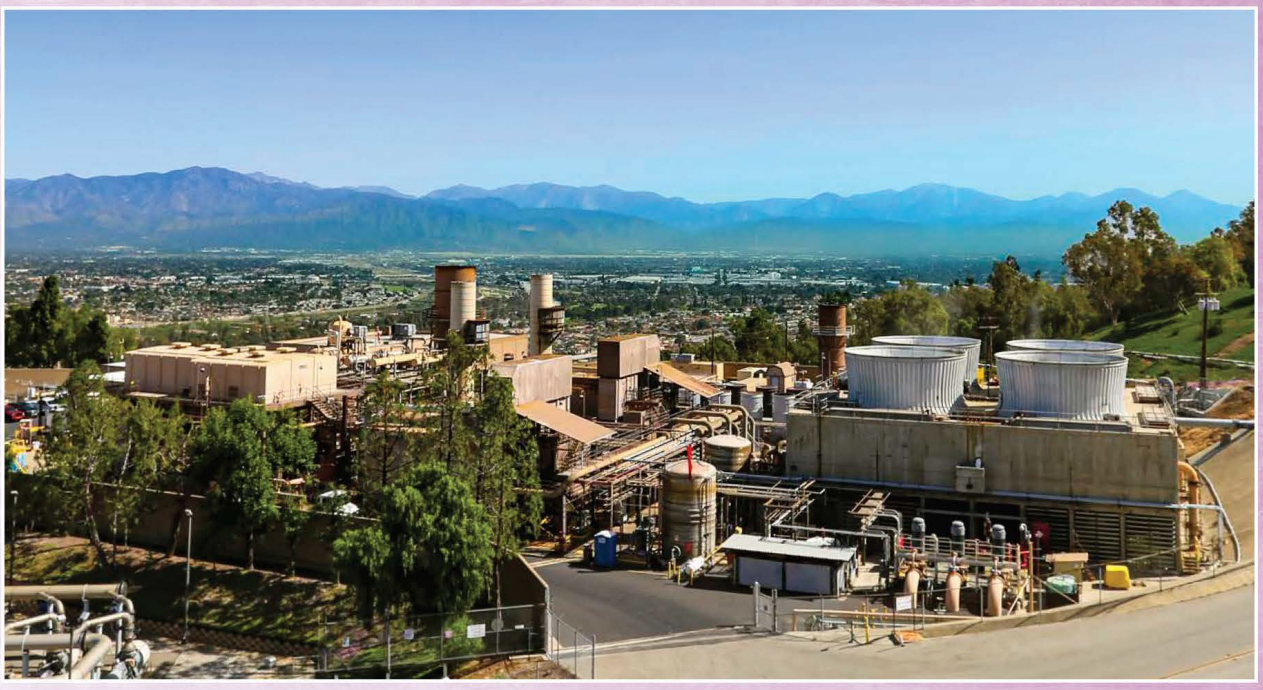
33RD Annual Status Report on

Recycled Water Use

FY 2021–22



LOS ANGELES COUNTY
SANITATION DISTRICTS
Converting Waste Into Resources

Thirty-Third

ANNUAL STATUS REPORT

on

RECYCLED WATER USE

Fiscal Year 2021-2022

Los Angeles County Sanitation Districts
1955 Workman Mill Road
Whittier, CA 90601

PREFACE

In addition to its mission of collecting, treating and managing municipal wastewater, the Los Angeles County Sanitation Districts (Sanitation Districts) have adopted the goal of maximizing the beneficial reuse of the highly treated effluents produced by their water reclamation plants (WRPs). The Sanitation Districts work with numerous local, regional, and state agencies and other entities in an effort to continue developing recycled water as a source of "local" water to supplement the area's limited groundwater and imported water supplies. It should be noted upfront that Fiscal Year 2021-2022 set the all-time record for the amount of recycled water usage in a single fiscal year.

In response to many requests for information regarding various aspects of the Sanitation Districts' water reuse program, this fiscal year report has been prepared for distribution to interested parties. This report is the thirty-third of its kind and includes: historic recycled water use activities, descriptions of plant operations, diagrams of the various recycled water distribution systems (continuing a transition to a GIS-based format), lists of the users and the quantities they used, tables of recycled water quality and plans for expanding the use of recycled water, among other subjects. Please note that the list of user sites was reviewed for this report and numerous permanently inactive or disconnected sites were removed from the list and the appropriate tables and figures were also revised.

This report is divided into five chapters and twelve appendices. Chapter 1 is an overview of the Sanitation Districts' water reuse program. Chapters 2, 3, and 4 detail the water reuse activities at each of the Sanitation Districts' ten WRPs, which are grouped into three geographic areas: Los Angeles Basin, Santa Clarita Valley, and Antelope Valley, respectively. Chapter 5 details the various proposed water recycling projects in the Sanitation Districts' service areas that are currently under development or in the planning phase.

The appendices encompass narrative descriptions of the more complicated distribution system facilities (Long Beach Water Department, City of Cerritos, City of Lakewood, Central Basin Municipal Water District's Century and Rio Hondo systems, City of Pomona, Walnut Valley Water District, Puente Hills/Rose Hills system, Rowland Water District, Upper San Gabriel Valley Municipal Water District's Whittier Narrows system, and the Sanitation Districts' Eastern Agricultural Site), a chronology of Sanitation Districts' reuse activities, and all the individual WRPs' recycled water quality tables.

A "Facts-at-a-Glance" summary page containing a brief list of data related to the Sanitation Districts' water recycling program for the fiscal year appears before Chapter 1.

Further information regarding the Sanitation Districts and its water recycling activities can be found at its website: *https://www.lacsd.org/services/wastewater-programs-permits/water-reuse-program.* This report is the last to be produced by the Sanitation Districts' retiring Water Recycling Coordinator, Earle Hartling, who has been responsible for this effort since the inaugural report covering Fiscal Year 1989-1990. In the future, if you would like additional copies of this report (hardcopy or electronic) or would like to comment on its contents, please contact Monica Sanchez, Supervising Engineer at (562) 908-4288, extension 2836, or by email at *monicasanchez@lacsd.org*.

Main Cover Photo: The Puente Hills Energy Recovery from Landfill Gas (PERG) power plant began operation in 1986. Since that time, methane generated from the underground decomposition of municipal solid waste has been extracted from the Puente Hills Landfill and used to generate 50 megawatts of power. Since November 1997, recycled water from the San Jose Creek WRP has supplied the cooling towers. Following the landfill's closure in 2013, gas production has diminished, and this facility will eventually be decommissioned.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

LIST OF ABBREVIATIONS

AF	acre-foot
AFY	acre-foot per year
AO	advanced oxidation
ARCAWTF	Albert Robles Center Advanced Water Treatment Facility
AVTTP	Antelope Valley Tertiary Treatment Plant
BOD	biological oxygen demand
CBMWD	Central Basin Municipal Water District
CCDC	Customer Conversion for Disadvantaged Communities
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CLWA	Castaic Lake Water Agency
COD	chemical oxygen demand
CRS	Cal Poly Center for Regenerative Studies (LandLab)
CRWRF	Carson Regional Water Recycling Facility
CTR	California Toxics Rule
DAC	Disadvantaged Communities
DDW	State Division of Drinking Water (formerly CDPH)
DIP	ductile iron pipe
DWR	California Department of Water Resources
EIR	Environmental Impact Report
EPA	United States Environmental Protection Agency
FMP	Farm Management Plan
FY	fiscal year
GAC	granular activated carbon
gpm	gallons per minute
HP	horsepower
IRRP	Indirect Reuse Replenishment Project
JOS	Joint Outfall System
JPA	Joint Powers Authority
JWPCP	Joint Water Pollution Control Plant
LACDPW	Los Angeles County Department of Public Works
LADWP	City of Los Angeles Department of Water and Power
LARWQCB	Los Angeles Regional Water Quality Control Board
LRWQCB	Lahontan Regional Water Quality Control Board
LAWA	Los Angeles World Airports
LBWD	Long Beach Water Department
LMD	Landscape Maintenance District
LPVCWD	La Puente Valley County Water District
LVLAWTF	Leo Vander Lans Advanced Water Treatment Facility
MBR	membrane bioreactor
MF/RO	microfiltration/reverse osmosis

MG	million gallons
MGD	million gallons per day
MND/EA	Mitigated Negative Declaration/Environmental Assessment
MRF	Materials Recovery Facility
MTA	Metropolitan Transportation Authority
MWD	Metropolitan Water District of Southern California
MWH	Montgomery-Watson-Harza
NDMA	N-nitrosodimethylamine
NPDES	National Pollutant Discharge Elimination System
NDN	nitrification-denitrification
O&M	operation and maintenance
OCWD	Orange County Water District
PEP	Palmdale Energy Project
PERG	Puente Hills Energy Recovery from Landfill Gas Facility
PVC	polyvinyl chloride
PRGRRP	Palmdale Regional Groundwater Recharge and Recovery Project
PWD	Pomona Water Department
PRWA	Palmdale Recycled Water Authority
RWD	Rowland Water District
SCE	Southern California Edison
SCVJSS	Santa Clarita Valley Joint Sewerage System
SCVWA	Santa Clarita Valley Water Agency
SJCWRP	San Jose Creek Water Reclamation Plant
SGVMWD	San Gabriel Valley Municipal Water District
SGVWC	San Gabriel Valley Water Company
SRF	State Revolving Funds
SWRCB	State Water Resources Control Board
SWS	Suburban Water Systems
THUMS	Texaco, Humboldt, Union, Mobil, Shell
TOC	total organic carbon
TVMWD	Three Valleys Municipal Water District
USBR	United States Bureau of Reclamation
USGS	United States Geologic Survey
USGVMWD	Upper San Gabriel Valley Municipal Water District
UV	ultraviolet light disinfection
VHWC	Valencia Heights Water Company
VWC	Valencia Water Company
WDR	waste discharge requirements
WRD	Water Replenishment District of Southern California
WRP	water reclamation plant
WVWD	Walnut Valley Water District

FY21-22 FACTS-AT-A-GLANCE

SANITATION DISTRICTS

Total Effluent Produced (including JWPCP): 388.59 MGD (435,438 AFY[1]), 0.9% increase

Total Recycled Water Produced (at WRPs): 148.71 MGD (166,634 AFY), 59.3% of capacity, 38.3% of the total effluent produced, 8.8% increase

Total Recycled Water Used: 102.68 MGD (115,060 AFY), 69.0% of recycled water produced, 10.5% increase, 857 permanent sites (27 added), 32 active temporary construction sites (24 added)

Groundwater replenishment (3)	62.55 MGD (70,094 AFY)	60.9% of total reuse	22.4% increase
Landscape irrigation (818)	18.30 MGD (20,508 AFY)	17.8% of total reuse	2.4% increase
Agriculture (7)	14.68 MGD (16,453 AFY)	14.3% of total reuse	8.9% decrease
Industrial (60)	3.34 MGD (3,746 AFY)	3.3% of total reuse	13.0% decrease
Environmental (1)	3.81 MGD (4,266 AFY)	3.7% of total reuse	4.8% decrease

Total Reuse Since Inception (1962): 3,605,725 AF (1.17 trillion gallons)

Transmission Lines: 1,432,090 linear feet (271.2 miles)

Acreage Served: 17,275.3 acres (direct non-potable use)

Jurisdictions Served: 35 (34 cities plus unincorporated Los Angeles County)

Recycled Water Purveyors: 36

Recycled Water Contracts: 24

Greenhouse Gas Reduction[2]: 258,885 tons of carbon dioxide

Capacity of Future Planned Reuse Projects: 193,462 AFY (172.65 MGD)

JOINT OUTFALL SYSTEM

Total Effluent Produced: 347.91 MGD (389,854 AFY), 0.9% increase

Total Recycled Water Produced: 108.03 MGD (121,051 AFY), 31.1% of the total produced, 12.1% increase

Total Recycled Water Used: 84.23 MGD (94,383 AFY), 78.0% of recycled water produced, 15.8% increase

SANTA CLARITA

Total Recycled Water Produced: 18.38 MGD (20,600 AFY), 1.2% increase

Total Recycled Water Used: 0.38 MGD (426 AFY), 2.1% of recycled water produced, 13.2% decrease

ANTELOPE VALLEY

Total Recycled Water Produced: 22.30 MGD (24,984 AFY), 0.8% increase

Total Recycled Water Used: 18.07 MGD (20,249 AFY), 81.0% of recycled water produced, 8.8% decrease

1 Acre-feet per year (AFY) based on 3.07 AF per million gallons over 365 days for this fiscal year.

2 The use of locally produced recycled water eliminates the need to pump State Project water into the Los Angeles Basin at a net energy cost of approximately 3,000 kWh/AF with the attendant CO_2 production.

