for the purpose of selecting or dismissing the Watermaster Engineer.

18.1.2.2 The Watermaster shall determine by unanimous vote, after consultation with the Watermaster Engineer, the types of decisions that shall require unanimous vote and those that shall require only a simple majority vote.

18.1.2.3 All decisions of the Watermaster, other than those specifically designated as being subject to a simple majority vote, shall be by a unanimous vote.

18.1.2.4 All board members must be present to make any decision requiring a unanimous vote.

18.1.3 In carrying out this appointment, the Watermaster shall segregate and separately exercise in all respects the Watermaster powers delegated by the Court under this Judgment. All funds received, held, and disbursed by the Watermaster shall be by way of separate Watermaster accounts, subject to separate accounting and auditing. Meetings and hearings held by the Watermaster shall be noticed and conducted separately.

18.1.4 Pursuant to duly adopted Watermaster rules, Watermaster staff and administrative functions may be accomplished by AVEK, subject to strict time and cost accounting principles so that this Judgment does not subsidize, and is not subsidized by AVEK.

18.2 **Standard of Performance.** The Watermaster shall carry out its duties, powers and responsibilities in an impartial manner without favor or prejudice to any Subarea, Producer, Party, or Purpose of Use.

18.3 **Removal of Watermaster.** The Court retains and reserves full jurisdiction, power, and authority to remove any Watermaster for good cause and substitute a new Watermaster in its place, upon its own motion or upon motion of any Party in accordance with the notice and hearing procedures set forth in Paragraph 20.6. The Court shall find good cause for the removal of a Watermaster upon a showing that the Watermaster has: (1) failed to exercise its powers or perform its duties; (2) performed its powers in a biased manner; or (3) otherwise failed to act in the manner consistent with the provisions set forth in this Judgment or subsequent order of the Court.

18.4 **<u>Powers and Duties of the Watermaster</u>.** Subject to the continuing supervision and control of the Court, the Watermaster shall have and may exercise the following express powers and duties, together with any specific powers and duties set forth elsewhere in this Judgment or ordered by the Court:

18.4.1 **Selection of the Watermaster Engineer.** The Watermaster shall select the Watermaster Engineer with the advice of the Advisory Committee described in Paragraph 19.

18.4.2 **Adoption of Rules and Regulations.** The Court may adopt appropriate rules and regulations prepared by the Watermaster Engineer and proposed by the Watermaster for conduct pursuant to this Judgment. Before proposing rules and regulations, the Watermaster shall hold a public hearing. Thirty (30) days prior to the date of the hearing, the Watermaster shall send to all Parties notice of the hearing and a copy of the proposed rules and regulations or amendments thereto. All Watermaster rules and regulations, and any amendments to the Watermaster rules and regulations, shall be consistent with this Judgment and are subject to approval by the Court, for cause shown, after consideration of the objections of any Party.

18.4.3 **Employment of Experts and Agents.** The Watermaster may employ such administrative personnel, engineering, legal, accounting, or other specialty services, and consulting assistants as appropriate in carrying out the terms of this Judgment.

18.4.4 **Notice List.** The Watermaster shall maintain a current list of Parties to receive notice. The Parties have an affirmative obligation to provide the Watermaster with their current contact information. For Small Pumper Class Members, the Watermaster shall initially use the contact information contained in the list of Small Pumper Class members filed with the Court by class counsel.

18.4.5 **Annual Administrative Budget.** The Watermaster shall prepare a proposed administrative budget for each Year. The Watermaster shall hold a public hearing regarding the proposed administrative budget and adopt an administrative budget. The administrative budget shall set forth budgeted items and Administrative Assessments in sufficient

detail to show the allocation of the expense among the Producers. Following the adoption of the budget, the Watermaster may make expenditures within budgeted items in the exercise of powers herein granted, as a matter of course.

18.4.6 Investment of Funds. The Watermaster may hold and invest any funds in investments authorized from time to time for public agencies in the State of California. All funds shall be held in separate accounts and not comingled with the Watermaster's personal funds.

18.4.7 Borrowing. The Watermaster may borrow in anticipation of receipt of proceeds from any assessments authorized in Paragraph 9 in an amount not to exceed the annual amount of assessments.

18.4.8 Transfers. On an annual basis, the Watermaster shall prepare and maintain a report or record of any transfer of Production Rights among Parties. Upon reasonable request, the Watermaster shall make such report or record available for inspection by any Party. A report or records of transfer of Production Rights under this Paragraph shall be considered a ministerial act.

18.4.9 New Production Applications. The Watermaster shall consider and determine whether to approve applications for New Production after consideration of the recommendation of the Watermaster Engineer.

18.4.10 Unauthorized Actions. The Watermaster shall bring such action or motion as is necessary to enjoin any conduct prohibited by this Judgment.

18.4.11 Meetings and Records. Watermaster shall provide notice of and conduct all meetings and hearings in a manner consistent with the standards and timetables set forth in the Ralph M. Brown Act, Government Code sections 54950, et seq. Watermaster shall make its files and records available to any Person consistent with the standards and timetables set forth in the Public Records Act, Government Code sections 6200, et seq.

18.4.12 Assessment Procedure. Each Party hereto is ordered to pay the assessments authorized in Paragraph 9 of this Judgment, which shall be levied and collected in

accordance with the procedures and schedules determined by the Watermaster. Any assessment which becomes delinquent, as defined by rules and regulations promulgated by the Watermaster shall bear interest at the then current real property tax delinquency rate for the county in which the property of the delinquent Party is located. The United States shall not be subject to payment of interest absent congressional waiver of immunity for the imposition of such interest. This interest rate shall apply to any said delinquent assessment from the due date thereof until paid. The delinquent assessment, together with interest thereon, costs of suit, attorneys fees and reasonable costs of collection, may be collected pursuant to (1) motion by the Watermaster giving notice to the delinquent Party only; (2) Order to Show Cause proceeding, or (3) such other lawful proceeding as may be instituted by the Watermaster or the Court. The United States shall not be subject to costs and fees absent congressional waiver of immunity for such costs and fees. The delinquent assessment shall constitute a lien on the property of the Party as of the same time and in the same manner as does the tax lien securing county property taxes. The property of the United States shall not be subject to any lien. The Watermaster shall annually certify a list of all such unpaid delinquent assessments. The Watermaster shall include the names of those Parties and the amounts of the liens in its list to the County Assessor's Office in the same manner and at the same time as it does its Administrative Assessments. Watermaster shall account for receipt of all collections of assessments collected pursuant to this Judgment, and shall pay such amounts collected pursuant to this Judgment to the Watermaster. The Watermaster shall also have the ability to seek to enjoin Production of those Parties, other than the United States, who do not pay assessments pursuant to this Judgment.

18.5 **Watermaster Engineer.** The Watermaster Engineer shall have the following duties:

18.5.1 **Monitoring of Safe Yield.** The Watermaster Engineer shall monitor all the Safe Yield components and include them in the annual report for Court approval. The annual report shall include all relevant data for the Basin.

18.5.2 Reduction in Groundwater Production. The Watermaster Engineer shall ensure that reductions of Groundwater Production to the Native Safe Yield (Rampdown) take place pursuant to the terms of this Judgment and any orders by the Court.

18.5.3 Determination of Replacement Obligations. The Watermaster Engineer shall determine Replacement Obligations for each Producer, pursuant to the terms of this Judgment.

18.5.4 Balance Obligations. The Watermaster Engineer shall determine Balance Assessment obligations for each Producer pursuant to the terms of this Judgment. In addition, the Watermaster Engineer shall determine the amount of water derived from the Balance Assessment that shall be allocated to any Producer to enable that Producer to fully exercise its Production Right.

18.5.5 Measuring Devices, Etc. The Watermaster Engineer shall propose, and the Watermaster shall adopt and maintain, rules and regulations regarding determination of Production amounts and installation of individual water meters. The rules and regulations shall set forth approved devices or methods to measure or estimate Production. Producers who meter Production on the date of entry of this Judgment shall continue to meter Production. The Watermaster rules and regulations shall require Producers who do not meter Production on the effective date of entry of this Judgment, except the Small Pumper Class, to install water meters within two Years.

18.5.6 Hydrologic Data Collection. The Watermaster Engineer shall (1) operate, and maintain such wells, measuring devices, and/or meters necessary to monitor stream flow, precipitation, Groundwater levels, and Basin Subareas, and (2) to obtain such other data as may be necessary to carry out this Judgment.

18.5.7 Purchases of and Recharge with Replacement Water. To the extent Imported Water is available, the Watermaster Engineer shall use Replacement Water Assessment proceeds to purchase Replacement Water, and deliver such water to the area deemed most appropriate as soon as practicable. The Watermaster Engineer may pre-purchase

Replacement Water and apply subsequent assessments towards the costs of such pre-purchases. The Watermaster Engineer shall reasonably and equitably actively manage the Basin to protect and enhance the health of the Basin.

18.5.8 Water Quality. The Watermaster Engineer shall take all reasonable steps to assist and encourage appropriate regulatory agencies to enforce reasonable water quality regulations affecting the Basin, including regulation of solid and liquid waste disposal, and establishing Memorandums of Understanding with Kern and Los Angeles Counties regarding well drilling ordinances and reporting.

18.5.9 Native Safe Yield. Ten (10) Years following the end of the seven Year Rampdown period, in the seventeenth (17th) Year, or any time thereafter, the Watermaster Engineer may recommend to the Court an increase or reduction of the Native Safe Yield. The Watermaster Engineer shall initiate no recommendation to change Native Safe Yield prior to the end of the seventeenth (17th) Year. In the event the Watermaster Engineer recommends in its report to the Court that the Native Safe Yield be revised based on the best available science, the Court shall conduct a hearing regarding the recommendations and may order a change in Native Safe Yield. Watermaster shall give notice of the hearing pursuant to Paragraph 20.3.2. The most recent Native Safe Yield shall remain in effect until revised by Court order according to this paragraph. If the Court approves a reduction in the Native Safe Yield, it shall impose a Pro-Rata Reduction as set forth herein, such reduction to be implemented over a seven (7) Year period. If the Court approves an increase in the Native Safe Yield, it shall impose a Pro-Rata Increase as set forth herein, such increase to be implemented immediately. Only the Court can change the Native Safe Yield.

18.5.10 Change in Production Rights in Response to Change in Native Safe Yield. In the event the Court changes the Native Safe Yield pursuant to Paragraph 18.5.9, the increase or decrease will be allocated among the Producers in the agreed percentages listed in Exhibits 3 and 4, except that the Federal Reserved Water Right of the United States is not subject to any increase or decrease.

18.5.11 Review of Calculation of Imported Water Return Flow Percentages. Ten (10) Years following the end of the Rampdown, in the seventeenth (17th) Year, or any time thereafter, the Watermaster Engineer may recommend to the Court an increase or decrease of Imported Water Return Flow percentages. The Watermaster Engineer shall initiate no recommendation to change Imported Water Return Flow percentages prior to end of the seventeenth (17th) Year. In the event the Watermaster Engineer recommends in its report to the Court that Imported Water Return Flow percentages for the Basin may need to be revised based on the best available science, the Court shall conduct a hearing regarding the recommendations and may order a change in Imported Water Return Flow percentages. Watermaster shall give notice of the hearing pursuant to Paragraph 20.6. The Imported Water Return Flow percentages set forth in Paragraph 5.2 shall remain in effect unless revised by Court order according to this Paragraph. If the Court approves a reduction in the Imported Water Return Flow percentages, such reduction shall be implemented over a seven (7) Year period. Only the Court can change the Imported Water Return Flow percentages.