1. OVERVIEW

1.1 WATER RECLAMATION ACTIVITIES

The Los Angeles County Sanitation Districts (Sanitation Districts) operate 11 wastewater treatment facilities (**Figure 1**), 10 of which are classified as water reclamation plants (WRPs). These 11 facilities serve approximately 5.6 million people in 78 cities and unincorporated areas within Los Angeles County. Effluent quality from the WRPs is almost all filtered, disinfected tertiary, with a very small amount being disinfected secondary. During Fiscal Year 2021-2022 (FY21-22), Sanitation Districts' facilities produced an average of 388.59 million gallons per day (MGD), or 435,438 acre-feet per year (AFY) of effluent, which is an increase of 0.9% over the preceding fiscal year but a 27.5% decrease from the historic peak of FY89-90. Following that peak year, total average effluent flow had decreased by 11% in FY91-92 as a result of widespread water conservation in response to a drought-induced, statewide water crisis, as well as an economic recession.

After that drought ended in 1992, overall effluent flows increased, due in part to population growth, a healthier economy, and the easing of conservation measures in response to improved statewide water supplies. Total effluent flow peaked again in 1998 due in large part to the extremely heavy El Niño generated rainfall that year. Since 1999, total flow production resumed decreasing despite population growth in the Sanitation Districts' service area. The on-going decline in effluent production (24.9% since FY04-05) is attributable to a downturn in local economic activity combined with ever-increasing water conservation efforts (e.g., low flow toilets, waterless urinals, water efficient washing machines, etc.) in response to a multi-year statewide drought beginning in 2006 that grew in scale in subsequent years. Effluent production at Sanitation Districts' facilities is currently at levels last seen in the late 1960s.

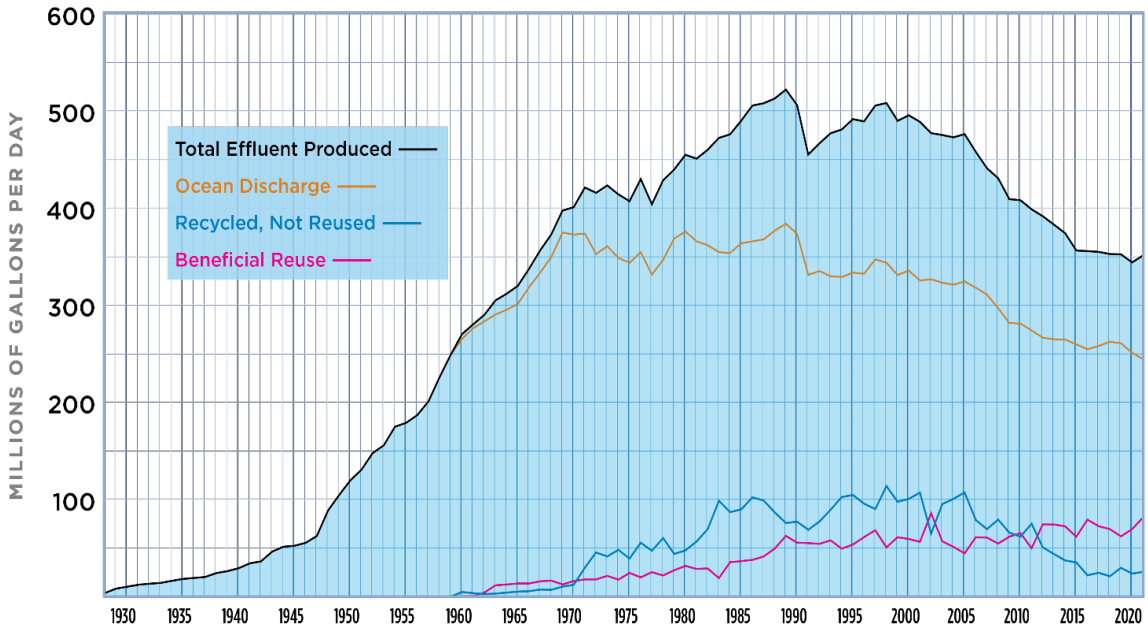
FIGURE 1
LOCATION OF SANITATION DISTRICTS' WASTEWATER TREATMENT FACILITIES

Nominal treatment capacity at the 10 Sanitation Districts' WRPs is 250.8 MGD (281,040 AFY) as of the end of FY21-22. However, of the total effluent produced, only 148.71 MGD (166,634 AFY) consisted of recycled water available for reuse from these 10 facilities (59.3% of capacity). This amount is 38.3% of the total amount of effluent produced at the 11 wastewater treatment facilities and an increase of 8.8% over the preceding fiscal year. The remaining 239.88 MGD (268,804 AFY) was effluent discharged to the ocean from the Sanitation Districts' Joint Water Pollution Control Plant (JWPCP) in the City of Carson, a 3.4% decrease from the preceding fiscal year. This represents a shift in wastewater treatment from JWPCP to the WRPs resulting in an additional 13,484 AF in recycled water available for reuse as compared to the preceding fiscal year.

For six decades, the Sanitation Districts have diverted high quality wastewater flows away from direct ocean disposal to upstream WRPs in order to provide recycled water supplies for eventual reuse, as illustrated in **Figure 2** (data through the end of calendar year 2021). Discharge to the ocean has steadily decreased since the WRPs in the Los Angeles Basin (i.e., the Joint Outfall System, or JOS) were built in the early 1970s, with additional needed treatment capacity being added through expansion of the WRPs.

Significant drops in effluent production occurred in 1977 and 1991 in response to serious drought conditions. A more gradual but longer-term drop in effluent production has been ongoing since 2006 when yet another water crisis in the State became apparent and conservation actions were implemented, including drought emergency declarations by two Governors and mandatory water reductions instituted by the State Water Resources Control Board (SWRCB). The majority of these annual decreases occurred at the JWPCP, while the upstream WRPs had been able to maintain a relatively high level of production, giving recycled water the reputation as being "drought-resistant." Unfortunately, decreased wastewater flows in the Sanitation Districts' service areas have begun to impact production at the WRPs, resulting in less recycled water being available for reuse in recent years. Recycled water production did, however, increase in FY21-22, as noted above. It should also be noted that, starting in 2012, the Sanitation Districts were beneficially reusing more recycled water than was being discharged and lost.

FIGURE 2
SANITATION DISTRICTS' FLOW DIVERSION TO RECYCLING
1928-2021



Of the total amount of recycled water produced in FY21-22, 102.68 MGD (115,060 AFY) was actively reused for a variety of applications including urban landscape irrigation, agricultural irrigation, recreational impoundments, industrial process and power plant cooling tower supplies, wildlife habitat maintenance and groundwater replenishment. The total amount beneficially reused increased by 10.5% over the preceding fiscal year, although the percentage of recycled water produced that was reused (69.0%) increased only slightly over the prior year (68.0%). The amount reused was the sixth year out of the last nine to exceed 100,000 AFY (the exceptions were FY14-15, FY18-19, and FY19-20), and has set the record for the highest amount ever recorded in any given fiscal year. The reasons for the increase in overall usage is twofold:

1) The pace of water conservation and the resulting lowered wastewater production in the Sanitation Districts' service area continued to slow during this fiscal year. At the same time, more wastewater was directed to the WRPs and away from ocean disposal. This was due in large part to the optimized operation of the flow equalization facilities at the San Jose Creek WRP, along with influent gate valve modifications at the Pomona WRP.

2) The weather in FY21-22 continued to be drier and warmer, with irrigation demands remaining at more normal levels. Also, with less rainfall runoff in the spreading basins, there was the opportunity to capture all of the recycled water produced by the San Gabriel Valley WRPs not used for direct applications and direct it toward groundwater replenishment. Only a small amount (566 AF, or 184 million gallons (MG)) from the San Jose Creek WRP was bypassed around the spreading grounds during the significant rainfall experienced in December 2021.

The high percentage of use is expected to continue into the future as now all the recycled water produced in the San Gabriel Valley can be reused, either directly or through groundwater replenishment, and essentially all the recycled water produced in the Antelope Valley is being put to some sort of beneficial use. Unfortunately, recycled water usage cannot be substantially expanded any further unless: 1) the water agency in the Santa Clarita Valley expands its distribution system, 2) more tributary wastewater is diverted to the WRPs in the JOS, and/or 3) advanced treatment is constructed at the JWPCP to make that plant's effluent reusable. The amount of recycled water produced and reused at each of the WRPs and the percent change from the preceding fiscal year is summarized in **Table 1**. During FY21-22, 27 new permanent use sites and 24 temporary construction sites began receiving Sanitation Districts' recycled water.

Cities with Sites Using Sanitation Districts' Recycled Water

Bellflower	Norwalk
Bell Gardens	Palmdale
Cerritos	Paramount
Compton	Pico Rivera
Cudahy	Pomona
Cypress	Rosemead
Diamond Bar	Rowland Heights
Downey	San Dimas
El Monte	Santa Clarita
Huntington Park	Santa Fe Springs
Industry	Signal Hill
La Cañada	South El Monte
Lakewood	South Gate
Lancaster	Vernon
Long Beach	Walnut
Lynwood	West Covina
Montebello	Whittier