18.5.12 Production Reports. The Watermaster Engineer shall require each Producer, other than unmetered Small Pumper Class Members, to file an annual Production report with the Watermaster. Producers shall prepare the Production reports in a form prescribed by the rules and regulations. The Production reports shall state the total Production for the reporting Party, including Production per well, rounded off to the nearest tenth of an acre foot for each reporting period. The Production reports shall include such additional information and supporting documentation as the rules and regulations may reasonably require.

18.5.13 New Production Application Procedure. The Watermaster Engineer shall determine whether a Party or Person seeking to commence New Production has established the reasonableness of the New Production in the context of all other uses of Groundwater in the Basin at the time of the application, including whether all of the Native Safe Yield is then currently being used reasonably and beneficially. Considering common law water rights and priorities, the mandate of certainty in Article X, section 2, and all other relevant

factors, the Watermaster Engineer has authority to recommend that the application for New Production be denied, or approved on condition of payment of a Replacement Water Assessment. The Watermaster Engineer shall consider, investigate and recommend to the Watermaster whether an application to commence New Production of Groundwater may be approved as follows:

18.5.13.1 All Parties or Person(s) seeking approval from the Watermaster to commence New Production of Groundwater shall submit a written application to the Watermaster Engineer which shall include the following:

18.5.13.1.1 Payment of an application fee sufficient to recover all costs of application review, field investigation, reporting, and hearing, and other associated costs, incurred by the Watermaster and Watermaster Engineer in processing the application for New Production;

18.5.13.1.2 Written summary describing the proposed quantity, sources of supply, season of use, Purpose of Use, place of use, manner of delivery, and other pertinent information regarding the New Production;

18.5.13.1.3 Maps identifying the location of the proposed New Production, including Basin Subarea;

18.5.13.1.4 Copy of any water well permits, specifications and well-log reports, pump specifications and testing results, and water meter specifications associated with the New Production;

18.5.13.1.5 Written confirmation that the applicant has obtained all applicable Federal, State, County, and local land use entitlements and other permits necessary to commence the New Production;

18.5.13.1.6 Written confirmation that the applicant has complied with all applicable Federal, State, County, and local laws, rules and regulations, including but not limited to, the California Environmental Quality Act (Public Resources Code §§ 21000, et. seq.);

18.5.13.1.7 Preparation of a water conservation plan, approved and stamped by a California licensed and registered professional civil engineer, demonstrating that the New Production will be designed, constructed and implemented consistent with California best water management practices.

18.5.13.1.8 Preparation of an analysis of the economic impact of the New Production on the Basin and other Producers in the Subarea of the Basin;

18.5.13.1.9 Preparation of an analysis of the physical impact of the New Production on the Basin and other Producers in the Subarea of the Basin;

18.5.13.1.10 A written statement, signed by a California licensed and registered professional civil engineer, determining that the New Production will not cause Material Injury;

18.5.13.1.11 Written confirmation that the applicant agrees to pay the applicable Replacement Water Assessment for any New Production.

18.5.13.1.12 Other pertinent information which the Watermaster Engineer may require.

18.5.13.2 **Finding of No Material Injury**. The Watermaster Engineer shall not make recommendation for approval of an application to commence New Production of Groundwater unless the Watermaster Engineer finds, after considering all the facts and circumstances including any requirement that the applicant pay a Replacement Water Assessment required by this Judgment or determined by the Watermaster Engineer to be required under the circumstances, that such New Production will not cause Material Injury. If the New Production is limited to domestic use for one single-family household, the Watermaster Engineer has the authority to determine the New Production to be *de minimis* and waive payment of a Replacement Water Assessment; *provided*, the right to Produce such *de minimis* Groundwater is not transferable, and shall not alter the Production Rights decreed in this Judgment.

18.5.13.3 **New Production**. No Party or Person shall commence New Production of Groundwater from the Basin absent recommendation by the Watermaster Engineer and approval by the Watermaster.

18.5.13.4 **Court Review.** Court review of a Watermaster decision on a New Production application shall be pursuant to Paragraph 20.3.

18.5.14 **Storage Agreements**. The Watermaster shall adopt uniformly applicable rules for Storage Agreements. The Watermaster Engineer shall calculate additions, extractions and losses of water stored under Storage Agreements and maintain an Annual account of all such water. Accounting done by the Watermaster Engineer under this Paragraph shall be considered ministerial.

18.5.15 **Diversion of Storm Flow**. No Party may undertake or cause the construction of any project within the Watershed of the Basin that will reduce the amount of storm flows that would otherwise enter the Basin and contribute to the Native Safe Yield, without prior notification to the Watermaster Engineer. The Watermaster Engineer may seek an injunction or to otherwise impose restrictions or limitations on such project in order to prevent reduction to Native Safe Yield. The Party sought to be enjoined or otherwise restricted or limited is entitled to notice and an opportunity for the Party to respond prior to the imposition of any restriction or limitation. Any Person may take emergency action as may be necessary to protect the physical safety of its residents and personnel and its structures from flooding. Any such action shall be done in a manner that will minimize any reduction in the quantity of Storm Flows.

18.5.16 **Data, Estimates and Procedures**. The Watermaster Engineer shall rely on and use the best available science, records and data to support the implementation of this Judgment. Where actual records of data are not available, the Watermaster Engineer shall rely on and use sound scientific and engineering estimates. The Watermaster Engineer may use preliminary records of measurements, and, if revisions are subsequently made, may reflect such revisions in subsequent accounting.

18.5.17 Filing of Annual Report. The Watermaster Engineer shall prepare an Annual Report for filing with the Court not later than April 1 of each Year, beginning April 1 following the first full Year after entry of this Judgment. Prior to filing the Annual Report with the Court, Watermaster shall notify all Parties that a draft of the Annual Report is available for review by the Parties. Watermaster shall provide notice to all Parties of a public hearing to receive comments and recommendations for changes in the Annual Report. The public hearing shall be conducted pursuant to rules and regulations promulgated by the Watermaster. The notice of public hearing may include such summary of the draft Annual Report as Watermaster may deem appropriate. Watermaster shall distribute the Annual Report to any Parties requesting copies.

18.5.18 Annual Report to Court. The Annual Report shall include an Annual fiscal report of the preceding Year's operation; details regarding the operation of each of the Subareas; an audit of all Assessments and expenditures; and a review of Watermaster activities. The Annual Report shall include a compilation of at least the following:

18.5.18.1 Replacement Obligations;

18.5.18.2 Hydrologic Data Collection;

18.5.18.3 Purchase and Recharge of Imported Water;

18.5.18.4 Notice List;

18.5.18.5 New Production Applications

18.5.18.6 Rules and Regulations;

18.5.18.7 Measuring Devices, etc;

18.5.18.8 Storage Agreements;

18.5.18.9 Annual Administrative Budget;

18.5.18.10 Transfers;

18.5.18.11 Production Reports;

18.5.18.12 Prior Year Report;

18.5.18.13 Amount of Stored Water owned by each Party;

18.5.18.14 Amount of Stored Imported Water owned by each Party;

18.5.18.15 Amount of unused Imported Water Return Flows owned by each Party;

18.5.18.16 Amount of Carry Over Water owned by each Party;

18.5.18.17 All changes in use.

18.6 **Recommendations of the Watermaster Engineer.** Unless otherwise determined pursuant to Paragraph 18.1.2.2, all recommendations of the Watermaster Engineer must be approved by unanimous vote of all members of the Watermaster. If there is not unanimous vote among Watermaster members, Watermaster Engineer recommendations must be presented to the Court for action and implementation.

18.7 **Interim Approvals by the Court.** Until the Court approves rules and regulations proposed by the Watermaster, the Court, upon noticed motion, may take or approve any actions that the Watermaster or the Watermaster Engineer otherwise would be authorized to take or approve under this Judgment.

19. ADVISORY COMMITTEE

19.1 **Authorization.** The Producers are authorized and directed to cause a committee of Producer representatives to be organized and to act as an Advisory Committee.

19.2 **Compensation.** The Advisory Committee members shall serve without compensation.

19.3 **Powers and Functions.** The Advisory Committee shall act in an advisory capacity only and shall have the duty to study, review, and make recommendations on all discretionary determinations by Watermaster. Parties shall only provide input to the Watermaster through the Advisory Committee.

19.4 **Advisory Committee Meetings.** The Advisory Committee shall 1) meet on a regular basis; 2) review Watermaster's activities pursuant to this Judgment on at least a semi-annual basis; and 3) receive and make advisory recommendations to Watermaster. Advisory Committee Meetings shall be open to all members of the public. Edwards Air Force

Base and the State of California shall be ex officio members of the committee. The United States may also appoint a DoD Liaison to the Watermaster pursuant to Joint Ethics Regulation 3-201.

19.5 **Subarea Advisory Management Committees.** Subarea Advisory Management Committees will meet on a regular basis and at least semi-annually with the Watermaster Engineer to review Watermaster activities pursuant to this Judgment and to submit advisory recommendations.

19.5.1 **Authorization**. The Producers in each of the five Management Subareas are hereby authorized and directed to cause committees of Producer representatives to be organized and to act as Subarea Management Advisory Committees.

19.5.2 **Composition and Election**. Each Management Subarea Management Advisory Committee shall consist of five (5) Persons who shall be called Management Advisors. In the election of Management Advisors, every Party shall be entitled to one vote for every acre-foot of Production Right for that Party in that particular subarea. Parties may cumulate their votes and give one candidate a number of votes equal to the number of advisors to be elected, multiplied by the number of votes to which the Party is normally entitled, or distribute the Party's votes on the same principle among as many candidates as the Party thinks fit. In any election of advisors, the candidates receiving the highest number of affirmative votes of the Parties are elected. Elections shall be held upon entry of this Judgment and thereafter every third Year. In the event a vacancy arises, a temporary advisor shall be appointed by unanimous decision of the other four advisors to continue in office until the next scheduled election. Rules and regulations regarding organization, meetings and other activities shall be at the discretion of the individual Subarea Advisory Committees, except that all meetings of the committees shall be open to the public.

19.5.3 **Compensation**. The Subarea Management Advisory Committee shall serve without compensation.

19.5.4 **Powers and Functions.** The Subarea Management Advisory Committee for each subarea shall act in an advisory capacity only and shall have the duty to

study, review and make recommendations on all discretionary determinations made or to be made hereunder by Watermaster Engineer which may affect that subarea.

20. MISCELLANEOUS PROVISIONS.

20.1 Water Quality. Nothing in this Judgment shall be interpreted as relieving any Party of its responsibilities to comply with State or Federal laws for the protection of water quality or the provisions of any permits, standards, requirements, or orders promulgated thereunder.

20.2 Actions Not Subject to CEQA Regulation. Nothing in this Judgment or the Physical Solution, or in the implementation thereof, or the decisions of the Watermaster acting under the authority of this Judgment shall be deemed a "project" subject to the California Environmental Quality Act (CEQA). See e.g., *California American Water v. City of Seaside* (2010) 183 Cal.App.4th 471, and *Hillside Memorial Park & Mortuary v. Golden State Water Co*. (2011) 205 Cal.App.4th 534. Neither the Watermaster, the Watermaster Engineer, the Advisory Committee, any Subarea Management Committee, nor any other Board or committee formed pursuant to the Physical Solution and under the authority of this Judgment shall be deemed a "public agency" subject to CEQA. (See Public Resources Code section 21063.)

20.3 Court Review of Watermaster Actions. Any action, decision, rule, regulation, or procedure of Watermaster or the Watermaster Engineer pursuant to this Judgment shall be subject to review by the Court on its own motion or on timely motion by any Party as follows:

20.3.1 Effective Date of Watermaster Action. Any order, decision or action of Watermaster or Watermaster Engineer pursuant to this Judgment on noticed specific agenda items shall be deemed to have occurred on the date of the order, decision or action.