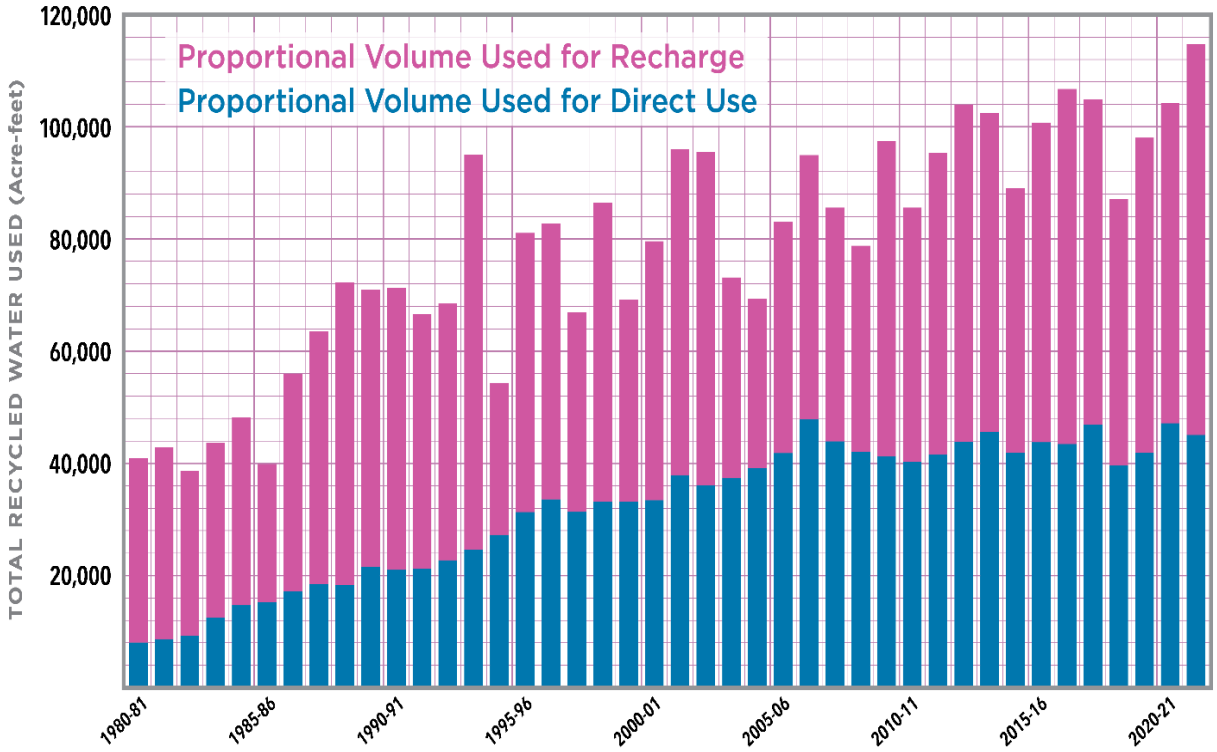
Note: Recycled water is also used in portions of unincorporated Los Angeles County

The amount of recycled water used to replenish the underground water supply can vary greatly from year to year, depending on the amount and timing of rainfall, runoff, maintenance activities in the spreading grounds and other factors, as illustrated by the upper set of bars in **Figure 3**. The long-term trend of recycled water usage is best represented by the increase in direct non-potable reuse for landscape and agricultural irrigation, industrial process supply and environmental enhancement, as illustrated by the lower set of bars on that figure.

TABLE 1
RECYCLED WATER PRODUCED AND REUSED AT WATER RECLAMATION PLANTS
FISCAL YEAR 2021-2022

Water Reclamation Plant	Nominal Treatment Capacity (AFY)	Quantity Recycled (AFY)	Percent Change from FY20-21 (+/-)	Quantity Reused (AFY)	Percent Change from FY20-21 (+/-)	Percent of Recycled Water Used
La Cañada	225	72	-2.7	72	-2.7	100
Long Beach	28,015	13,613	+2.7	9,327	+1.9	68.5
Los Coyotes	42,020	19,527	-6.8	6,670	-4.0	34.2
Pomona	16,810	7,251	+1.9	7,272	+27.9	100
San Jose Creek	112,055	71,235	+18.3	61,776	+22.6	86.7
Whittier Narrows	16,810	9,353	+2.4	9,268	+0.2	99.1
Valencia	24,205	14,814	-2.0	426	-13.2	2.9
Saugus	7,285	5,785	+10.1	0	0	0
Lancaster	20,170	15,683	+1.3	12,432	-5.6	100
Palmdale	13,445	9,301	-0.3	7,817	-13.4	100
TOTAL	281,040	166,634	+8.8	115,060	+10.5	69.0

FIGURE 3
DIRECT NON-POTABLE REUSE VS. GROUNDWATER RECHARGE
1980-1981 TO 2021-2022



1.2 WATER RECYCLING PROJECTS

In 1970, prior to the drought of 1976-77, there were six reuse customers using 21 MGD on 940 acres (consisting of both irrigated acreage and recharge basins). By the end of the subject fiscal year, there were a total of 857 permanent reuse sites (plus 32 temporary construction sites) consisting of approximately 17,921 acres (including acreage at the spreading grounds), served by over 1.4 million linear feet (271 miles) of transmission pipelines in 34 cities, as well as unincorporated county areas. This usage includes three cities employing water trucks to haul recycled water for greenbelt irrigation or sewer/street cleaning and private water trucks hauling recycled water to short-term construction sites, mainly in the Antelope Valley.

Figure 4 shows the increase in the number of reuse sites receiving recycled water from the Sanitation Districts from 1970 to mid-2022. About 40 of the non-usage sites were removed from the list of users the preceding fiscal year and another three this year, as they were determined to be either out-of-business or disconnected from their local recycled water delivery system. An additional 85 temporary construction sites in the Antelope Valley were also removed from the list since those projects had been completed and were no longer using recycled water. Another three sites were removed during this fiscal year. This culling of all these reuse sites was applied historically, and the recalculations are reflected in **Figure 4.**

FIGURE 4
INCREASE IN NUMBER OF REUSE SITES, 1970-2022

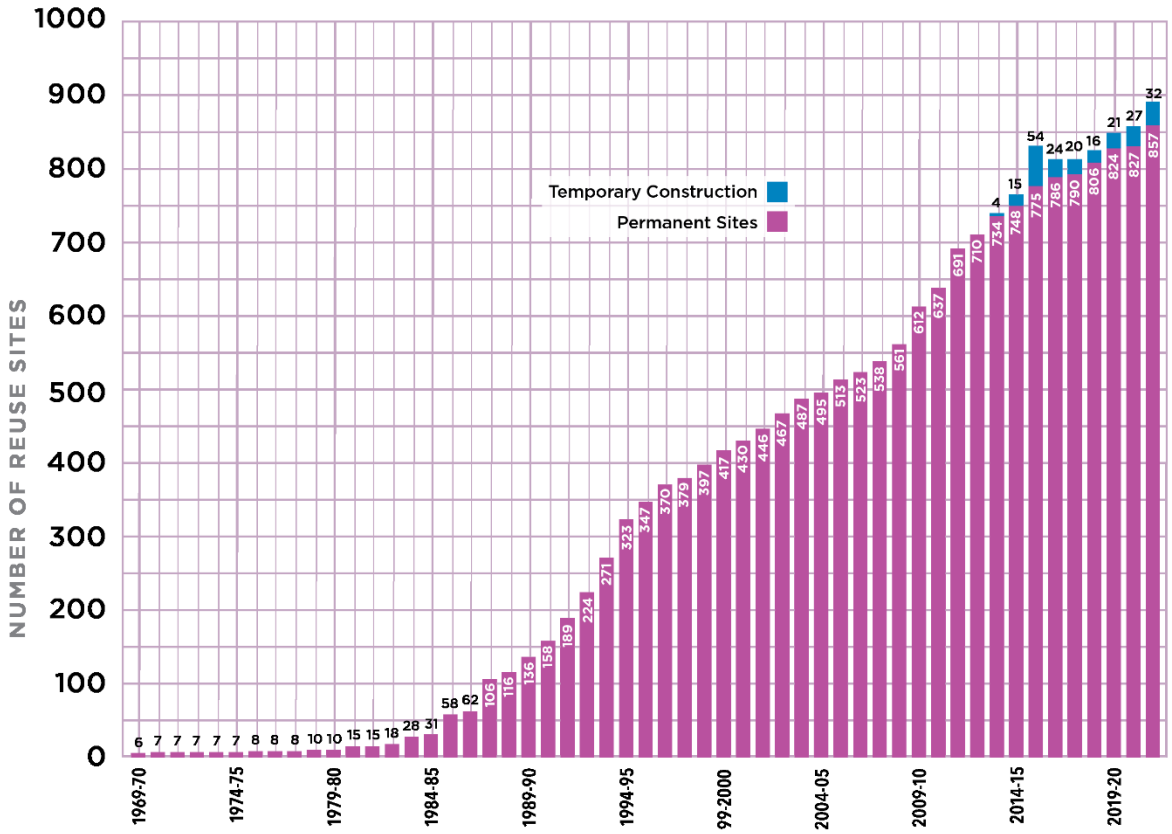


Table 2 summarizes the approximate length of distribution system pipelines (where applicable), the amount of recycled water used by each of the water recycling projects (detailed in later sections), the percent change from the preceding fiscal year and the number of new reuse sites added to that recycling project over the past fiscal year.

TABLE 2
RECYCLED WATER USED BY WATER RECYCLING PROJECT
FISCAL YEAR 2021-2022

Project Name	Pipeline Length (linear feet)	Recycled Water Used (AFY)	Percent Change from FY20-21 (+/-)	No. of New Reuse Sites
La Cañada-Flintridge Country Club		72	-2.7	
Long Beach Water Department	179,680	5,348	-1.3	
Alamitos Seawater Barrier		3,979	+6.7	
City of Bellflower	1,900	29	-43.1	
City of Cerritos	142,600	1,687	+1.9	2
City of Lakewood	28,300	456	-7.9	
Forest Lawn Memorial Park, Cypress	9,060	207	-17.9	
Central Basin MWD (Century)	108,820	4,291	-4.6	2
Pomona Water Department	37,000	2,238	+12.7	
Spadra Landfill		81	-14.7	
Walnut Valley Water District	174,200	1,554	+13.9	1
Water Replenishment District (tertiary)		54,500	+27.2	
Water Replenishment District (advanced)		11,615	+7.0	
California Country Club		463	+14.6	
City of Industry	44,350	977	-3.1	
Rowland Water District	85,540	626	+5.9	21
San Gabriel Valley Water Company		14	+7.7	
Central Basin MWD (Rio Hondo)	290,400	818	-5.9	
Puente Hills/Rose Hills	8,900	2,875	+0.1	
USGVMWD Phase I Extension (SJC)	11,020	48	-7.7	
USGVMWD Phase II-B Extension (SJC)	71,360	709	-10.9	
USGVMWD Phase II-A Extension (WN)	49,770	1,798	+15.3	
Santa Clarita Valley Water Agency	16,490	426	-13.4	
Piute Pond		4,266	+4.8	
Apollo Community Regional Park	23,800	247	-3.5	
Eastern Agricultural Site	96,600	7,727	-9.4	
City of Lancaster	29,800	192	-38.3	8
Palmdale Agricultural Site (LAWA lease)	13,200	7,721	-12.5	
City of Palmdale	9,300	96	-53.8	17
TOTALS	1,432,090	115,060	+10.5	51

During FY21-22, 48.637 MGD (54,500 AFY) of tertiary treated recycled water from the San Jose Creek, Whittier Narrows and Pomona WRPs was used for groundwater replenishment. All three plants are included in the recharge permit for the Montebello Forebay groundwater recharge project. The Water Replenishment District of Southern California (WRD) began operation of its Albert Robles Center Advanced Water Treatment Facility (ARCAWTF) in February 2019 to provide full advanced treatment (ultrafiltration,

reverse osmosis, ultraviolet light and sodium hypochlorite) to recycled water from the San Jose Creek WRP, with 10.365 MGD (11,615 AFY) of ARCAWTF product water being produced in FY21-22 for groundwater replenishment via surface spreading in the Montebello Forebay, a 23.1% increase over the preceding fiscal year. From the commissioning of the Whittier Narrows WRP in August 1962 through the end of FY21-22, a total of approximately 2,295,793 acre-feet (AF) of recycled water from these three plants have been used to recharge the Central Basin aquifer.