20.3.2 Notice of Motion. Any Party may move the Court for review of an action or decision pursuant to this Judgment by way of a noticed motion. The motion shall be served pursuant to Paragraph 20.7 of this Judgment. The moving Party shall ensure that the Watermaster is served with the motion under that Paragraph 20.7 or, if electronic service of the

Watermaster is not possible, by overnight mail with prepaid next-day delivery. Unless ordered by the Court, any such petition shall not operate to stay the effect of any action or decision which is challenged.

20.3.3 Time for Motion. A Party shall file a motion to review any action or decision within ninety (90) days after such action or decision, except that motions to review assessments hereunder shall be filed within thirty (30) days of Watermaster mailing notice of the assessment.

20.3.4 De Novo Nature of Proceeding. Upon filing of a motion to review a decision or action, the Watermaster shall notify the Parties of a date for a hearing at which time the Court shall take evidence and hear argument. The Court's review shall be *de novo* and the Watermaster's decision or action shall have no evidentiary weight in such proceeding.

20.3.5 Decision. The decision of the Court in such proceeding shall be an appealable supplemental order in this case. When the Court's decision is final, it shall be binding upon Watermaster and the Parties.

20.4 <u>Multiple Production Rights</u>. A Party simultaneously may be a member of the Small Pumper Class and hold an Overlying Production Right by virtue of owning land other than the parcel(s) meeting the Small Pumper Class definition. The Small Pumper Class definition shall be construed in accordance with Paragraph 3.5.44 and 3.5.45.

20.5 <u>Payment of Assessments</u>. Payment of assessments levied by Watermaster hereunder shall be made pursuant to the time schedule developed by the Watermaster, notwithstanding any motion for review of Watermaster actions, decisions, rules or procedures, including review of assessments implemented by the Watermaster.

20.6 <u>Designation of Address for Notice and Service</u>. Each Party shall designate a name and address to be used for purposes of all subsequent notices and service herein, either by its endorsement on this Judgment or by a separate designation to be filed within thirty (30) days after judgment has been entered. A Party may change its designation by filing a written notice of such change with Watermaster. A Party that desires to be relieved of receiving notices

of Watermaster activity may file a waiver of notice in a form to be provided by Watermaster. At all times, Watermaster shall maintain a current list of Parties to whom notices are to be sent and their addresses for purpose of service. Watermaster shall also maintain a full current list of said names and addresses of all Parties or their successors, as filed herein. Watermaster shall make copies of such lists available to any requesting Person. If no designation is made, a Party's designee shall be deemed to be, in order of priority: (1) the Party's attorney of record; (2) if the Party does not have an attorney of record, the Party itself at the address on the Watermaster list; (3) for Small Pumper Class Members, after this Judgment is final, the individual Small Pumper Class Members at the service address maintained by the Watermaster.

20.7 **Service of Documents**. Unless otherwise ordered by the Court, delivery to or service to any Party by the Court or any Party of any document required to be served upon or delivered to a Party pursuant to this Judgment shall be deemed made if made by e-filing on the Court's website at www.scefiling.org. All Parties agree to waive service by mail if they receive notifications via electronic filing at the above identified website.

20.8 **No Abandonment of Rights**. In the interest of the Basin and its water supply, and the principle of reasonable and beneficial use, no Party shall be encouraged to Produce and use more water in any Year than is reasonably required. Failure to Produce all of the Groundwater to which a Party is entitled shall not, in and of itself, be deemed or constitute an abandonment of such Party's right, in whole or in part, except as specified in Paragraph 15.

20.9 **Intervention After Judgment**. Any Person who is not a Party or successor to a Party and who proposes to Produce Groundwater from the Basin, to store water in the Basin, to acquire a Production Right or to otherwise take actions that may affect the Basin's Groundwater is required to seek to become a Party subject to this Judgment through a noticed motion to intervene in this Judgment prior to commencing Production. Prior to filing such a motion, a proposed intervenor shall consult with the Watermaster Engineer and seek the Watermaster's stipulation to the proposed intervention. A proposed intervenor's failure to consult

with the Watermaster Engineer may be grounds for denying the intervention motion. Thereafter, if approved by the Court, such intervenor shall be a Party bound by this Judgment.

20.10 **Judgment Binding on Successors, etc.** Subject to specific provisions hereinbefore contained, this Judgment applies to and is binding upon, and inures to the benefit of the Parties to this Action and all their respective heirs, successors-in-interest and assigns.

20.11 **Costs**. Except subject to any existing court orders, each Party shall bear its own costs and attorneys fees arising from the Action.

20.12 **Headings; Paragraph References**. Captions and headings appearing in this Judgment are inserted solely as reference aids for ease and convenience; they shall not be deemed to define or limit the scope or substance of the provisions they introduce, nor shall they be used in construing the intent or effect of such provisions.

20.13 **No Third Party Beneficiaries**. There are no intended third party beneficiaries of any right or obligation of the Parties.

20.14 **Severability**. Except as specifically provided herein, the provisions of this Judgment are not severable.

20.15 **Cooperation; Further Acts**. The Parties shall fully cooperate with one another, and shall take any additional acts or sign any additional documents as may be necessary, appropriate or convenient to attain the purposes of this Judgment.

20.16 **Exhibits and Other Writings**. Any and all exhibits, documents, instruments, certificates or other writings attached hereto or required or provided for by this Judgment, if any, shall be part of this Judgment and shall be considered set forth in full at each reference thereto in this Judgment.

_____ _____

Dated: JUDGE OF THE SUPERIOR COURT

APPENDIX B

VENTURA WATER FINAL DEMAND FACTOR STUDY

Final

Water Demand Factor Study

April 8, 2020

Prepared By:

Contact: Kevin J. Gustorf, P.E.

(916) 341-7425

TABLE OF CONTENTS

I. INTRODUCTION 1
A. Background and Purpose 1
B. Source Data 2
II. EXISTING WATER DEMAND FACTORS 2
A. Existing Demand Factors (per Land Use) 2
B. Per Capita Water Use 3
III. AGENCY COMPARISON 5
A. Comparison 5
B. Methodology 5
IV. HISTORICAL WATER USE 7
A. Water Usage Summary 7
B. Supply / Production Summary 9
C. Water Loss Factor 11
V. RECOMMENDED WATER DEMAND FACTORS 13
A. Proposed Demand Factor Categories 13
B. Demand Factor Methodology and Process 15
C. Demand Factor Contingency 16
D. Proposed Demand Factors 17

TABLES

Table 1 - Current Water Demand Factors (from 2013 CWRR) 3
Table 2 - 2013 Agency Demand Factor Compariso 6
Table 3 - 2020 Agency Demand Factor Comparison 7
Table 5 - Annual Summary of Water Billing Data (AFY) 11
Table 6 - Residential Water Usage Data Summary 12
Table 7 - Water Supply / Production Summary (AFY) 13
Table 8 - Water Loss 15
Table 9 - Proposed Demand Factor Categories 16
Table 10 - Proposed Demand Factors 20

APPENDICES

Appendix A – Residential Demand Factor Back-Up Data
Appendix B – Non-Residential Demand Factor Analysis

ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AFY	Acre feet per year
AMI	Advanced Metering Infrastructure
AWWA	American Water Works Association
CMWD	Casitas Municipal Water District or Casitas
CWRR	Comprehensive Water Resources Report
CY	Calendar year
DU/AC	Dwelling unit per acre
DWR	California Department of Water Resources
GPCD	Gallons per capita per day
GPD	Gallons per day
GPD/DU	Gallons per day per dwelling unit
GPD/KSF	Gallons per day per 1,000 square feet
HCF	Hundred cubic feet
NO-DES	Neutral Output Discharge Elimination System
SB	Senate Bill
SWRCB	State Water Resources Control Board
UWMP	Urban Water Management Plan

I. INTRODUCTION

A. Background and Purpose

The City of San Buenaventura Water Department (Ventura Water) owns, operates and maintains a potable water distribution system that distributes treated water to the customers within its service area boundary. Ventura Water also distributes non-potable water and recycled water to select customers within its service boundary, where the infrastructure exists, to meet irrigation demands.

In 2013, Ventura Water updated its water demand factors for various land use categories based on actual water usage data available at the time. The water demand factors developed in 2013 were prepared as a part of Ventura Water's first Comprehensive Water Resources Report (CWRR). The CWRR is a comprehensive evaluation of Ventura Water's current and projected water demand and supply. The CWRR is updated annually by Ventura Water.

The water demand factors are used to calculate future demand projections based on known development plans and the ultimate build-out of the City per the City's General Plan. Water demand factors have been used in a variety of City publications, including: General Plan, Water Master Plan, Urban Water Management Plan and the Comprehensive Water Resources Report (CWRR). In addition, smaller more focused studies will reference water demand factors from these City documents, such as in the use of development water studies.

The water demand factors developed for the 2013 CWRR were based upon water consumption data from 2012. Since 2012, water demand in the City has changed due to aggressive water conservation, legislation, development, and changing land uses. In addition, the water demand factor land use categories developed for the 2013 CWRR were grouped into broad categories. These demand factors are currently used to calculate future demands for proposed development projects, and also used to determine the Water Resources Net Zero Fee for developers. Therefore, Ventura Water has determined the need to update its water demand factors to reflect current water usage behavior and define the demand factor categories in greater detail.

The primary goal of this Study is to establish water demand factors that reflect current usage patterns and can be utilized throughout the City's service area to calculate future water demand projections that can be used in all water planning efforts. An additional goal of this Study is to develop a comprehensive list of water demand factors that accurately represent water usage per land use classification that can be used for planning purposes. The water demand factors developed herein account for current trends, but also account for yearly variability based upon environmental conditions.

Not included as part of this Study is an evaluation of daily or seasonal diurnal patterns or peaking factors.

B. Source Data

The water demand factors developed as a part of this Study utilized Ventura Water billing data and production data. The billing data provided was for the calendar years 2013 through 2018. The production (supply) data was provided for the calendar years 2013 through 2018.

Also referenced for this Study were the following reports:

- 2013 Comprehensive Water Resources Report (CWRR)
- Water Master Plan (March 2011)
- 2015 Urban Water Management Plan (June 2016)
- 2005 Ventura General Plan
- Ordinance 2016-004 "Water Rights Dedication, Water Resource Net Zero Fee, and Water Resource Net Zero Requirements"

II. EXISTING WATER DEMAND FACTORS

Water demand factors are used to estimate future water use based on a land use type and unit of measurement (such as acreage, dwelling unit count, square footage, number of persons, etc.). Demand factors are typically calculated based on historical water use and trends. Ventura Water last updated its water demand factors per land use in 2013 for the Comprehensive Water Resources Report (CWRR), and its demand factor per capita in 2016 for the Urban Water Management Plan (UWMP).

A. Existing Demand Factors (per Land Use)

The land use-based water demand factors currently being utilized by Ventura Water were developed in 2013 as a part of the first edition of the CWRR. The land use demand factors are summarized in Table 1.