More recycled water is typically used for groundwater recharge via surface spreading than for all other applications combined because of its cost-effectiveness. The San Jose Creek, Whittier Narrows and Pomona WRPs discharge to adjacent rivers or creeks (i.e., flood control channels) that are able to convey the water by gravity to existing off-stream recharge basins. These basins and the unlined portions of the rivers and creeks permit large volumes of recycled water to percolate by gravity into the underlying aquifer. Recycled water used in this way requires no additional capital investment in transmission infrastructure and there are essentially no costs for operation and maintenance (O&M) or energy consumption from pumping related to this activity.

There was another source of replenishment water during FY21-22, as the Alamitos Seawater Intrusion Barrier received recycled water that originated from the Leo Vander Lans Advanced Water Treatment Facility (LVLAWTF) located adjacent to the Long Beach WRP, producing 3.551 MGD (3,979 AFY) of advanced treated water for barrier injection (see details in **Section 2.2.2**). Even though the primary purpose of this facility is to prevent seawater from moving inland and contaminating the groundwater aquifer, most of the injected water (roughly 80%) moves inland and becomes part of the region's drinking water supply.

During FY21-22, the total of 62.553 MGD (70,094 AFY) that went to groundwater replenishment was a 22.4% increase over the preceding fiscal year. Of the total amount of water reused during FY21-22, 60.9% was used for some form of groundwater replenishment, which is the twelfth year in a row that this reuse application has made up more than half of total reuse. The remainder of the recycled water usage was divided between four broad categories of direct usage:

- A total of 818 individual reuse sites used recycled water for some form of urban landscape irrigation, with approximately 18.302 MGD (20,508 AFY), or 17.8% of the total water reused, going toward this particular application. These sites include 129 parks, 130 schools, 306 commercial and office buildings (e.g., offices, warehouses, retail, car dealerships, hotels, restaurants, etc.), 127 roadway greenbelts, 36 public facilities (e.g., police station, post office, libraries, landfills, etc.), 25 golf courses, 14 nurseries, 23 residential developments, 15 churches, and 10 cemeteries.

- Agricultural usage at 7 reuse sites accounted for approximately 14.683 MGD (16,453 AFY), or 14.3% of the total reused, with most of the demand in the Antelope Valley.

- There were 28 permanent industrial applications of recycled water (which include carpet dyeing, oil field injection, power plant cooling towers, metal finishing, street sweeping, sewer flushing, and toilet flushing), with an additional 32 temporary construction applications (such as dust control and concrete mixing), that totaled 3.343 MGD (3,746 AFY), or 3.3% of the total reused.

- Approximately 3.807 MGD (4,266 AFY), or 3.7% of the total reused, went to environmental enhancement of wildlife habitat (Piute Ponds) in the Mojave Desert.

Table 3 lists the number of sites in each category of use, along with total acreage and average daily usage. **Figure 5** shows the distribution of reuse flows among these various applications.

TABLE 3
CATEGORIES OF RECYCLED WATER USAGE
FISCAL YEAR 2021-2022

Reuse Application	No. of Sites	Area Applied (acres)	Usage (MGD)
Parks	129	3,695.4	5.005
Golf Courses	25	2,900.8	4.965
Schools	130	1,383.8	2.136
Roadway Greenbelts	127	756.5	1.151
Public Facilities[1]	36	503.1	0.508
Commercial Buildings[2]	306	640.5	1.275
Nurseries	14	102.4	0.163
Cemeteries	10	1,083.2	2.714
Residential Developments	23	184.9	0.314
Churches	15	24.2	0.070
Industrial[3,4]	31	735.5	3.343
Agriculture[5]	7	4,865.0	14.683
Environmental Enhancement	1	400	3.807
SUBTOTAL	854	17,275.3	40.134
Groundwater Recharge[6]	3	646	62.553
TOTAL	857	17,921.3	102.687

NOTES:
1. "Public Facilities" includes police stations, libraries, post offices, city halls, government offices, landfills, etc.
2. "Commercial Buildings" includes offices, warehouses, retail, car dealerships, hotels, restaurants, etc.
3. Industrial processes receiving recycled water include carpet dyeing, concrete mixing, cooling towers, metal finishing, oil field injection, dual-plumbed toilet flushing, and sewer cleaning/street sweeping.
4. Includes temporary construction applications such as soil compaction and dust control in use total usage, although these 32 sites are not included in the total number of industrial sites.
5. California Polytechnic University, Pomona, while technically a school, uses most of its recycled water for agricultural purposes and is thus included in this category.
6. Recharge consists of surface spreading of tertiary recycled water from the San Jose Creek, Whittier Narrows, and Pomona WRPs and advanced treated recycled water from the San Jose Creek WRP through the recently completed ARCAWTF, as well as seawater intrusion barrier injection of advanced treated recycled water from the Long Beach WRP through the LVLAWTF.

FIGURE 5
DISTRIBUTION OF RECYCLED WATER USAGE
FISCAL YEAR 2021-2022

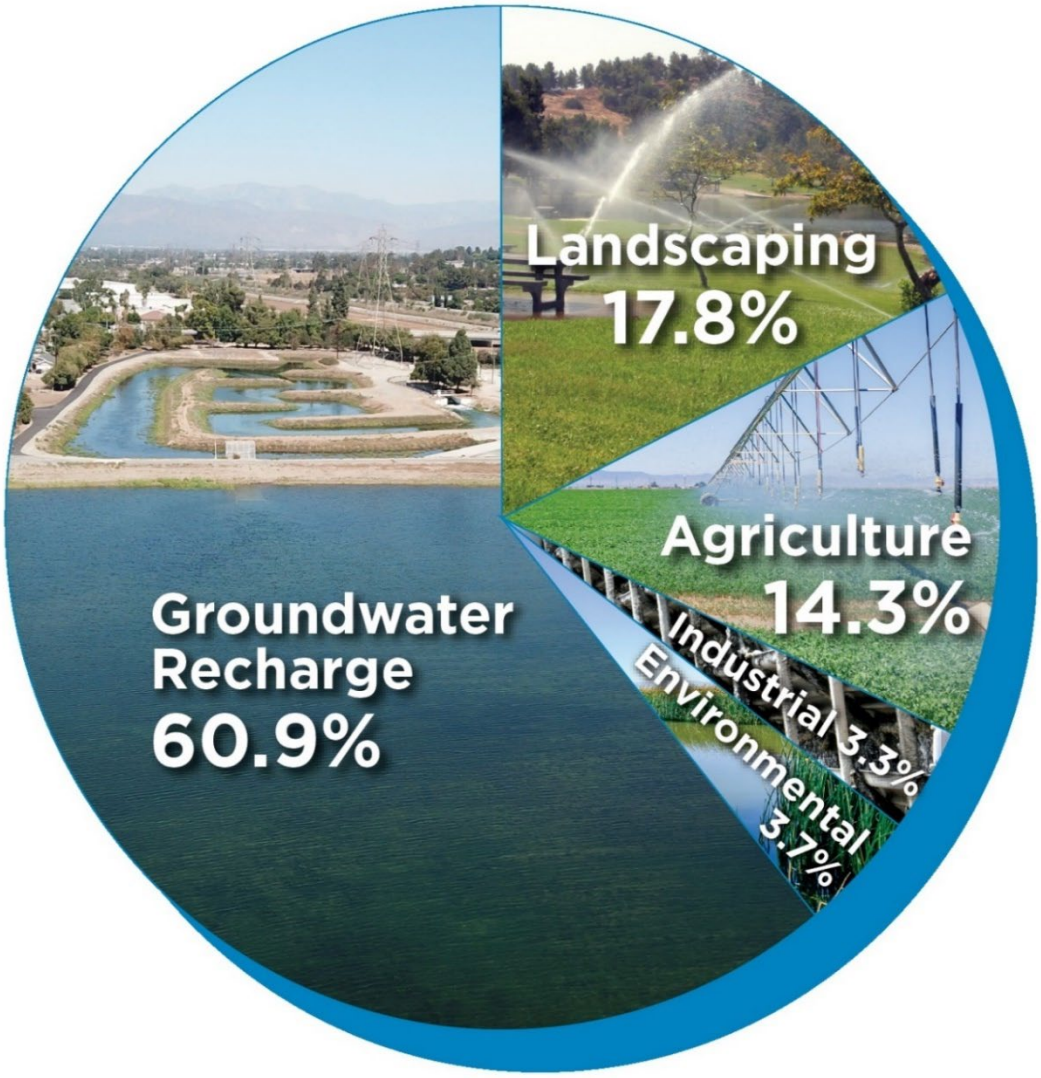


Table 4 shows the distribution of reuse sites based on volume of annual usage, excluding groundwater recharge projects using tertiary-treated recycled water. The seven largest users (greater than 1,000 AFY) are the two agricultural sites and Piute Ponds in the Antelope Valley, Rose Hills Memorial Park, THUMS Island, the ARCAWTF, and LVLAWTF that use just over 61% of the recycled water, while making up less than one percent of the total number of reuse sites. The very high usage in the Antelope Valley would be predominantly due to the fact that the Antelope Valley is a closed basin and recycled water generated there must be put to some use, as there is no available discharge point. The 285 moderately large reuse sites using between 10-1,000 AFY make up about 32% of the total number of sites. The largest number of sites (374, or 42%) use between 1-10 AFY. About 25% of the total number of reuse sites are very small, using under 1 AFY or none. Of this latter category, 32, or just under 4%, did not use any recycled water during FY21-22. Reasons for non-usage in any given year would be CalTrans freeway landscaping sites that only need intermittent irrigation for established trees, commercial buildings that are temporarily vacant, etc.

TABLE 4
DISTRIBUTION OF RECYCLED WATER USAGE BY VOLUME
FISCAL YEAR 2021-2022

Reuse Site Usage (AFY)	Reuse Sites per Volume Category		Total Amount Reused in FY21-22 per Volume Category	
	Number	%	(AFY)	%
>1000	7	0.79	32,059.7	61.07
>500-1000	6	0.68	4,454.7	8.49
>100-500	30	3.40	7,521.5	14.33
>50-100	30	3.40	2,137.8	4.07
>10-50	219	24.80	4,725.1	9.00
1-10	374	42.36	1,514.0	2.88
<1	185	20.95	84.5	0.16
No usage	32	3.62	0	

Note: Reuse sites and usage indicated in table excludes tertiary groundwater recharge projects.

TOP TEN – LARGEST DIRECT REUSE SITES OF FY 2021-22*

1. **ARC AWTF** **11,615 AFY**
   San Jose Creek WRP *(groundwater replenishment)*
2. **Eastern Agricultural Site** **7,727 AFY**
   Lancaster WRP *(agricultural irrigation)*
3. **Antelope Valley Farms** **7,672 AFY**
   Palmdale WRP *(agricultural irrigation)*
4. **LVL AWTF/Alamitos Barrier** **3,979 AFY**
   Long Beach WRP *(seawater intrusion barrier)*
5. **Rose Hills Memorial Park** **1,936 AFY**
   San Jose Creek WRP *(landscape irrigation)*
6. **THUMS** **1,464 AFY**
   Long Beach WRP (*oil zone repressurization)*
7. **Whittier Narrows Recreation Area** **1,034 AFY**
   Whittier Narrows WRP *(landscape irrigation)*
8. **Cal Poly, Pomona** **995 AFY**
   Pomona WRP *(landscape/agriculture)*
9. **Industry Hills Recreation Area** **977 AFY**
   San Jose Creek WRP *(landscape irrigation)*
10. **Bonelli Regional Park** **737 AFY**
    Pomona WRP *(landscape irrigation)*

** excluding discharge-based reuse applications of tertiary groundwater recharge and Piute Ponds*

1.3 ECONOMIC AND ENVIRONMENTAL IMPACTS

At the end of FY21-22, the Sanitation Districts had 24 contracts (two pending initial deliveries) for the sale and/or delivery of recycled water produced at its facilities. In addition to revenue from the sale of the recycled water commodity, actual O&M and energy costs incurred by the Sanitation Districts while operating the pump stations on behalf of the purchasers of recycled water are also fully recovered through these contracts.