Table 1 Current Water Demand Factors (from 2013 CWRR)				
Water Demand Factor Classification		**Raw Consumption Factor (CY 2012)**	**Adjustment for Water Loss (+6.5%)**	**Adjustment for Planning Purposes (+20% appx.)**
Residential	Residential (0-8 du/ac)	292 gpd/du	311 gpd/du	370 gpd/du
	Residential (9-20 du/ac)	189 gpd/du	201 gpd/du	250 gpd/du
	Residential (21+ du/ac)	189 gpd/du	201 gpd/du	250 gpd/du
Non-Residential	Commercial/Retail/Industrial/Hotel Public/Institutional	206 gpd/ksf	220 gpd/ksf	265 gpd/ksf
	Hospital/Assisted Living	424 gpd/bed	452 gpd/bed	545 gpd/bed
	Park/Landscape/Irrigation	1,566 gpd/acre	1,668 gpd/acre	2,000 gpd/acre

Source: Table 3-3 of 2013 CWRR
du/ac = dwelling unit per acre
gpd/du = gallons per day per dwelling unit
gpd/ksf = gallons per day per 1,000 square feet

B. Per Capita Water Use

California state legislators passed Senate Bill 7 (SB x7-7, also known as the Water Conservation Bill) in November 2009 requiring all municipal water suppliers to reduce per capita water consumption by 20% by Year 2020 from an established baseline. Ventura Water's Year 2020 compliance target is 142 gallons per capita per day (GPCD). As of the 2015 Urban Water Management Plan (UWMP), Ventura Water has already achieved its 2020 target, with the Year 2015 usage calculated to be 117 GPCD.

In 2018, the California Legislature passed two additional water conservation bills, Senate Bill 606 (SB 606) and Assembly Bill 1668 (AB 1668), creating the framework for additional statewide water savings mandates that will take effect in Year 2022. SB 606 and AB 1668 build on the state's ongoing efforts to make water conservation a way of life in California and create a new foundation for long-term improvements in water conservation and drought planning. SB 606 and AB 1668 establish guidelines for efficient water use and a framework for the implementation and oversight of the new standards.

In Year 2022, water suppliers will have to submit water budgets to the California Department of Water Resources (DWR) and increase water recycling projects. The

legislation establishes a residential indoor goal of 55 GPCD until Year 2025, 52.5 GPCD from Years 2025 to 2030, and 50 GPCD after Year 2030. According to Ventura Water's 2015 UWMP, Ventura Water customers used an average of 117 GPCD in 2015. The 117 GPCD was calculated using service area population and overall water use (all water including residential, commercial, municipal, irrigation, etc. excluding recycled water). However, Ventura Water reports residential use to the State. From 2016 to 2018, Ventura Water's average indoor and outdoor residential water use was 69 GPCD. Based on the DWR's 2011 California Single Family Water Use Efficiency Study, the average household uses 47% of its water indoors and 53% outdoors. Therefore, it is estimated that Ventura Water's average residential indoor use is 32 GPCD, indicating that Ventura Water is already meeting the 55 GPCD goal.

A few of the provisions that will impact Ventura Water identified in the two bills include:

- Establishing water use objectives and long-term standards for efficient water use that apply to urban retail water suppliers comprised of indoor residential water use, outdoor residential water use, commercial, industrial and institutional (CII) irrigation with dedicated meters, water loss, and other unique local uses.
- Providing incentives for water suppliers to recycle water.
- Requiring both urban and agricultural water suppliers to set annual water budgets and prepare for drought.

It should be noted that the long-term standards for efficient water use are still being developed by the State and that a report is anticipated to be completed January 2021 reviewing the 55 GPCD standard for residential indoor water use. In addition, the service area population will need to be updated, which can impact the residential GPCD calculations. These updates will be provided in the 2020 UWMP.

The implementation of SB 606 and AB 1668 may result in lower water demand factors for Ventura Water in the future. It is recommended that Ventura Water review the water demand factors after a few years of billing data has been collected after the water conservation laws are fully implemented.

III. AGENCY COMPARISON

A. Comparison

As a part of the 2013 CWRR process, the water demand factors for several local agencies were identified for comparative purposes. The water agency demand factor comparison from the 2013 CWRR is included herein as Table 2.

B. Methodology

For this Study, additional agencies were contacted to understand the methodology used to calculate its water demand factors.

- The City of Santa Barbara's demand factors were based on water consumption for calendar years 2006 (average weather) and 2007 (driest year on record) and land use data (square footage for commercial properties and lot size values for residential).

- The City of San Luis Obispo's municipal water use factors were developed in 2008. No further information was available regarding the methodology.

- Irvine Ranch Water District's demand factors were initially developed in 1999 with an update completed in 2012. The demand factors were based on 2000 to 2010 billing data with adjustments: 7% unaccounted water and 12% economic bounce back and land use information.

- The City of Oxnard's water demand factors were based on billing records from calendar year 2012. Water demand factors for the existing system were derived from a total system average by using geocoded billing records. The total system demand by land use category was divided by the total area of each land use category.

A summary of the above agencies' water demand factors is included in Table 3.

Table 2
2013 Agency Demand Factor Comparison

Water Demand Factor Classification		Southern California Agencies				
		City of Ventura	City of Thousand Oaks	VCWWD No. 8 (Simi Valley)	Santa Margarita Water District	Irvine Ranch Water District
Low Density Residential	Low Density Residential (2-4.5 du/ac)	-	405 gpd/du	840 gpd/du	-	-
	Residential (0-8 du/ac)	370 gpd/du	-	420 gpd/du	450 gpd/du	405 gpd/du
Medium Density Residential	Medium Density Residential (4.5-15 du/ac)	-	310 gpd/du	-	-	-
	Residential (9-20 du/ac)	250 gpd/du	-	-	300 gpd/du	310 gpd/du
High Density Residential	High Density Residential (15-30 du/ac)	-	180 gpd/du	-	-	-
	Condominium	-	-	259 gpd/du		-
	Multi-Family Apartment	-	-	222 gpd/du		-
	Residential (21+ du/ac)	250 gpd/du	-	-	175 gpd/du	200 gpd/du
Commercial/Industrial/Retail	Commercial/Retail/Industrial/ Hotel	265 gpd/ksf			225 gpd/ksf	
	Public/Institutional					
	Hospital/Assisted Living	545 gpd/bed	-	1.85 gpm/ac	-	230 gpd/ksf
	Commercial	-	130 gpd/ksf	2.00 gpm/ac	225 gpd/ksf	220 gpd/ksf
	Industrial	-	60 gpd/ksf	-	-	-
	Industrial - Light	-	-	2.00 gpm/ac	-	60 gpd/ksf
	Industrial - Heavy	-	-	-	-	5000 gpd/ksf
	Institutional	-	45 gpd/ksf	-	-	-
	School	-	15 gpd/ksf	1.20 gpm/ac	15 gpd/stu	15 gpd/ksf
Parks / Irrigation	Park/Landscape/Irrigation	2,000 gpd/acre	-	-	3.5 AF/ac	3,400 gpd/acre
	Parks, Golf Courses, OpenSpace, Recreation Areas	-	3,400 gpd/acre	-	-	-
	Open Space, Community Park (Passive), Recreation Facility	-	-	-	100 gpd/acre	-
	Community Park (Active)	-	-	-	200 gpd/acre	-
	Community Facility	-	-	-	2,500 gpd/acre	-

Source: Table 3-4 from 2013 CWRR

du/ac = dwelling unit per acre

gpd/du = gallons per day per dwelling unit
gpd/ksf = gallons per day per 1,000 square feet
gpd/bed = gallons per day per bed
gpm/ac = gallons per minute per acre

gpd/stu = gallons per day per student
gpd/acre = gallons per day per acre

Table 3: 2020 Agency Demand Factor Comparison

Water Demand Factor Classification	City of Santa Barbara	City of San Luis Obispo	Irvine Ranch Water District*	City of Oxnard
Single-Family	357 gpd/du	268 gpd/du	405 gpd/du	2,250 gpd/acre
Multi-Family	143 gpd/du	161 gpd/du	300 gpd/du	4,250 gpd/acre
Office	54 gpd/ksf	89 gpd/ksf	72 gpd/ksf	-
Hotel (w/restaurant)	179 gpd/room	109 gpd/room	160 gpd/ksf	-
Hotel/motel (no restaurant)	116 gpd/room			-
Public & Institutional	152 gpd/ksf	-	45 gpd/ksf	-
School	-	-	28 gpd/ksf	1,500 gpd/acre
Multi-Tenant Commercial	152 gpd/ksf	268 gpd/ksf	175 gpd/ksf	2,000 gpd/acre
Single-Use Commercial	134 gpd/ksf	-	-	-
Park/Golf Course	-	1,785 gpd/acre	2,200 gpd/acre	-

*Irvine Ranch Water District has been included in both Tables 2 and 3 since the water demand factors were updated since the 2013 CWRR.

gpd/du = gallons per day per dwelling unit
gpd/ksf = gallons per day per 1,000 square feet
gpd/acre = gallons per day per acre
gpd/room = gallons per day per room

IV. HISTORICAL WATER USE

A. Water Usage Summary

In order to establish the existing (or current) water demands, Ventura Water provided water usage (billing) data from January 2013 through December 2018. The billing data is summarized in Table 5.

It is noted that the billing records include both treated potable water and non-potable water (reclaimed water and untreated raw water). From 2013 through 2018, the average annual demand for both potable and non-potable water was 14,420 acre-feet/year (AFY). The highest water use year was 2013, and the lowest water use year was 2017.

Excluding reclaimed water and raw water, the total average annual potable water demand was 13,736 AFY (2013-2018).

Approximately 64% of all water use is residential. In order to understand the water demand breakdown between the single-family and multi-family residents, the categories are summarized in Table 6. Of the residential water use, approximately 63% is associated with single-family dwelling units. From 2013-2018, the total annual residential water demand was an average of 9,223 AFY.

Table 5
Annual Summary of Water Billing Data (AFY)

	2013	2014	2015	2016	2017	2018	Average
Total - Potable and Non-Potable Water	**16,665**	**15,978**	**13,342**	**13,456**	**13,219 164**	**13,549**	**14,359**
Total - Potable Water Only [1]	**16,003**	**15,230**	**12,668**	**12,768**	**12,495**	**12,886**	**13,675**

[1] Excludes untreated raw water and reclaimed water
AFY = acre feet per year

Table 6 Residential Water Usage Data Summary							
	Gallons Per Day (GPD)						
	2013	2014	2015	2016	2017	2018	Average
Single-Family	6,325,834	5,947,067	4,725,128	4,673,664	4,671,020	4,712,252	5,175,828
Multi-Family	3,450,190	3,323,991	2,899,937	2,896,490	2,867,191	2,912,382	3,058,363
Residential Subtotal (GPD)	**9,776,024**	**9,271,058**	**7,625,065**	**7,570,153**	**7,538,211**	**7,624,635**	**8,234,191**
Residential Subtotal (AFY)	**10,951**	**10,385**	**8,541**	**8,480**	**8,444**	**8,541**	**9,223**

Note: See Appendix A for back-up detail
GPD = gallons per day
AFY= acre feet per year

B. Supply / Production Summary

Ventura Water obtains potable water from three primary sources: 1) the purchase of water from the Casitas Municipal Water District (CMWD or Casitas); 2) the Ventura River; and 3) local groundwater basins. Ventura Water provided a summary of the total water production (supply) from its various potable water sources for the calendar years 2013 through 2018, as shown in Table 7.

The highest production year was 2013, with annual declines every year until 2018, which was the lowest production year. These numbers are in-line with the severe drought that occurred over these 5 years and the significant conservation that occurred.

The total average annual production (excluding reclaimed water) for years 2013 through 2018 was 14,962 AFY.