Table 5 compares selected potable water rates and recycled water rates (in effect as of the end of FY21-22), illustrating the savings realized by the end users. **Table 6** lists all the current recycled water purveyors.

TABLE 5
POTABLE VS. RECYCLED WATER RATES
FISCAL YEAR 2021-2022

Purveyor	Potable Water ($/AF)	Recycled Water ($/AF)	Discount (%)
Long Beach Water Department	1,578.18	940.90 – 1,108.17	30 – 40
City of Cerritos	1,197.90	326.70	73
City of Lakewood	1,524.60	1,136.92	25
Central Basin MWD	1,313.00	790.00	40
Pomona Water Department	1,546.38	566.55	63
Walnut Valley Water District	1,698.84	901.69	47
Rowland Water District	1,568.16	1,041.80	34
San Gabriel Valley Water Co.	1,798.16	1,398.54	22
Suburban Water Systems	1,677.93 – 1,795.11	1,426.15 – 1,525.91	15
Valencia Heights Water Co.	1,372.14 – 1,881.79	1,089.00	21 – 42
Valencia Water District	910.40	727.45	20

To put things into perspective, the 115,06057 AF of recycled water beneficially used in FY21-22 is equivalent to the water supply for a population of 690,3602,[3] larger than Oklahoma City, OK, the 20th largest city in the U.S.[4] The use of locally produced recycled water reduces the need to pump State Project water over the Tehachapi Mountains at a net energy cost of roughly 3,000 kilowatt-hours (kWh) per acre-foot.[5] Thus, over 345 million kWh of electricity were conserved in FY21-22, equivalent to the annual output of a nearly 40-megawatt power plant using the energy equivalent of 187,055 barrels of oil. At $0.15/kWh (based on Southern California Edison residential billing rate), this equates to an annual savings of nearly $51.8 million in electricity. At $108.43/barrel,[6] this is equivalent to an annual savings of almost $20.3 million in oil.

The conservation of fossil fuels and energy also resulted in significant reductions in potential air pollutants. During FY21-22, 198.5 tons of nitrogen oxide, 34.5 tons of carbon monoxide, 20.7 tons of sulfur oxides, 6.9 tons of particulates and 1.7 tons of reactive organic gases were kept out of the atmosphere.[7] Perhaps more important, the use of local recycled water avoided the production of approximately 258,885 tons of carbon dioxide, the primary greenhouse gas that contributes to global warming.[8]

3 The former annual water usage factor of 5 people per AFY per has been revised to 6 per AFY due to the cumulative effects of water conservation.

4 *https://en.wikipedia.org/wiki/List_of_United_States_cities_by_population.*

5 "Refining Estimates of Water-Related Energy Use in California," California Energy Commission, December 2006, *https://ww2.energy.ca.gov/2006publications/CEC-500-2006-118/CEC-500-2006-118.PDF*.

6 June 30, 2022, spot price for "West Texas Intermediate crude oil".

7 Estimates based upon emission factors from "Power Plant Fuel Use and Emissions," South Coast Air Quality Management District, May 1986.

8 Estimate based upon data from "Greenhouse Gases Equivalencies Calculator - Calculations and References," USEPA, 2018, *https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator*.

TABLE 6
RECYCLED WATER PURVEYORS

City of Long Beach 1800 East Wardlow Road Long Beach CA 90807 (562) 570-2300	City of Paramount 16400 Colorado Avenue Paramount CA 90723 (562) 220-2020	Central Basin Municipal Water District 6252 Telegraph Road Commerce CA 90040 (323) 201-5555
City of Cerritos Bloomfield Avenue at 183rd Street Cerritos CA 90701 (562) 860-0311	City of Santa Fe Springs 11710 Telegraph Road Santa Fe Springs CA 90670 (562) 868-0511	Liberty Utilities (formerly Park Water) 9750 Washburn Road Downey CA 90241 (562) 923-0711
City of Lakewood 5050 North Clark Avenue Lakewood CA 90714 (562) 866-9771	City of Downey 9252 Stewart & Gray Road Downey CA 90242 (562) 904-7202	Bellflower Municipal Water Systems 16913 Lakewood Boulevard Bellflower CA 90706 (562) 531-1500
City of Bellflower 16600 Civic Center Drive Bellflower CA 90706 (562) 804-1424	City of Whittier 13250 East Penn Street Whittier CA 90602 (562) 945-8215	Bellflower-Somerset Mutual Water Co. 10016 Flower Street Bellflower CA 90706 (562) 866-9980
City of Industry P.O. Box 3366 Industry CA 91744 (626) 333-2211	City of South Gate 4244 Santa Ana Street South Gate CA 90280 (323) 563-5795	Golden State Water Co. (2 service areas) 11469 Rosecrans/971 Lower Azusa Rd Norwalk CA 90650/El Monte CA 91731 (562) 907-9200 / (626) 446-1372
City of Pomona 505 South Garey Avenue Pomona CA 91766 (909) 620-2253	City of Lynwood 11330 Bullis Road Lynwood CA 90262 (562) 603-0220	San Gabriel Valley Water Company 11142 Garvey Avenue El Monte CA 91733 (626) 448-6183
City of Cudahy 5220 Santa Ana Street Cudahy CA 90201 (323) 773-5143	City of Norwalk 12700 Norwalk Boulevard Norwalk CA 90650 (562) 929-2677	City of Huntington Park 6900 Bissell Street Huntington Park CA 90255 (323) 584-6323
Walnut Valley Water District 271 South Brea Canyon Road Walnut CA 91789 (909) 595-1268	Rowland Water District 3021 S. Fullerton Road Rowland Heights CA 91748 (562) 697-1726	Upper San Gabriel Valley MWD 11310 East Valley Boulevard El Monte CA 91731 (626) 423-2297
City of Pico Rivera 6615 Passons Boulevard Pico Rivera CA 90660 (562) 801-4462	Santa Clarita Valley Water Agency 27234 Bouquet Canyon Road Santa Clarita CA 91350 (661) 297-1600	Valencia Water Company 24631 Avenue Rockefeller Valencia CA 91355 (661) 294-0828
City of Vernon 4305 Santa Fe Avenue Vernon CA 90058 (323) 583-8811	Suburban Water Systems 2235 East Garvey Avenue N West Covina CA 91791 (626) 261-2218	Valencia Heights Water Company 3009 East Virginia Avenue West Covina CA 91791 626-332-8935
Montebello Land & Water 344 East Madison Avenue Montebello CA 90640 (323) 722-8654	City of Montebello 1600 W Beverly Boulevard Montebello CA 90640 (323) 887-1200	California Water Service 3316 West Beverly Boulevard Montebello CA 90640 (323)722-8601
City of Lancaster 615 West Avenue H Lancaster CA 93534 (661) 945-6863	City of Palmdale / Palmdale Recycled Water Authority 38250 North Sierra Highway Palmdale CA 93550 (661) 267-5310 / (661) 267-5100	Los Angeles Co. Waterworks No. 40 900 South Fremont Avenue Alhambra CA 91803 (626) 458-5100

Table 7 summarizes the water, energy and air pollutant savings realized through the use of local recycled water sources.

TABLE 7
WATER, ENERGY AND AIR POLLUTANT SAVINGS FROM RECYCLED WATER USAGE
FISCAL YEAR 2021-2022

Category	Units	Savings
Water Supply	acre-feet	115,060
Water Supply	No. of People	690,360
Energy	kilowatt-hours	345,180,000
Energy	megawatts	39.4
Energy	barrels of oil	187,055
Electricity	dollars	51,777,000
Petroleum	dollars	20,282,374
Nitrogen oxide	tons	198.5
Carbon monoxide	tons	34.5
Sulfur oxides	tons	20.7
Particulates	tons	6.9
Reactive organic gases	tons	1.7
Carbon dioxide	tons	258,885

1.4 SUMMARY

Of the 388.59 MGD of treated effluent produced by the Sanitation Districts, 148.71 MGD (38.3%) was treated to a suitable level for reuse, with 102.68 MGD (26.4%) actually reused at 854 permanent sites and 32 temporary construction sites in 34 cities for numerous diverse applications (with more than half used for groundwater replenishment). This level of reuse represented over two-thirds of the recycled water available. Despite a slight increase this year, overall effluent production has experienced a long-term decrease due to increased conservation and reduced commercial/industrial activity, although more flow was directed to the WRPs this year. The 10 largest direct reuse sites (1.1% of all sites, excluding tertiary groundwater recharge and environmental) used 37.3% of the recycled water delivered during the fiscal year. Twenty-seven new permanent reuse sites were added during FY21-22 and the amount of recycled water used increased by 10.5% over the preceding fiscal year, due to the combination of increased recycled water production at several JOS WRPs and increased demand due to warmer summer weather and a drier winter. The use of 115,060 AF of locally produced recycled water essentially resulted in the conservation of the water supply needs of over 690,000 people and brought about significant reductions in water rates for end users, energy consumption and air emissions.

Since the official beginning of the Sanitation Districts' water recycling program with the start-up of the Whittier Narrows WRP in August 1962, approximately 3,605,723 AF (1.17 trillion gallons) of recycled water produced by Sanitation Districts' facilities have been beneficially used. This use of recycled water has avoided the release of over 8.1 million tons of carbon dioxide and over 8,200 tons of other air pollutants into the atmosphere.

All the current active reuse sites, along with their acreage, start-up dates, applications and quantities of recycled water used for FY21-22 are presented chronologically in **Table 8**. A chronology of significant events in the Sanitation Districts' reuse programs is presented at the end of this report in **Appendix A**. Recycled water quality for each of the Sanitation Districts' tertiary WRPs is presented in **Appendix B**.