Table 7 Water Supply / Production Summary (AFY)							
Primary Source	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**Average**
CMWD 1	2,710	2,425	3,530	1,987	913	1,383	2,158
CMWD 2	3,047	2,396	1,046	349	1,032	1,145	1,503
Casitas Direct Customers	297	279	272	298	243	188	263
Foster Park Intake Subsurface	1,076	748	449	419	1,280	897	811
Golf Course Well 5	2,527	2,197	1,819	1,352	789	356	1,507
Golf Course Well 6	2,964	2,368	1,768	2,350	1,220	561	1,872
Golf Course Well 7	0	0	0	0	1,816	2,399	703
Mound Well 1	1,717	1,147	590	805	703	910	979
Nye Well 11	0	292	0	2	119	0	69
Nye Well 2	0	0	0	0	0	0	0
Nye Well 7	856	1,064	0	414	1,277	520	689
Nye Well 8	242	1,134	850	1,014	972	459	778
Saticoy Well 2	673	629	320	0	45	31	283
Saticoy Well 3	0	0	1,998	2,898	2,549	3,065	1,752
Victoria Well 1	0	0	0	0	0	0	0
Victoria Well 2	1,596	2,073	1,734	1,866	695	1,619	1,597
TOTAL	**17,705**	**16,751**	**14,376**	**13,752**	**13,651**	**13,534**	**14,962**

AFY = acre feet per year

C. Water Loss Factor

From the source to the customer, all water systems experience some level of water loss. Water loss can be attributed to many things; most typically it is associated with leaks in the system, main breaks, and slight variations in meter accuracy. To increase efficiencies in the water distribution system, water loss audits are conducted to trace the flow of water from its source and treatment, through the water distribution system, and into customer properties. The water loss audit informs water utilities of the volume of water lost and revenue associated with that water loss. Once water loss audits are complete, improvements can be made in water resources management, financial performance, and operational performance.

Water loss is essentially the difference between the water supplied and consumption. A water loss calculation is performed by calculating the difference between the water supplied (all source water produced and supplied to the Ventura Water system including purchases from Casitas) and consumption (billing records for all metered water that is delivered to customers). This water loss calculation was performed for the years 2013 to 2018. The average water loss for 2013 to 2018 was 8.5%.

In September 2014, Senate Bill 1420 was adopted requiring urban retail water suppliers such as Ventura Water to quantify and report on distribution system water loss in the Urban Water Management Plan (UWMP). Ventura Water conducted an audit in accordance with the methods of the American Water Works Association (AWWA) and submitted the audit for calendar year 2015 with the 2015 UWMP.

In October 2015, Senate Bill 555 was adopted requiring Ventura Water to submit validated water loss audits annually to the DWR. Thus, 2016, 2017 and 2018 audits were prepared in accordance with the AWWA method, validated by a third-party technical expert, and submitted to DWR. The average water loss rate for the three years of DWR audited data was 7.0%. The water loss auditing process is still being refined by the State and the standard for allowable water loss volumes will be implemented beginning in 2023

While the AWWA method breaks water loss into multiple categories to provide additional information to the utility, it still calculates water loss as the difference between the water supplied (water that Ventura Water produces and purchases from Casitas) and authorized consumption (the water that is sold to customers). The audit uses the term “non-revenue water” to define this water loss. As shown in Table 8, water loss is variable from year to year due to the fluctuations in the number of maintenance related issues such as water main breaks and damaged hydrants. For the purposes of developing the demand factors, staff chose to average only the water loss percentages for the years that DWR audits were completed. The DWR audits for the years 2016 to 2018 are the most recent data available

and are in compliance with current and upcoming regulations for water loss. The City has also taken actions to reduce losses including operating the Neutral Output Discharge Elimination System (NO-DES) truck to recycle water used for water distribution system flushing, implementation of the Advanced Metering Infrastructure (AMI) project which includes replacement of manually-read water meters with smart meters which include advanced leak detection notification capabilities, and implementation of the City's Capital Improvement Plan which includes replacement of aging pipelines. These actions should reduce the City's water loss rate over the long-term, but year to year variability will still occur.

Table 8 Water Loss				
Year	**Metered (AFY)** [1]	**Supply (AFY)** [2]	**Water Loss (%)**	
2013	16,003	17,705	9.6%	
2014	15,230	16,751	9.1%	
2015	12,668	14,376	11.9%	
2016[3]	12,768	13,752	7.2%	
2017[3]	12,495	13,651	8.5%	
2018[3]	12,886	13,534	4.8%	
Average (Years 2013 – 2018)	**13,675**	**14,962**	**8.5%**	
DWR Audit Average (Years 2016-2018)			**7.0%**	

[1] From Table 5 - Potable Water Only

[2] From Table 7
[3] Years that Level 1 validated audits submitted to DWRAFY = acre feet per year

V. RECOMMENDED WATER DEMAND FACTORS

A. Proposed Demand Factor Categories

The primary goal of this Study is to develop water demand factors based on current water use and across a broader designation of land use types. An iterative process was used to determine which land-use types should have unique demand factors. The intent is to develop water demand factors for each land use type that may use water differently and represents a cross-section of the typical uses within the City. Through discussions and input from Ventura Water staff (including the General Manager), the land use categories that were selected to develop a unique water demand factor for are shown in Table 9.

Table 9 **Proposed Demand Factor Categories**	
Residential	
	Single-Family
	Multi-Family
Non-Residential	
	Office
	Medical/Dental Office
	Assisted Living
	Hotel (w/ restaurant)
	Hotel/Motel (no restaurant)
	Public & Institutional
	School
	Restaurant (sit-down)
	Restaurant (fast-food)
	Brewery
	Bakery/Coffee Shop
	Grocery Store
	Multi-Tenant Commercial [1]
	Single-Use Commercial
	Self-Storage
	Church
	Park/Golf Course
	Gym (w/ pool)
	Car Wash
	Gas Station (w/ car wash)
	Gas Station

[1] To use for proposed multi-tenant developments when tenants have not been specified. Includes at least one higher intensity water use such as a restaurant.

B. Demand Factor Methodology and Process

In order to develop new and updated water demand factors for the proposed land use categories, water usage records were obtained for a cross-section of typical customers within each category.

The methodology and process used to determine the demand factors was based on the following:

- Utilized water billing data from 2013 through 2018.
- Single-family residential demand factor was based on all single-family accounts.
- Multi-family residential demand factor was based on all multi-family accounts.
- Non-residential demand factors were developed by obtaining billing records for approximately 6 to 12 customers who were considered representative of the selected category, when feasible.
- The customers selected for the analysis of each category were selected based on a diverse representation of the City, and broad geographical presence across the City.
- All customers were researched to determine when the business opened, or closed, and the billing data utilized was adjusted accordingly.
- Separate demands factors for City and County were not developed. Ventura Water's service area includes customers in unincorporated Ventura County who are within the City's Sphere of Influence.
- The Thomas Fire occurred in the City in December of 2017. Due to the large (6 years) amount of data utilized, the impacts of water use during the Thomas Fire were deemed negligible for this analysis.
- Water use was classified by the year of the meter read. For example, a meter read in January of 2017 was likely for water use in November/December of 2016, however the water use was classified in the 2017 calendar year.
- Land use data, such as building square footages, acreages, etc. were obtained through City and County resources when available. Google Earth was used in instances when City or County information was not readily available.
- All data from accounts identified as a "fireline" were excluded from the calculations as the usage was negligible. Fireline accounts are for fire protection of residential, commercial, school, and municipal properties.
- Dedicated irrigation meters were included in the demand factor calculations.
- For each customer selected, the billing data was analyzed to determine if there were any anomalies in the data. Anomalies such as a monthly water demand that was multiple times the normal (due to a customer water leaks or high irrigation use) were included in the calculations to account for the variability in water usage.

- If data from a selected customer appeared questionable, the customer was removed from the calculation.
- Data from industrial customers was analyzed and included in Appendix B, but due to extreme variability in water use between customers and the uncertainty of which kind of industrial activities may be proposed in the future, a demand factor for industrial use is not included in this report. The water demands of any proposed industrial use will be assessed on a case by case basis.
- The raw demand factors for each category was based on the average of all customers in that specific category.
- The raw demand factors for each category were an average of the data over the years 2013 through 2018.
- The DWR audited water loss factor of 7% was applied to the raw factor.
- A planning-level contingency factor was applied to the raw factor and the water loss. The methodology used to develop the planning-level contingency is discussed in Section V.C.

C. Demand Factor Contingency

Water consumption varies from year to year depending upon a number of factors, primarily weather and drought. The water demand factors developed herein were based on the average annual water usage from years 2013 through 2018. California experienced a significant drought that spanned the five years from 2012 to 2017. Beginning in 2014, statewide mandates to reduce water consumption were put into place, and water agencies observed significant reductions in water demand, including Ventura Water. In 2014, the State Water Resources Control Board adopted an emergency regulation calling on all Californians to reduce their water by 20%. Therefore, the City of Ventura City Council declared a water shortage emergency in September 2014. In June 2015, the City Council confirmed that the City was in a Stage 3 shortage event with 20% mandatory conservation. Former Governor Brown declared that the drought officially ended in 2017 for the state of California; however, the City of Ventura remained in a shortage event. As of February 2020, the City remains in a Stage 3 shortage event. While many of the state's water consumption reduction mandates have remained in place, water demands in the City and the state have started to move higher again. As shown in Tables 5 and 6, overall water use in 2018 has increased from water use in 2016 and 2017. Since the water demands factors developed herein were calculated based on actual water usage during a significant drought period, it is prudent to account for likely increases in water demand in future years.

In order to determine the appropriate planning-level contingency to apply to the raw demand factor, the water consumption data from 2013 through 2018 was evaluated in a few different ways:

- Between 2013 and 2018, the difference between the high demand year and the low demand year was 22%.
- Between 2013 and 2018, the difference between the high demand year and the average annual demand was 17%.
- Between 2013 and 2018, the difference between the high demand year for all residential customers and the average annual demand for all residential customers was 19%.
- Between 2013 and 2018, the median increase in water demand for the 158 non-residential customers evaluated in this study between the high demand year and the annual average year was 27%.

Based upon the analysis summarized above, it is recommended to apply a planning-level contingency of 20% to the raw factor plus water loss to account for the annual demand variations that are likely to occur.

D. Proposed Demand Factors

Based upon the description of the process detailed above, the proposed water demand factors for Ventura Water are shown in Table 10. The details of the analysis for the multi-family and non-residential customers used to determine the raw demand factors are included in Appendices.

These demand factors will be used to calculate future demands for proposed development projects and also to determine the Water Resources Net Zero Fee for developers. The methodology by which these factors will be utilized to calculate estimated water demands will be detailed in other City reports including the annual Comprehensive Water Resources Report (CWRR) and in the Net Zero Administrative Policies and Procedures document. Demand factors will be reviewed periodically (at least every 5 years) for consistency with current demand patterns and will be updated as necessary.

Table 10
Proposed Demand Factors

		Raw Factor (gpd)		Water Loss 7.0%	Contingency 20%	Proposed Factor (gpd)	
Residential [1]							
	Single-Family	229.0	/du	16.0	49.0	294	/du
	Multi-Family	163.0	/du	11.4	34.9	209	/du
Non-Residential [2]							
	Office	29.7	/ksf	2.1	6.4	38	/ksf
	Medical/Dental Office	130.7	/ksf	9.1	28.0	168	/ksf
	Assisted Living	70.8	/bed	4.9	15.1	91	/bed
	Hotel (w/ restaurant)	134.2	/room	9.3	28.7	172	/room
	Hotel/Motel (no restaurant)	104.2	/room	7.3	22.3	134	/room
	Public & Institutional	52.6	/ksf	3.7	11.3	68	/ksf
	School	15.4	/student	1.1	3.3	20	/student
	Restaurant (sit-down)	524.6	/ksf	36.5	112.2	673	/ksf
	Restaurant (fast-food)	677.9	/ksf	47.2	145.0	870	/ksf
	Brewery	338.6	/ksf	23.6	72.4	435	/ksf
	Bakery/Coffee Shop	116.4	/ksf	8.1	24.9	149	/ksf
	Grocery Store	121.2	/ksf	8.4	25.9	156	/ksf
	Multi-Tenant Commercial	120.8	/ksf	8.4	25.8	155	/ksf
	Single-Use Commercial	81.9	/ksf	5.7	17.5	105	/ksf
	Self-Storage	223.2	/acre	15.5	47.7	286	/acre
	Church	71.7	/ksf	5.0	15.3	92	/ksf
	Park/Golf Course	1,339.7	/acre	93.3	286.6	1,720	/acre
	Gym (w/ pool)	165.6	/ksf	11.5	35.4	213	/ksf
	Car Wash	841.8	/ksf	58.6	180.1	1,081	/ksf
	Gas Station (w/ car wash)	1,824.4	/ksf	127.1	390.3	2,342	/ksf
	Gas Station	198.5	/ksf	13.8	42.5	255	/ksf

[1] Based on actual water billing data from Years 2013-2018. See Appendix A for details.