TABLE 8
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
(22 PAGES)

Reuse Site	City	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Montebello Forebay GRP (WNWRP)	Pico Rivera	Aug-62	--	6.666	7,469.6	SP	RC
La Canada-Flintridge Country Club	La Canada-Flintridge	Oct-62	120	0.064	72	GC	IR
Apollo Lakes County Park	Lancaster	Jun-69	56	0.220	247	PA	IR
Montebello Forebay GRP (POWRP)	Pico Rivera	Jun-71	--	3.034	3,400.0	SP	RC
Montebello Forebay GRP (SJCWRP)	Pico Rivera	Jun-71	--	38.936	43,630.2	SP	RC
Cal Poly Pomona	Pomona	Dec-73	500	0.888	995	S	IR
South Campus Drive parkway	Pomona	Dec-73	8	0.043	48	RO	IR
CalTrans: Route 57-10 Fwy	Pomona	May-75	18	0.003	3	RO	IR
Bonelli Regional County Park	San Dimas	Apr-77	789	0.657	737	PA	IR
California Country Club	Whittier	Jun-78	120	0.413	463	GC	IR
Caruthers Park	Bellflower	Nov-78	5	0.026	29	PA	IR
Ironwood 9 Golf Course	Cerritos	Nov-78	25	0.009	10	GC	IR
El Dorado Golf Course	Long Beach	Aug-80	150	0.284	318	GC	IR
El Dorado Park West	Long Beach	Aug-80	135	0.176	197	PA	IR
Suzanne Park	Walnut	Oct-80	12	0.015	17	PA	IR
CalTrans: Route 71-10 Fwy	Pomona	Apr-81	12	0	0	RO	IR
Piute Ponds	Lancaster	May-81	400	3.807	4,266	E	IM
Recreation Golf Course	Long Beach	Oct-82	149	0.282	316	GC	IR
Recreation Park	Long Beach	Oct-82	26	0.006	6	PA	IR
Whaley Park	Long Beach	Jun-83	9	0.026	29	PA	IR
Industry Hills Recreation Area	Industry	Aug-83	600	0.872	977	GC	IR
El Dorado Park East	Long Beach	Jan-84	300	0.416	466	PA	IR
Nature Center	Long Beach	Jan-84	60	0.059	67	PA	IR
CalTrans: 605 Fwy (Wardlow)	Long Beach	Feb-84	50	0.010	11	RO	IR
Heartwell Park	Long Beach	Feb-84	120	0.245	275	PA	IR
Douglas Park	Long Beach	Apr-84	3	0.010	11	PA	IR
Skylinks Golf Course	Long Beach	Apr-84	155	0.287	322	GC	IR
CalTrans: 405 Fwy (Atherton)	Long Beach	May-84	5	0	0	RO	IR
DeMille Junior High School	Long Beach	Jun-84	5	0.024	27	S	IR
Heartwell Golf Course	Long Beach	Jun-84	30	0.072	80	GC	IR
Spadra Landfill irrigation	Walnut	Jul-84	53	0.067	75	PF	IR
Veteran's Memorial Stadium	Long Beach	Jan-85	6	0.023	26	PA	IR
Harrington Farm Pistachio Orchard	Palmdale	Apr-85	23	0.023	26	AG	IR
Recreation Park Bowling Green	Long Beach	May-85	3	0.008	9	PA	IR
Cal State University, Long Beach	Long Beach	Dec-85	52	0.142	159	S	IR
Long Beach City College	Long Beach	Feb-86	15	0.083	93	S	IR
Recreation 9-Hole Golf Course	Long Beach	Mar-86	37	0.095	106	GC	IR
Blair Field	Long Beach	Apr-86	5	0.009	10	PA	IR
Colorado Lagoon Park	Long Beach	Apr-86	4	0.009	10	PA	IR
Marina Vista Park	Long Beach	Apr-86	30	0.038	43	PA	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

TABLE 8
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
(22 PAGES)

Reuse Site	City	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Woodlands Park	Long Beach	Apr-86	7	0.012	14	PA	IR
CalTrans: Route 57-60 Fwy	Rowland Heights	May-86	19.7	0.002	2	RO	IR
Friendship Park	West Covina	May-86	6	0.005	5	PA	IR
Hollingworth School	West Covina	May-86	3	0.007	8	S	IR
Killian Elementary School	Rowland Heights	May-86	3	0.005	6	S	IR
Lanesboro Park	West Covina	May-86	2	0.008	9	PA	IR
Lemon Creek Park	Walnut	May-86	5	0.004	5	PA	IR
Morris Elementary School	Walnut	May-86	9	0.007	8	S	IR
Rincon Middle School	West Covina	May-86	3	0.011	13	S	IR
Rowland Heights County Park	Rowland Heights	May-86	11	0.015	16	PA	IR
Rowland High School	Rowland Heights	May-86	9	0.022	25	S	IR
Snowcreek Landscape Maintenance District	Walnut	May-86	13.5	0.037	42	RE	IR
Snowcreek Park	Walnut	May-86	7	0.012	13	PA	IR
Suzanne Middle School	Walnut	May-86	4	0.008	9	S	IR
Vejar Elementary School	Walnut	May-86	3	0.011	12	S	IR
Walnut Elementary School	Walnut	May-86	4	0.006	7	S	IR
Walnut High School	Walnut	May-86	13.1	0.022	24	S	IR
Walnut USD Administrative Service Center	Walnut	May-86	4	0.004	4	PF	IR
Amar Road greenbelt	Walnut	Jun-86	16	0.076	85	RO	IR
Walnut Ranch Park	Walnut	Jun-86	26	0.017	19	PA	IR
Diamond Bar Golf Course	Diamond Bar	Jul-86	174	0.107	120	GC	IR
Morningside Park	Walnut	Mar-87	4	0.005	5	PA	IR
Walnut Ridge Landscape Maintence District	Walnut	Mar-87	25.5	0.031	35	RE	IR
Gateway Corporate Center	Diamond Bar	Jun-87	45	0.028	31	COM	IR
Gahr High School	Cerritos	Dec-87	28	0.051	57	S	IR
Gonsalves Elementary School	Cerritos	Dec-87	5	0.016	18	S	IR
Library/Civic Center	Cerritos	Dec-87	4	0.014	15	PF	IR
Olympic Natatorium	Cerritos	Dec-87	6	0.017	19	PA	IR
Whitney Learning Center	Cerritos	Dec-87	10	0.022	25	S	IR
Wittman Elementary School	Cerritos	Dec-87	5	0.012	13	S	IR
ABC Adult School and Office	Cerritos	Jan-88	3	0.012	13	S	IR
Area Development Project No. 2	Cerritos	Jan-88	11.5	0.072	81	COM	IR
CalTrans: 605 Fwy	Cerritos	Jan-88	58.6	0.052	58	RO	IR
CalTrans: 91 Fwy	Cerritos	Jan-88	70	0.028	31	RO	IR
Carmenita Junior High School	Cerritos	Jan-88	5	0.017	19	S	IR
Carmenita Park	Cerritos	Jan-88	4.5	0.019	21	PA	IR
Cerritos Elementary School	Cerritos	Jan-88	6	0.018	20	S	IR
Cerritos High School	Cerritos	Jan-88	20	0.038	43	S	IR
City Park East	Cerritos	Jan-88	18	0.038	43	PA	IR
Elliott Elementary School	Cerritos	Jan-88	7	0.013	15	S	IR
Frontier Park	Cerritos	Jan-88	2.5	0.012	14	PA	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

TABLE 8
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(22 PAGES)

Reuse Site	City	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Gridley Park	Cerritos	Jan-88	9	0.020	22	PA	IR
Jacob Park	Cerritos	Jan-88	4.5	0.009	10	PA	IR
Juarez Elementary School	Cerritos	Jan-88	7	0.023	26	S	IR
Kennedy Elementary School	Artesia	Jan-88	7	0.013	15	S	IR
Leal Elementary School	Cerritos	Jan-88	6	0.009	11	S	IR
Liberty Park	Cerritos	Jan-88	20	0.079	89	PA	IR
Medians/Parkways	Cerritos	Jan-88	42.7	0.139	156	RO	IR
Satellite Park	Cerritos	Jan-88	2	0.006	6	PA	IR
Stowers Elementary School	Cerritos	Jan-88	6	0.019	21	S	IR
Tracy Education Center	Cerritos	Jan-88	6	0.002	3	S	IR
Bettencourt Park	Cerritos	Feb-88	2	0.010	11	PA	IR
Bragg Elementary School	Cerritos	Feb-88	7	0.013	14	S	IR
Brookhaven Park	Cerritos	Feb-88	2	0.007	8	PA	IR
Cabrillo Lane Elementary School	Cerritos	Feb-88	9	0.012	13	S	IR
Friendship Park	Cerritos	Feb-88	4	0.011	13	PA	IR
Haskell Junior High School	Cerritos	Feb-88	18	0.040	45	S	IR
Pat Nixon Elementary School	Cerritos	Feb-88	5	0.010	12	S	IR
Saddleback Park	Cerritos	Feb-88	2	0.004	5	PA	IR
Sunshine Park	Cerritos	Feb-88	3.5	0.011	12	PA	IR
Westgate Park	Cerritos	Feb-88	4	0.010	11	PA	IR
Bellflower Christian School	Cerritos	Mar-88	31.4	0.043	49	S	IR
Cerritos Community College	Cerritos	Mar-88	55	0.067	75	S	IR
Rainbow Park	Cerritos	Mar-88	2.5	0.005	5	PA	IR
Artesia Cemetery District	Cerritos	Apr-88	10.9	0.038	43	CE	IR
Cerritos Regional County Park	Cerritos	Apr-88	59	0.070	78	PA	IR
Heritage Park	Cerritos	Apr-88	12	0.040	45	PA	IR
Rosewood Park	Cerritos	Apr-88	2.7	0.009	10	PA	IR
Lakewood 1st Presbyterian Church	Long Beach	Sep-88	1	0.002	2	CH	IR
Westhoff Elementary School	Walnut	Sep-88	8	0.007	8	S	IR
Tree Farm	Palmdale	Feb-89	28	0	0	AG	IR
Lakewood Golf Course	Lakewood	Mar-89	128	0.429	481	GC	IR
Scherer Park	Long Beach	Mar-89	24	0.036	40	PA	IR
Sports Complex	Cerritos	Mar-89	25	0.048	53	PA	IR
Virginia Country Club	Long Beach	Mar-89	135	0	0	GC	IR
All Souls Cemetery	Long Beach	Apr-89	40	0.131	147	CE	IR
Forest Lawn Memorial Park	Long Beach	Apr-89	35	0.090	101	CE	IR
Cherry Avenue Park	Long Beach	May-89	10	0.015	17	PA	IR
Jose Del Valle Park	Lakewood	Aug-89	12	0.035	39	PA	IR
Jose San Martin Park	Lakewood	Aug-89	9.3	0.023	25	PA	IR
Lakewood City Water Yard	Lakewood	Aug-89	1	0.003	3	PF	IR
Mae Boyer Park	Lakewood	Aug-89	8	0.057	64	PA	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

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(22 PAGES)

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				MGD	AFY		
Monte Verde Park	Lakewood	Aug-89	4	0.034	38	PA	IR
Rynerson (River) Park	Lakewood	Aug-89	40	0.079	89	PA	IR
South Street greenbelt	Lakewood	Aug-89	3.3	0.009	10	RO	IR
Woodruff Avenue greenbelt	Lakewood	Aug-89	4.1	0.013	15	RO	IR
Mayfair Park	Lakewood	Dec-89	18	0.027	31	PA	IR
Shoemaker on/off-ramp	Cerritos	Dec-89	4.6	0.012	14	RO	IR
Temple Avenue greenbelt	Walnut	Jan-90	1	0.0002	0.2	RO	IR
Automated Data Processing	Cerritos	Feb-90	0.7	0.004	4	COM	IR
Transpacific Development Company	Cerritos	Feb-90	6.9	0.012	13	COM	IR
Sheraton Hotel	Cerritos	Mar-90	0.6	0.002	2	COM	IR
Walnut Tech Business Center	Walnut	Apr-90	1	0.001	1	COM	IR
Cerritos Pontiac/GMC Truck	Cerritos	May-90	0.5	0.002	3	COM	IR
Moothart Chrysler	Cerritos	May-90	0.4	0.004	5	COM	IR
St. Joseph's Parish School	Lakewood	Aug-90	3.5	0.013	14	S	IR
Browning Oldsmobile	Cerritos	Sep-90	0.1	0.001	1	COM	IR
Foster Elementary School	Lakewood	Sep-90	6	0.014	16	S	IR
Windjammer Road off-ramp	Cerritos	Sep-90	0.8	0.000003	0.003	RO	IR
Civic Center Way greenbelt	Lakewood	Nov-90	2.8	0.015	16	RO	IR
Los Coyotes Diagonal greenbelt	Long Beach	Mar-91	1	0.002	3	RO	IR
Mayfair High School	Lakewood	May-91	36.5	0.043	49	S	IR
Parkside Condominiums	Cerritos	May-91	1.8	0.005	5	RE	IR
Concordia Church	Cerritos	Jun-91	4	0.003	3	CH	IR
Wilson High School	Long Beach	Jun-91	5	0.020	23	S	IR
B&B Stables	Cerritos	Aug-91	18	0.003	4	DC	IN
Nazarene Church	Cerritos	Aug-91	1	0.005	6	CH	IR
Lakewood High School	Lakewood	Sep-91	25	0.017	19	S	IR
Lemon Avenue greenbelt	Rowland Heights	Sep-91	4.3	0.006	7	RO	IR
Lindstrom Elementary School	Lakewood	Sep-91	12	0.014	16	S	IR
Shadow Park Homeowners Association	Cerritos	Nov-91	6	0.022	24	RE	IR
South Coast AQMD Office	Diamond Bar	Nov-91	2	0.006	7	PF	IR
LBWD irrigation	Long Beach	Jan-92	2	0.002	3	PF	IR
Andy's Nursery	Bellflower	Feb-92	9	0.021	24	N	IR
Burroughs Elementary School	Signal Hill	Feb-92	4	0.003	3	S	IR
Reservoir Park	Signal Hill	Feb-92	2	0.009	10	PA	IR
Lake Center Park	Santa Fe Springs	Mar-92	8	0.020	23	PA	IR
Lake Center School	Santa Fe Springs	Mar-92	8	0.017	19	S	IR
Area Development Project No. 6	Cerritos	Apr-92	9	0.059	66	COM	IR
CalTrans: 405 Fwy (Walnut)	Long Beach	Apr-92	9	0.0001	0.1	RO	IR
Hughes Middle School	Long Beach	Apr-92	3	0.006	7	S	IR
Towne Center walkway	Santa Fe Springs	Apr-92	0.1	0.0002	0.3	RO	IR
Granada Park Homeowners Association	Cerritos	May-92	3.8	0.011	13	RE	IR
Lakeview Child Care playground	Santa Fe Springs	May-92	0.2	0.001	1	S	IR

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Reuse Site	City	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Longfellow Elementary School	Long Beach	May-92	1	0.001	1	S	IR
Somerset Park	Long Beach	May-92	3	0.0004	0.4	PA	IR
WVWD Brea Canyon Reservoir	Diamond Bar	May-92	1	0.001	2	PF	IR
Florence Avenue median	Santa Fe Springs	Jun-92	3	0.004	5	RO	IR
Gauldin Elementary School	Downey	Jun-92	8.4	0.009	10	S	IR
Rio San Gabriel School	Downey	Jun-92	14.8	0.023	26	S	IR
Bellflower High School	Bellflower	Jul-92	28.4	0.056	62	S	IR
Clark Estate	Santa Fe Springs	Aug-92	4.3	0.006	7	PA	IR
Ernie Pyle Elementary School	Bellflower	Aug-92	4.9	0.012	13	S	IR
Lakeview Park	Santa Fe Springs	Aug-92	6.7	0.013	14	PA	IR
Telegraph Road medians	Santa Fe Springs	Aug-92	0.5	0.002	2	RO	IR
Towne Center Green	Santa Fe Springs	Aug-92	2.3	0.008	9	PA	IR
Aquatic Center	Santa Fe Springs	Sep-92	0.5	0.004	5	PA	IR
Pioneer Road medians	Santa Fe Springs	Sep-92	0.4	0.003	3	RO	IR
Police Services Center	Santa Fe Springs	Sep-92	0.2	0.001	2	PF	IR
Lewis School	Downey	Nov-92	4.6	0.009	10	S	IR
Wilderness Park	Downey	Nov-92	24	0.080	90	PA	IR
First Chinese Baptist Church	Walnut	Dec-92	0.3	0.002	3	CH	IR
CalTrans: 605-105 Fwy (Foster/Behrans)	Bellflower	Jan-93	14	0.001	1	RO	IR
East Middle School	Downey	Jan-93	26	0.026	29	S	IR
Promenade Walkway	Santa Fe Springs	Jan-93	0.3	0.001	1	RO	IR
Rio San Gabriel Park	Downey	Jan-93	6.4	0.003	3	PA	IR
Zinn Park	Bellflower	Jan-93	1.7	0.005	6	PA	IR
CalTrans: 605-105 Fwy (Foster/Flatbush)	Bellflower	Feb-93	22	0.002	2	RO	IR
CalTrans: 605-5 Fwy (Florence)	Santa Fe Springs	Feb-93	17	0.014	16	RO	IR
Hollywood Sports Center	Bellflower	Feb-93	22.5	0.001	2	GC	IR
Santa Fe Springs High School	Santa Fe Springs	Feb-93	14.5	0.035	39	S	IR
Center for the Performing Arts	Cerritos	Mar-93	1	0.004	4	PF	IR
Cerritos Post Office	Cerritos	Mar-93	0.7	0.005	6	PF	IR
Old Downey Cemetery	Downey	Apr-93	7.5	0.026	29	CE	IR
Thompson Park	Bellflower	Apr-93	15	0.023	26	PA	IR
CalTrans: 105 Fwy (Bellflower)	Downey	May-93	17.9	0	0	RO	IR
My Hoa Farm	Lakewood	May-93	5	0.009	10	AG	IR
Palms Park	Lakewood	May-93	20	0.032	36	PA	IR
Crawford Park	Downey	Jul-93	2.1	0.006	7	PA	IR
Humedo Nursery	Downey	Aug-93	11	0.005	5	N	IR
Artesia High School	Lakewood	Sep-93	20.9	0.025	28	S	IR
CalTrans: 105 Fwy (Lakewood)	Downey	Sep-93	25	0.0004	0.4	RO	IR
Palms Elementary School	Lakewood	Sep-93	3.5	0.014	16	S	IR
Tuftex Carpet Mill	Santa Fe Springs	Sep-93	--	0.161	180	P	IN
Circle Park	South Gate	Oct-93	4	0.012	14	PA	IR
West Middle School	Downey	Oct-93	19.5	0.012	14	S	IR

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Cal Poly LandLab	Pomona	Nov-93	2.5	0.005	6	S	IR
Delta Dental	Cerritos	Nov-93	1.8	0.003	3	COM	IR
Haier US Appliance Solutions I (19705 Business Pkwy)	Walnut	Nov-93	1.6	0.004	5	COM	IR
Hollydale Park	South Gate	Nov-93	46	0.141	158	PA	IR
Majestic Management (19850 E Business Pkwy)	Walnut	Nov-93	0.8	0.004	5	COM	IR
Alondra Junior High School	Paramount	Dec-93	14	0.019	22	S	IR
Billy Lee Nursery	Paramount	Dec-93	2.5	0.003	3	N	IR
CalTrans: 710-105 Fwy	Paramount	Dec-93	18.5	0	0	RO	IR
Compton Golf Course	Paramount	Dec-93	13	0.035	39	GC	IR
Downey Blvd/Contreras St greenbelt	Paramount	Dec-93	0.1	0.001	1	RO	IR
Keppel Elementary School	Paramount	Dec-93	4	0.005	6	S	IR
Los Cerritos Elementary (Steam Engine Park)	Paramount	Dec-93	8	0.007	8	S	IR
Mokler Elementary School	Paramount	Dec-93	10	0.006	7	S	IR
Robertson's Ready-Mix	Santa Fe Springs	Dec-93	--	0.005	6	P	IN
Rodeo Ridge Estates	Walnut	Dec-93	6.3	0.004	5	RE	IR
Wirtz Elementary School	Paramount	Dec-93	9	0.010	11	S	IR
CalTrans: 105 Fwy (Wright)	Lynwood	Jan-94	19.6	0	0	RO	IR
CalTrans: 710 Fwy (MLK)	Lynwood	Jan-94	15.5	0.013	14	RO	IR
CalTrans: 710 Fwy (Rosecrans)	Lynwood	Jan-94	24.2	0	0	RO	IR
Golden Springs Drive medians	Diamond Bar	Jan-94	1.3	0.006	6	RO	IR
Independence Park	Downey	Feb-94	10.4	0.012	14	PA	IR
Paramount High School	Paramount	Feb-94	19	0.031	35	S	IR
Paramount Park	Paramount	Feb-94	9	0.022	24	PA	IR
Ramirez Nursery	Cerritos	Mar-94	3.5	0.003	3	N	IR
Rosecrans Avenue/Paramount Blvd medians	Paramount	Mar-94	0.2	0.001	1	RO	IR
Walnut Hills Village Shopping Center	Walnut	Mar-94	2.4	0.003	4	COM	IR
Clearwater Junior High School	Paramount	Apr-94	4	0.025	28	S	IR
Gerdes Park	Norwalk	Apr-94	8.6	0.021	23	PA	IR
Rio Hondo Golf Course	Downey	Apr-94	92.4	0.247	277	GC	IR
Somerset medians	Paramount	Apr-94	0.9	0.005	5	RO	IR
Vista Verde Park	Norwalk	Apr-94	6.5	0.012	14	PA	IR
Zimmerman Park	Norwalk	Apr-94	9.5	0.024	27	PA	IR
Steam Engine Park	Paramount	Jun-94	0.6	0.001	1	PA	IR
Vestar Development	Cerritos	Jun-94	9.6	0.020	22	COM	IR
CalTrans: 5 Fwy (Shoemaker/Firestone)	Norwalk	Jul-94	0.8	0	0	RO	IR
Orange Avenue/Cortland Avenue parkway	Paramount	Jul-94	1.3	0.003	4	RO	IR
Spane Park	Paramount	Jul-94	5	0.012	13	PA	IR
Brookside Equestrian Center	Walnut	Aug-94	13.6	0.002	2	COM	IR
Carpenter School	Downey	Aug-94	7.4	0.011	12	S	IR
Field, S/W corner Norwalk/Telegraph	Santa Fe Springs	Aug-94	5.2	0.011	12	RO	IR
CalTrans: 605 Fwy (Beverly)	Whittier	Sep-94	30	0	0	RO	IR
John Anson Ford Co. Regional Park	Bell Gardens	Sep-94	45	0.063	71	PA	IR