[2] Based on actual water billing data from Years 2013-2018. See Appendix B for details.

gpd = gallons per day

du = dwelling unit

ksf = 1,000 square feet

APPENDICES

APPENDIX A

Single-Family Total Units by Year

	Building & Safety	Remove SCC Homes	Remove Thomas Fire Homes	**Total SF Units**
2012	22,577	67	-	**22,510**
2013	22,589	69	-	**22,520**
2014	22,607	69	-	**22,538**
2015	22,660	70	-	**22,590**
2016	22,698	70	-	**22,628**
2017	22,734	71	-	**22,663**
2018	22,889	71	466	**22,818**

Multi-Family Total Units by Year

	Building & Safety	Remove Thomas Fire Apts	**Total MF Units**
2012	18,511	-	**18,511**
2013	18,552	-	**18,552**
2014	18,652	-	**18,652**
2015	18,794	-	**18,794**
2016	18,951	-	**18,951**
2017	18,968	-	**18,968**
2018	19,041	56	**18,985**

Single-Family Total Usage by Year

	Billing Data (HCF)	Remove SCC (HCF) [1]	Remove Thomas Fire (HCF)	Add Assessment District (HCF) [2]	Total Usage (HCF)	**Total Usage (GPD)**
2012	3,118,335	30,025	-	28,001	3,116,311	6,386,303
2013	3,085,754	29,821	-	30,871	3,086,804	6,325,834
2014	2,906,732	33,928	-	29,174	2,901,978	5,947,067
2015	2,313,418	25,895	-	18,188	2,305,711	4,725,128
2016	2,284,926	22,810	-	18,482	2,280,598	4,673,664
2017	2,282,594	22,669	-	19,383	2,279,308	4,671,020
2018	2,312,130	24,824	9,644	21,766	2,299,428	4,712,252

Multi-Family Total Usage by Year

	Billing Data (HCF)	Remove Thomas Fire (HCF)	Total Usage (HCF)	**Total Usage (GPD)**
2012	1,801,182	-	1,801,182	3,691,189
2013	1,683,582	-	1,683,582	3,450,190
2014	1,622,001	-	1,622,001	3,323,991
2015	1,415,076	-	1,415,076	2,899,937
2016	1,413,394	-	1,413,394	2,896,490
2017	1,399,097	-	1,399,097	2,867,191
2018	1,421,340	191	1,421,149	2,912,382

Demand Factors (GPD/DU)

	Single-Family	Multi-Family
2012	284	199
2013	281	186
2014	264	178
2015	209	154
2016	207	153
2017	206	151
2018	207	153

Notes:

[1] Saticoy Country Club (SCC) homes and usage were removed since they are served by a separate water system.

[2] Assessment District (SC 24) usage was added since this is irrigation water used for developments with common areas.

APPENDIX B

		Land Use Units						Water Use (GPD)							Raw Factor / Year (gpd/xx)							Totals (HCF)					
Land Use Category	**User (REDACTED)**	**DU**	**SF**	**Bed**	**Students**	**Room**	**Acres**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**Avg.**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**Avg.**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Office	Office 1		10,128				0.56	326	340	215	336	301	340	310	32.2	33.6	21.2	33.2	29.7	33.6	30.6	159	166	105	164	147	166
	Office 2		15,129				1.00	547	549	498	488	627	613	554	36.2	36.3	32.9	32.2	41.4	40.5	36.6	267	268	243	238	306	299
	Office 3		16,369				0.42	664	943	914	928	1025	742	869	40.6	57.6	55.8	56.7	62.6	45.3	53.1	324	460	446	453	500	362
	Multi-tenant Offices 1		39,146					1408	1781	1322	1590	1316	1611	1505	36.0	45.5	33.8	40.6	33.6	41.1	38.4	687	869	645	776	642	786
	Multi-tenant Offices 2		22,491					219	248	252	287	332	305	274	9.7	11.0	11.2	12.8	14.8	13.6	12.2	107	121	123	140	162	149
	Chiropractic Office		1,877					39	41	37	20	18	16	29	20.7	21.8	19.7	10.9	9.8	8.7	15.3	19	20	18	10	9	8
	Office and Massage		9,434					186	217	299	562	287	330	314	19.8	23.0	31.7	59.5	30.4	35.0	33.2	91	106	146	274	140	161
	Office 4		19,427					375	367	412	322	320	318	352	19.3	18.9	21.2	16.6	16.5	16.4	18.1	183	179	201	157	156	155
																					29.7						
Medical/Dental Office	Medical Office 1		31,234				2.40	3691	2951	2326	2603	2451	2664	2781	118.2	94.5	74.5	83.3	78.5	85.3	89.0	1801	1440	1135	1270	1196	1300
	Medical Office 2		11,661					594	580	600	611	711	742	640	51.0	49.7	51.5	52.4	61.0	63.6	54.9	290	283	293	298	347	362
	Medical Office 3		4,191					352	350	1100	404	338	371	486	84.1	83.6	262.6	96.3	80.7	88.5	116.0	172	171	537	197	165	181
	Medical and Dental Offices 1		3,224					262	205	217	244	242	246	236	81.4	63.6	67.4	75.6	75.0	76.3	73.2	128	100	106	119	118	120
	Medical and Dental Offices 2		3,188					592	750	736	832	687	666	710	185.8	235.3	230.8	261.0	215.3	208.9	222.8	289	366	359	406	335	325
	Dental Office		5,876					1510	1244	1338	1320	1348	1285	1341	257.0	211.7	227.7	224.6	229.5	218.7	228.2	737	607	653	644	658	627
																					130.7						
Hotel w/ dining	Hotel w/ dining 1					235		36166	28701	27145	24952	22987	23196	27191	153.9	122.1	115.5	106.2	97.8	98.7	115.7	17648	14005	13246	12176	11217	11319
	Hotel w/ dining 2					285		37607	33617	31203	32592	31184	18005	30701	132.0	118.0	109.5	114.4	109.4	63.2	107.7	18351	16404	15226	15904	15217	8786
	Hotel w/ dining 3					82		12105	12626	11693	11595	12296	12163	12080	147.6	154.0	142.6	141.4	149.9	148.3	147.3	5907	6161	5706	5658	6000	5935
	Hotel w/ dining 4					50		12029	10413	3654	9146	6257	5619	7853	240.6	208.3	73.1	182.9	125.1	112.4	157.1	5870	5081	1783	4463	3053	2742
	Hotel w/ dining 5					106		22223	22797	18155	18882	20710	21337	20684	209.6	215.1	171.3	178.1	195.4	201.3	195.1	10844	11124	8859	9214	10106	10412
	Hotel w/ dining 6					119		9251	11866	11482	10083	8999	7253	9822	77.7	99.7	96.5	84.7	75.6	60.9	82.5	4514	5790	5603	4920	4391	3539
																					134.2						
Hotel/Motel w/o dining	Hotel/motel w/o dining 1					42		3461	3627	3681	3560	3519	4113	3660	82.4	86.4	87.6	84.8	83.8	97.9	87.1	1689	1770	1796	1737	1717	2007
	Hotel/motel w/o dining 2					18		2420	2207	1662	2080	1535	2074	1996	134.5	122.6	92.3	115.6	85.3	115.2	110.9	1181	1077	811	1015	749	1012
	Hotel/motel w/o dining 3					200		18561	17405	17044	16563	17417	15946	17156	92.8	87.0	85.2	82.8	87.1	79.7	85.8	9057	8493	8317	8082	8499	7781
	Hotel/motel w/o dining 4					151		20698	19499	18054	13993	12427	13150	16304	137.1	129.1	119.6	92.7	82.3	87.1	108.0	10100	9515	8810	6828	6064	6417
	Hotel/motel w/o dining 5					37		4658	3781	3635	4586	5306	5525	4582	125.9	102.2	98.3	124.0	143.4	149.3	123.8	2273	1845	1774	2238	2589	2696
	Hotel/motel w/o dining 6					142		17870	17575	13325	15761	15874	12991	15566	125.8	123.8	93.8	111.0	111.8	91.5	109.6	8720	8576	6502	7691	7746	6339
																					104.2						
Public & Institutional	Public & Institutional 1		10,300				2.08	689	486	795	465	488	666	598	66.9	47.2	77.2	45.2	47.4	64.7	58.1	336	237	388	227	238	325
	Public & Institutional 2		52,931				1.33	3560	2762	996	1187	1215	1121	1807	67.3	52.2	18.8	22.4	23.0	21.2	34.1	1737	1348	486	579	593	547
	Public & Institutional 3		37,675					4443	2933	2750	2633	3357	3693	3301	117.9	77.8	73.0	69.9	89.1	98.0	87.6	2168	1431	1342	1285	1638	1802
	Fire Station 1		4,550					381	361	303	283	365	385	346	83.8	79.3	66.7	62.2	80.2	84.7	76.1	186	176	148	138	178	188
	Fire Station 2		3,725					117	107	86	90	102	105	101	31.4	28.6	23.1	24.2	27.5	28.1	27.1	57	52	42	44	50	51
	Fire Station 3		7,680					279	320	135	234	518	158	274	36.3	41.6	17.6	30.4	67.5	20.5	35.7	136	156	66	114	253	77
	Library		41,900					703	748	1867	3183	2578	1387	1744	16.8	17.9	44.6	76.0	61.5	33.1	41.6	343	365	911	1553	1258	677
	Public & Institutional 4		11,575					1041	975	828	449	416	475	697	89.9	84.3	71.5	38.8	35.9	41.1	60.3	508	476	404	219	203	232
																					52.6						
School	College				11,727			88625	95152	29022	72681	50596	94131	71701	7.6	8.1	2.5	6.2	4.3	8.0	6.1	43246	46431	14162	35466	24689	45933
	High School 1				1,715			35220	28502	19948	26321	19743	21838	25262	20.5	16.6	11.6	15.3	11.5	12.7	14.7	17186	13908	9734	12844	9634	10656
	High School 2				962			3554	4086	3658	4568	3545	4767	4030	3.7	4.2	3.8	4.7	3.7	5.0	4.2	1734	1994	1785	2229	1730	2326
	High School 3				1,980			31623	32100	19282	27112	21139	19934	25198	16.0	16.2	9.7	13.7	10.7	10.1	12.7	15431	15664	9409	13230	10315	9727
	Middle School 1				892			19026	22784	8054	11249	9849	9208	13362	21.3	25.5	9.0	12.6	11.0	10.3	15.0	9284	11118	3930	5489	4806	4493
	Middle School 2				887			17007	18350	10488	12226	10697	15401	14028	19.2	20.7	11.8	13.8	12.1	17.4	15.8	8299	8954	5118	5966	5220	7515
	Middle School 3				1,107			26379	21368	11318	12933	10017	10880	15483	23.8	19.3	10.2	11.7	9.0	9.8	14.0	12872	10427	5523	6311	4888	5309
	Elementary School 1				432			7808	8505	4404	6408	6252	4963	6390	18.1	19.7	10.2	14.8	14.5	11.5	14.8	3810	4150	2149	3127	3051	2422
	Elementary School 2				211			6732	6148	4750	5002	6293	5677	5767	31.9	29.1	22.5	23.7	29.8	26.9	27.3	3285	3000	2318	2441	3071	2770
	Elementary School 3				547			15048	10345	7468	11544	8591	13655	11108	27.5	18.9	13.7	21.1	15.7	25.0	20.3	7343	5048	3644	5633	4192	6663
	Elementary School 4				431			11050	10499	9140	8644	8179	14396	10318	25.6	24.4	21.2	20.1	19.0	33.4	23.9	5392	5123	4460	4218	3991	7025
																					15.4						
Assisted Living	Assisted Living 1		55,910	60				10531	4556	4799	4799	2371	5088	5358	175.5	75.9	80.0	80.0	39.5	84.8	89.3	5139	2223	2342	2342	1157	2483
	Assisted Living 2		10,450	54				2451	2586	2943	2428	2334	2791	2589	45.4	47.9	54.5	45.0	43.2	51.7	47.9	1196	1262	1436	1185	1139	1362
	Assisted Living 3		8,000	43				1902	1894	1967	1900	1982	2019	1944	44.2	44.0	45.8	44.2	46.1	46.9	45.2	928	924	960	927	967	985
	Assisted Living 4		15,120	49				1873	2068	1857	1551	1666	1820	1806	38.2	42.2	37.9	31.7	34.0	37.1	36.9	914	1009	906	757	813	888
	Assisted Living 5		69,600	100				7220	8320	7619	7876	8527	8162	7954	72.2	83.2	76.2	78.8	85.3	81.6	79.5	3523	4060	3718	3843	4161	3983
	Assisted Living 6		14,607	49				2902	3127	2410	2133	2371	1814	2460	59.2	63.8	49.2	43.5	48.4	37.0	50.2	1416	1526	1176	1041	1157	885
	Assisted Living 7		93,486	121				17925	18749	15481	15899	15577	14374	16334	148.1	155.0	127.9	131.4	128.7	118.8	135.0	8747	9149	7554	7758	7601	7014
	Assisted Living 8		139,050	313				32625	34922	33523	29102	27381	30996	31425	104.2	111.6	107.1	93.0	87.5	99.0	100.4	15920	17041	16358	14201	13361	15125
	Assisted Living 9		26,275	96				4549	4914	5310	4949	5785	5080	5098	47.4	51.2	55.3	51.6	60.3	52.9	53.1	2220	2398	2591	2415	2823	2479
																					70.8						
Brewery	Brewery 1		13,820								2646	2685	4586	3306				191.4	194.3	331.9	239.2				1291	1310	2238
	Brewery 2		4,357								1777	2631	2826	2411				407.8	603.9	648.6	553.4				867	1284	1379
	Brewery 3		5,599									912	1297	1105					162.9	231.7	197.3					445	633
	Brewery 4		5,312					2240	2390	1736	1721	1980	1553	1937	421.7	449.8	326.8	324.1	372.7	292.4	364.6	1093	1166	847	840	966	758
																					338.6						
Restaurant (sit down)	Restaurant (sit down) 1		3,750					1064	1312	1504	996	805	430	1019	283.6	349.7	401.1	265.6	214.8	114.8	271.6	519	640	734	486	393	210
	Restaurant (sit down) 2		2,340					650	650	658	904	678	785	721	277.6	277.6	281.1	386.2	289.9	335.4	308.0	317	317	321	441	331	383
	Restaurant (sit down) 3		10,199					4181	4535	4468	5078	4814	4746	4637	409.9	444.7	438.0	497.9	472.0	465.4	454.6	2040	2213	2180	2478	2349	2316
	Restaurant (sit down) 4		9,344					6119	6070	5943	7025	7404	6279	6473	654.9	649.6	636.0	751.8	792.4	672.0	692.8	2986	2962	2900	3428	3613	3064
	Restaurant (sit down) 5		4,612					2765	3060	3375	3609	3648	3941	3399	599.4	663.4	731.8	782.5	790.9	854.5	737.1	1349	1493	1647	1761	1780	1923
	Restaurant (sit down) 6		4,000					2910	3053	2535	3365	3480	2197	2923	727.5	763.4	633.8	841.2	869.9	549.2	730.8	1420	1490	1237	1642	1698	1072
	Restaurant (sit down) 7		5,902					2566	2344	1892	2025	2197	2164	2198	434.7	397.2	320.5	343.1	372.2	366.7	372.4	1252	1144	923	988	1072	1056
	Restaurant (sit down) 8		2,829					2025	2068	1764	1699	1523	1603	1780	715.7	730.9	623.7	600.5	538.2	566.5	629.3	988	1009	861	829	743	782
																					524.6						
Restaurant (fast food)	Restaurant (fast food) 1		5,250					2687	2205	1832	1855	1853	1816	2041	511.7	420.0	349.0	353.3	352.9	345.8	388.8	1311	1076	894	905	904	886
	Restaurant (fast food) 2		3,132					2201	2060	1963	2295	2213	1527	2043	702.7	657.6	626.8	732.8	706.7	487.5	652.4	1074	1005	958	1120	1080	745
	Restaurant (fast food) 3		3,275					1703	1906	1590	1490	1494	1344	1588	520.0	581.9	485.6	454.9	456.2	410.5	484.8	831	930	776	727	729	656
	Restaurant (fast food) 4		3,320					1523	1508	1260	1141	1023	984	1240	458.6	454.3	379.6	343.8	308.0	296.3	373.4	743	736	615	557	499	480
	Restaurant (fast food) 5		2,666					4808	5023	4806	5468	5593	4672	5061	1803.3	1884.0	1802.6	2050.9	2097.7	1752.6	1898.5	2346	2451	2345	2668	2729	2280
	Restaurant (fast food) 6		2,418					1652	2506	1293	1275	1457	1590	1629	683.1	1036.5	534.8	527.2	602.6	657.7	673.6	806	1223	631	622	711	776
	Restaurant (fast food) 7		2,955					2221	2014	1629	1410	1131	2519	1821	751.8	681.7	551.3	477.1	382.8	852.3	616.2	1084	983	795	688	552	1229
	Restaurant (fast food) 8		3,500					1039	1162	1271	1361	1207	1010	1175	296.9	332.0	363.0	388.8	344.9	288.7	335.7	507	567	620	664	589	493
																					677.9						

APPENDIX B

		Land Use Units						Water Use (GPD)							Raw Factor / Year (gpd/xx)							Totals (HCF)					
Land Use Category	**User (REDACTED)**	**DU**	**SF**	**Bed**	**Students**	**Room**	**Acres**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**Avg.**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**Avg.**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Bakery/Coffee Shop	Bakery 1		2,100					111	135	133	197	268	141	164	52.7	64.4	63.4	93.7	127.8	67.3	78.2	54	66	65	96	131	69
	Bakery/Coffee Shop		3,000					424	451	465	725	430	373	478	141.4	150.3	155.1	241.8	143.5	124.3	159.4	207	220	227	354	210	182
	Bakery 2		2,550					98	107	113	113	98	107	106	38.6	41.8	44.2	44.2	38.6	41.8	41.5	48	52	55	55	48	52
	Coffee Shop 1		2,100					807	643	611	693	650	758	694	384.5	306.4	290.8	329.8	309.3	361.1	330.3	394	314	298	338	317	370
	Coffee Shop 2		1,500							92	98	109	115	103			61.5	65.6	72.4	76.5	69.0			45	48	53	56
	Bakery 3		2,100					119	131	115	94	94	115	111	56.6	62.5	54.6	44.9	44.9	54.6	53.0	58	64	56	46	46	56
	Bakery 4		2,100								162	164	201	176				77.1	78.1	95.6	83.6				79	80	98
																					116.4						
Grocery Store	Grocery Store 1		23,000					1662	1986	2693	2295	2250	1469	2059	72.3	86.3	117.1	99.8	97.8	63.9	89.5	811	969	1314	1120	1098	717
	Grocery Store 2		42,655					6363	6707	5478	5943	6740	6298	6255	149.2	157.2	128.4	139.3	158.0	147.6	146.6	3105	3273	2673	2900	3289	3073
	Grocery Store 3		78,410					14714	17487	12282	16659	17186	9351	14613	187.7	223.0	156.6	212.5	219.2	119.3	186.4	7180	8533	5993	8129	8386	4563
	Grocery Store 4		8,232					363	346	342	402	447	449	391	44.1	42.1	41.6	48.8	54.3	54.5	47.5	177	169	167	196	218	219
	Grocery Store 5		46,507					6748	7853	8740	7355	9531	13099	8888	145.1	168.9	187.9	158.1	204.9	281.7	191.1	3293	3832	4265	3589	4651	6392
	Grocery Store 6		51,078					2426	2394	3191	4191	4445	2519	3194	47.5	46.9	62.5	82.0	87.0	49.3	62.5	1184	1168	1557	2045	2169	1229
	Grocery Store 7		15,236					2113	2027	1752	2025	1484	1988	1898	138.7	133.0	115.0	132.9	97.4	130.5	124.6	1031	989	855	988	724	970
																					121.2						
Multi-Tenant Commercial*	Multi-tenant Commercial (w/ food) 1		13,978					844	906	1080	816	789	801	873	60.4	64.8	77.3	58.4	56.4	57.3	62.4	412	442	527	398	385	391
	Multi-tenant Commercial (w/ food) 2		16,519					1795	1926	2717	3711	2197	2830	2530	108.7	116.6	164.5	224.7	133.0	171.3	153.1	876	940	1326	1811	1072	1381
	Multi-tenant Commercial (w/ food) 3		246,928					34961	31402	29951	27772	27307	26908	29717	141.6	127.2	121.3	112.5	110.6	109.0	120.3	17060	15323	14615	13552	13325	13130
	Multi-tenant Commercial (w/ food) 4		9,278					762	791	744	1195	676	1141	885	82.2	85.3	80.2	128.8	72.9	123.0	95.4	372	386	363	583	330	557
	Multi-tenant Commercial (w/ food) 5		14,248					3320	2760	2992	2963	2826	2383	2874	233.0	193.7	210.0	208.0	198.3	167.3	201.7	1620	1347	1460	1446	1379	1163
	Multi-tenant Commercial (w/ food) 6		62,354					7554	7953	7515	6550	6476	7794	7307	121.1	127.6	120.5	105.0	103.9	125.0	117.2	3686	3881	3667	3196	3160	3803
	Multi-tenant Commercial (w/ food) 7		9,701					1588	838	627	574	637	1303	928	163.7	86.4	64.6	59.1	65.7	134.4	95.7	775	409	306	280	311	636
																					120.8						
Single-Use Commercial	Bike Shop		7,000					1137	1682	512	689	734	664	903	162.5	240.4	73.2	98.4	104.8	94.9	129.0	555	821	250	336	358	324
	Drug Store		28,140					850	830	881	785	205	506	676	30.2	29.5	31.3	27.9	7.3	18.0	24.0	415	405	430	383	100	247
	Retail 1		37,430					7433	5890	6009	5925	3576	3529	5393	198.6	157.4	160.5	158.3	95.5	94.3	144.1	3627	2874	2932	2891	1745	1722
	Retail 2		46,455					2500	2801	2492	1406	1797	1230	2038	53.8	60.3	53.6	30.3	38.7	26.5	43.9	1220	1367	1216	686	877	600
	Auto Parts Retail		6,785					684	1098	1744	2308	1516	1059	1402	100.9	161.9	257.0	340.1	223.5	156.2	206.6	334	536	851	1126	740	517
	Thrift Store		12,075					115	322	148	117	139	90	155	9.5	26.6	12.2	9.7	11.5	7.5	12.8	56	157	72	57	68	44
	Retail 3		134,625					4468	6619	3248	4381	4595	4660	4662	33.2	49.2	24.1	32.5	34.1	34.6	34.6	2180	3230	1585	2138	2242	2274
	Retail 4		16,400					1221	1496	1621	918	1131	1412	1300	74.5	91.2	98.8	56.0	69.0	86.1	79.3	596	730	791	448	552	689
	Retail 5		30,000					701	740	668	840	508	588	674	23.4	24.7	22.3	28.0	16.9	19.6	22.5	342	361	326	410	248	287
	Retail 6		7,707					580	527	889	932	1287	1447	944	75.3	68.3	115.4	121.0	167.0	187.7	122.4	283	257	434	455	628	706
																					81.9						
Industrial	Industrial 1		169,644					42988	47337	36060	31971	29797	34053	37035	253.4	279.0	212.6	188.5	175.6	200.7	218.3	20977	23099	17596	15601	14540	16617
	Industrial 2		131,495						2734	2578	2449	2084	3502	2669		20.8	19.6	18.6	15.8	26.6	20.3		1334	1258	1195	1017	1709
	Industrial 3		97,238					114819	123365	136378	144456	149705	133046	133628	1180.8	1268.7	1402.5	1485.6	1539.6	1368.2	1374.2	56028	60198	66548	70490	73051	64922
	Industrial 4		25,795				4.29	4570	9652	3722	7876	6052	6548	6403	177.2	374.2	144.3	305.3	234.6	253.8	248.2	2230	4710	1816	3843	2953	3195
	Industrial 5		19,227				1.14	785	1100	1055	1234	687	609	912	40.8	57.2	54.9	64.2	35.7	31.7	47.4	383	537	515	602	335	297
	Industrial 6		71,864					1754	2047	1760	1627	1223	1103	1586	24.4	28.5	24.5	22.6	17.0	15.3	22.1	856	999	859	794	597	538
	Industrial 7		14,070					1023	1344	1340	1842	1900	2447	1649	72.7	95.5	95.3	130.9	135.0	173.9	117.2	499	656	654	899	927	1194
	Industrial 8		8,125					4228	3043	2443	2019	1654	1836	2537	520.3	374.6	300.7	248.4	203.5	226.0	312.3	2063	1485	1192	985	807	896
	Industrial 9		85,770					9515	9263	8583	10318	15378	16798	11643	110.9	108.0	100.1	120.3	179.3	195.9	135.7	4643	4520	4188	5035	7504	8197
	Industrial 10		14,690					20188	14571	13099	13064	10497	11734	13859	1374.3	991.9	891.7	889.3	714.5	798.8	943.4	9851	7110	6392	6375	5122	5726
																					343.9						
Self Storage	Self-Storage 1		72,394			600	3.31	273	152	227	350	297	316	269	82.3	45.8	68.7	105.9	89.8	95.3	81.3	133	74	111	171	145	154
	Self-Storage 2		61,265				3.04	633	598	514	260	303	328	440	208.3	196.8	169.2	85.6	99.8	107.9	144.6	309	292	251	127	148	160
	Self-Storage 3					545	2.66	404	326	416	277	240	316	330	151.8	122.5	156.4	104.0	90.1	118.6	123.9	197	159	203	135	117	154
	Self-Storage 4					671	4.05	2896	2201	1230	1045	1221	611	1534	715.0	543.4	303.6	258.1	301.6	150.8	378.7	1413	1074	600	510	596	298
	Self-Storage 5					697	3.05	1439	1580	1154	748	1082	820	1137	471.7	518.0	378.3	245.2	354.8	268.8	372.8	702	771	563	365	528	400
	Self-Storage 6						8.79	5095	2941	1297	646	609	1953	2090	579.6	334.6	147.6	73.4	69.2	222.2	237.8	2486	1435	633	315	297	953
																					223.2						
Church	Church 1		60,320					3988	4322	3652	4062	4127	4496	4108	66.1	71.7	60.5	67.3	68.4	74.5	68.1	1946	2109	1782	1982	2014	2194
	Church 2		27,375					1498	1473	1238	984	1521	1350	1344	54.7	53.8	45.2	35.9	55.5	49.3	49.1	731	719	604	480	742	659
	Church 3		75,120					2652	2361	1010	484	318	418	1207	35.3	31.4	13.4	6.4	4.2	5.6	16.1	1294	1152	493	236	155	204
	Church 4		33,300					1355	1289	1000	951	922	898	1069	40.7	38.7	30.0	28.6	27.7	27.0	32.1	661	629	488	464	450	438
	Church 5		18,950					742	449	279	562	361	680	512	39.1	23.7	14.7	29.6	19.0	35.9	27.0	362	219	136	274	176	332
	Church 6		11,500					1459	1049	768	824	605	1582	1048	126.9	91.2	66.8	71.6	52.6	137.6	91.1	712	512	375	402	295	772
	Church 7		16,175					4127	3617	2627	4174	5093	1562	3533	255.2	223.6	162.4	258.1	314.8	96.5	218.4	2014	1765	1282	2037	2485	762
																					71.7						
Park/Golf Course	Park 1						3.58	5244	3545	2592	3242	3439	4092	3693	1464.9	990.3	724.1	905.6	960.5	1143.2	1031.4	2559	1730	1265	1582	1678	1997
	Park 2						7.18	14665	10911	6517	8746	5209	9589	9273	2042.5	1519.6	907.6	1218.2	725.5	1335.5	1291.5	7156	5324	3180	4268	2542	4679
	Park 3						3.35	5183	3652	3236	2746	2172	2435	3237	1547.1	1090.1	965.9	819.7	648.4	726.7	966.3	2529	1782	1579	1340	1060	1188
	Park 4						30.33	32848	32555	33928	32924	30307	34691	32876	1083.0	1073.4	1118.6	1085.5	999.3	1143.8	1083.9	16029	15886	16556	16066	14789	16928
	Park 5						18.31	39900	36689	38474	36295	38757	36668	37797	2179.1	2003.8	2101.2	1982.3	2116.7	2002.6	2064.3	19470	17903	18774	17711	18912	17893
	Park 6						89.70	81255	79319	86430	80897	76081	81378	80893	905.9	884.3	963.5	901.9	848.2	907.2	901.8	39650	38705	42175	39475	37125	39710
	Park 7						4.99	12616	10523	6134	7810	9855	9238	9363	2528.2	2108.9	1229.2	1565.1	1975.0	1851.4	1876.3	6156	5135	2993	3811	4809	4508
	Park 8						4.99	5468	3476	4330	4043	4039	3066	4070	1095.7	696.5	867.8	810.3	809.5	614.4	815.7	2668	1696	2113	1973	1971	1496
	Park 9						7.11	9890	6318	6882	8697	8814	9369	8328	1391.0	888.6	967.9	1223.2	1239.7	1317.8	1171.4	4826	3083	3358	4244	4301	4572
	Golf Course 1						253.50	253754	275198	270850	276123	265214	265306	267741	1001.0	1085.6	1068.4	1089.2	1046.2	1046.6	1056.2	123824	134288	132166	134739	129416	129461
	Golf Course 2						92.00	213682	252676	231302	223320	220785	226140	227984	2322.6	2746.5	2514.2	2427.4	2399.8	2458.0	2478.1	104270	123298	112868	108973	107736	110349
																					1339.7						
Gyms w/ pools	Gym w/ pool 1		114,625					11228	9421	9527	9855	8994	9638	9777	98.0	82.2	83.1	86.0	78.5	84.1	85.3	5479	4597	4649	4809	4389	4703
	Gym w/ pool 2		23,000					7435	7736	5240	6154	6236	6285	6514	323.3	336.4	227.8	267.6	271.1	273.3	283.2	3628	3775	2557	3003	3043	3067
	Gym w/ pool 3		42,000					4972	5420	4812	5142	6015	5947	5385	118.4	129.1	114.6	122.4	143.2	141.6	128.2	2426	2645	2348	2509	2935	2902
																					165.6						
Car Wash (only)	Car wash 1		1,462				0.18	1615	1082	1068	1215	1103	1062	1191	1104.6	740.1	730.3	831.2	754.1	726.1	814.4	788	528	521	593	538	518
	Car wash 2		3,555				0.60	6361	7523	8175	8140	7859	7617	7613	1789.3	2116.2	2299.5	2289.7	2210.7	2142.7	2141.4	3104	3671	3989	3972	3835	3717
	Car wash 3		3,225				0.36	357	293	191	232	361	1096	421	110.6	90.9	59.1	71.8	111.8	340.0	130.7	174	143	93	113	176	535
	Car wash 4		6,050				0.19	1371	1516	1795	2096	1842	1564	1698	226.6	250.7	296.7	346.5	304.5	258.5	280.6	669	740	876	1023	899	763
																					841.8						
Gas Station w/ Car Wash	Gas Station w/ Car Wash 1		9,973				1.16	8818	11650	9976	10564	11921	13062	10999	884.2	1168.2	1000.3	1059.3	1195.3	1309.8	1102.8	4303	5685	4868	5155	5817	6374
	Gas Station w/ Car Wash 2		2,854				0.54	1793	1541	1908	2246	3285	2961	2289	628.3	540.0	668.5	787.0	1151.0	1037.6	802.1	875	752	931	1096	1603	1445
	Gas Station w/ Car Wash 3		1,377				0.72	758	762	646	1633	1685	1926	1235	550.7	553.6	468.8	1186.1	1223.3	1399.0	896.9	370	372	315	797	822	940
	Gas Station w/ Car Wash 4		3,125				1.66	5578	6502	5933	6738	6402	7068	6370	1785.0	2080.8	1898.5	2156.2	2048.7	2261.8	2038.5	2722	3173	2895	3288	3124	3449
	Gas Station w/ Car Wash 5		2,602				0.51	2769	4170	3705	3160	1496	3381	3114	1064.0	1602.8	1424.0	1214.5	574.9	1299.5	1196.6	1351	2035	1808	1542	730	1650
	Gas Station w/ Car Wash 6		1,157				0.51	5576	5810	6252	6453	4968	5023	5680	4819.5	5021.4	5404.0	5577.6	4293.5	4341.3	4909.6	2721	2835	3051	3149	2424	2451
Gas Station	Gas Station 1		1,274				0.25	64	195	78	64	70	68	89	49.9	152.8	61.1	49.9	54.7	53.1	70.2	31	95	38	31	34	33
	Gas Station 2		3,517				0.60	1164	898	1326	2084	1603	1078	1359	331.0	255.2	377.0	592.6	455.7	306.5	386.3	568	438	647	1017	782	526
	Gas Station 3		644				0.23	74	94	33	23	27	31	47	114.6	146.4	50.9	35.0	41.4	47.7	72.7	36	46	16	11	13	15
	Gas Station 4		1,848				0.51	391	445	244	201	205	201	281	211.8	240.6	132.0	108.7	110.9	108.7	152.1	191	217	119	98	100	98
	Gas Station 5		1,595				0.49	617	469	453	400	371	398	451	386.7	294.2	283.9	250.5	232.6	249.3	282.9	301	229	221	195	181	194
	Gas Station 6		1,596				0.28	482	299	324	318	346	406	362	301.7	187.5	202.9	199.0	217.0	254.2	227.1	235	146	158	155	169	198
																					198.5						