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Washington Elementary	Whittier	Sep-94	5	0.013	14	S	IR
Alondra median	Paramount	Oct-94	0.6	0.007	8	RO	IR
Imperfect Foods	Walnut	Oct-94	0.6	0.002	2	COM	IR
Imperial Hwy/Wright Road median	Lynwood	Oct-94	0.2	0	0	RO	IR
Palmtree Acq. Corp. Prologis (501 Cheryl Ln)	Walnut	Oct-94	1	0.006	7	COM	IR
Palmtree Acq. Corp. Prologis (Cheryl Ln)	Walnut	Oct-94	18.9	0.009	10	COM	IR
Ramona Park	Norwalk	Oct-94	4.8	0.007	8	PA	IR
Sorenson Elementary School	Whittier	Oct-94	4	0.009	10	S	IR
Walnut Valley Water District Office	Walnut	Oct-94	0.2	0.001	1	PF	IR
Metrolink Station	Walnut	Nov-94	0.6	0.005	5	PF	IR
Palm Park West	Whittier	Nov-94	5	0.012	14	PA	IR
Little Lake Park	Santa Fe Springs	Dec-94	18	0.043	49	PA	IR
Del Paso High School	Walnut	Jan-95	3	0.004	4	S	IR
Sea Shield Marine Products	Walnut	Jan-95	0.1	0.00001	0.01	COM	IR
Sundance Condominiums	Cerritos	Jan-95	9	0.033	37	RE	IR
John Anson Ford Golf Course	Bell Gardens	Feb-95	13.6	0	0	GC	IR
A-Team Logistics Group	Walnut	Apr-95	1.3	0.003	3	COM	IR
Dura Freight Lines (20405 Business Pkwy)	Walnut	Apr-95	1	0.002	2	COM	IR
Dura Freight Lines (20595 Business Pkwy)	Walnut	Apr-95	0.8	0.003	4	COM	IR
Dura Freight Lines (515-525 S Lemon)	Walnut	Apr-95	0.5	0.001	1	COM	IR
Equus Computer Systems	Walnut	Apr-95	0.5	0.004	4	COM	IR
Extra Express Industry, Inc.	Walnut	Apr-95	0.7	0.002	2	COM	IR
Fairway Business Center	Walnut	Apr-95	0.2	0.003	3	COM	IR
Furniture of America	Walnut	Apr-95	0.7	0.003	3	COM	IR
Orange Grove Elementary School	Whittier	Apr-95	6.6	0.013	15	S	IR
Sysco Food Service	Walnut	Apr-95	2.3	0.007	8	COM	IR
Thermaltake Inc. (20420 E Business Pkwy)	Walnut	Apr-95	0.8	0.004	4	COM	IR
Unical Aviation Inc.	Walnut	Apr-95	1.1	0.001	1	COM	IR
South Middle School	Downey	May-95	15.8	0.021	23	S	IR
820 Fairway Drive	Walnut	Jun-95	0.1	0.00004	0.04	RO	IR
ACME Furniture Industry	Walnut	Jun-95	4	0.006	7	COM	IR
Haier US Appliance Solutions I (19805 Business Pkwy)	Walnut	Jun-95	1.1	0.005	6	COM	IR
Haier US Appliance Solutions I (20005 Business Pkwy)	Walnut	Jun-95	6.7	0.010	11	COM	IR
Lampton Middle School	Norwalk	Jun-95	9.5	0.013	15	S	IR
MSI Computer Corp.	Walnut	Jun-95	0.5	0.001	1	COM	IR
Nuffer Elementary School	Norwalk	Jun-95	10.4	0.008	9	S	IR
THUMS	Long Beach	Jun-95	8	1.306	1,464	C	IN
Glenn High School	Norwalk	Jul-95	38.8	0.015	17	S	IR
Hargitt Middle School	Norwalk	Jul-95	9.5	0.026	29	S	IR
Los Alisos Middle School	Norwalk	Jul-95	17.2	0.023	26	S	IR
New River Elementary School	Norwalk	Jul-95	10.3	0.012	14	S	IR
Romona Elementary School	Norwalk	Jul-95	6.8	0.009	10	S	IR

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Corvallis Middle School	Norwalk	Sep-95	16.9	0.026	29	S	IR
D.D. Johnston Elementary School	Norwalk	Sep-95	8.9	0.008	9	S	IR
Katherine Edwards School	Whittier	Sep-95	19	0.028	32	S	IR
Longfellow Elementary School	Whittier	Sep-95	4.5	0.007	8	S	IR
Morrison Elementary School	Norwalk	Sep-95	7.7	0.011	12	S	IR
Norwalk High School	Norwalk	Sep-95	35.1	0.009	10	S	IR
Walter Dexter Middle School	Whittier	Sep-95	15.5	0.015	17	S	IR
Heritage Park	Santa Fe Springs	Oct-95	9.2	0.008	9	PA	IR
Robertson's Ready-Mix	Paramount	Nov-95	--	0.012	13	P	IN
Cerritos Nursery	Cerritos	Dec-95	3	0.004	5	N	IR
Founder's Memorial Park	Whittier	Jan-96	4	0.021	24	PA	IR
Los Nietos Park	Santa Fe Springs	Jan-96	11.2	0.017	20	PA	IR
Bell Gardens Soccer Field	Bell Gardens	Feb-96	2.6	0.012	14	S	IR
Jersey Avenue School	Santa Fe Springs	Mar-96	8	0.007	8	S	IR
Salt Lake Municipal Park	Huntington Park	Apr-96	20.9	0.043	48	PA	IR
Encore Maintenance (Warmington Homes)	Cerritos	May-96	1.1	0.003	3	RE	IR
Sorenson Park	Whittier	May-96	10.7	0.015	16	PA	IR
Bellflower Blvd medians	Bellflower	Jul-96	0.3	0.003	4	RO	IR
Artesia Off Ramp	Cerritos	Aug-96	3.3	0.008	9	RO	IR
Ping Ting Hsu	Walnut	Aug-96	0.1	0.0002	0.3	COM	IR
Temple Park	Downey	Oct-96	1	0.001	1	PA	IR
TRZ International	Walnut	Oct-96	0.1	0.0003	0.3	COM	IR
Woodruff Avenue medians	Norwalk	Oct-96	0.8	0.009	10	RO	IR
Joe Rodgers Park	Long Beach	Nov-96	3	0.010	12	PA	IR
Tung Hsin Trading Group	Walnut	Nov-96	0.4	0.001	1	COM	IR
Ham Park	Lynwood	Dec-96	10	0.011	13	PA	IR
Jauregui Nursery	Paramount	Dec-96	2	0.008	9	N	IR
Foster Road medians	Norwalk	Jan-97	0.3	0.002	2	RO	IR
Heritage Corporate Center	Santa Fe Springs	Jan-97	29.9	0.040	45	COM	IR
Rowland Heights Community Christian Church	Rowland Heights	Feb-97	0.5	0.0001	0.1	CH	IR
Los Angeles County Vector Control Building	Santa Fe Springs	Mar-97	3.8	0.004	4	PF	IR
Rosecrans median	Paramount	Mar-97	0.2	0.003	4	RO	IR
Greenstone Warehouse	Santa Fe Springs	Apr-97	0.4	0.002	2	COM	IR
Jauregui Nursery	Long Beach	Jul-97	5	0.018	20	N	IR
McNab landscaping	Bellflower	Jul-97	0.1	0.001	1	RO	IR
Palmtree Acq. Corp. Prologis (510 Cheryl Ln)	Walnut	Jul-97	1.8	0.009	10	COM	IR
Foster Road/Premier Avenue median	Downey	Aug-97	0.1	0.001	1	RO	IR
Alondra median @ San Gabriel River	Bellflower	Oct-97	0.1	0.0005	1	RO	IR
Puente Hill Gas-to-Energy Facility (PERG)	Whittier	Nov-97	--	0.491	550	C	IN
Puente Hills Landfill irrigation	Whittier	Nov-97	320	0.311	348	PF	IR
Midway International Company	Cerritos	Feb-98	0.3	0.001	1	COM	IR

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Countryside Suites	Diamond Bar	Mar-98	1.4	0.003	4	COM	IR
Lugo Park	Bell Gardens	Apr-98	7	0.003	3	PA	IR
Rose Hills Memorial Park	Whittier	Jun-98	772.5	1.728	1,936	CE	IR
El Dorado Lakes Condominiums	Long Beach	Aug-98	11	0.029	33	RE	IR
Bloomfield Associates	Cerritos	Sep-98	0.5	0.001	1	COM	IR
Diamond Crest Homeowners Association	Walnut	Oct-98	14	0.029	33	RE	IR
Maruichi American	Santa Fe Springs	Oct-98	0.4	0.002	3	COM	IR
EP Family Corp.	Walnut	Nov-98	0.8	0.003	3	COM	IR
Norm Ashley Park	Walnut	Nov-98	0.2	0.001	1	PA	IR
Walmart (Town Center)	Long Beach	Dec-98	3	0.005	6	COM	IR
Waterfall Estates	Rowland Heights	Dec-98	1.2	0.004	4	RE	IR
Norwalk Golf Course	Norwalk	Jan-99	8	0.025	28	GC	IR
183rd on-ramp	Cerritos	Feb-99	0.6	0.001	1	RO	IR
Soco-Lynch Corporation	Santa Fe Springs	Feb-99	1	0.002	2	COM	IR
Vestar Development	Long Beach	Feb-99	8	0.028	32	COM	IR
Lakewood Blvd medians	Paramount	Mar-99	0.2	0.0004	0.4	RO	IR
MC & C Development	Santa Fe Springs	Mar-99	0.7	0.007	8	COM	IR
Progress Park	Paramount	Mar-99	6.2	0.015	17	PA	IR
Calvary Chapel	Diamond Bar	Apr-99	1	0.018	20	CH	IR
Garfield Avenue medians	Paramount	Apr-99	0.1	0.002	2	RO	IR
Anfield Apparel Group Inc.	Walnut	Jun-99	0.2	0.001	1	COM	IR
Wind River Homeowners Association	Rowland Heights	Jul-99	12.6	0.020	22	RE	IR
AT&T Headquarters	Cerritos	Aug-99	0.9	0.009	10	COM	IR
Orange Avenue medians	Paramount	Aug-99	0.1	0.002	2	RO	IR
CSR Industries Corp.	Walnut	Sep-99	0.3	0.002	2	COM	IR
Gemini Food Corp.	Walnut	Sep-99	0.6	0.001	2	COM	IR
L.A. Fitness International	Walnut	Sep-99	1.2	0.005	6	COM	IR
Metro State Hospital	Norwalk	Sep-99	80	0	0	PF	IR
Moffit School	Norwalk	Sep-99	1.6	0.010	11	S	IR
Tri-Net Technology	Walnut	Sep-99	0.3	0.0003	0.3	COM	IR
Hupa International	Walnut	Oct-99	0.3	0.001	2	COM	IR
Nu-Health Products	Walnut	Oct-99	0.1	0	0	COM	IR
Rio Hondo Channel	Downey	Nov-99	0.8	0	0	RO	IR
Lemon Avenue greenbelt	Industry	Dec-99	0.1	0.0005	1	RO	IR
Simms Park	Bellflower	Dec-99	12.5	0.017	19	PA	IR
Prudential Insurance Co.	Walnut	Jan-00	3.5	0.003	3	COM	IR
Foster Road greenbelt (Flatbush/Halcourt)	Norwalk	Mar-00	3.3	0.007	8	RO	IR
McDonalds (21095 Golden Springs Dr)	Walnut	Mar-00	0.1	0.0004	0.5	COM	IR
J & L Footwear	Walnut	Jul-00	0.6	0.002	3	COM	IR
Jefferson School	Paramount	Jul-00	0.5	0.002	2	S	IR
Columbus High School	Downey	Aug-00	25	0.019	21	S	IR
Cubework.com Inc.	Walnut	Nov-00	1.5	0.001	1	COM	IR

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Reuse Site	City	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Lee Wang LLC	Walnut	Nov-00	2	0.012	13	COM	IR
Markwins Inter. Corp.	Walnut	Nov-00	1.9	0.003	3	COM	IR
Sun-Yin USA	Walnut	Nov-00	0.8	0.001	1	COM	IR
Triangle Park	South Gate	Nov-00	0.4	0.002	2	PA	IR
Willow Street medians (Studebaker-Stanbridge)	Long Beach	Mar-01	2.4	0.0002	0.3	RO	IR
Golden Springs Business Park	Santa Fe Springs	Apr-01	31.4	0.122	136	COM	IR
Morrow Meadows Corp	Walnut	Apr-01	0.9	0.001	1	COM	IR
The Cross Schools of Education	Walnut	May-01	0.6	0.001	1	S	IR
Bellflower Storage	Bellflower	Jun-01	3	0.001	1	COM	IR
Railroad Beautification	Paramount	Jul-01	0.5	0.001	1	RO	IR
Rio Hondo Channel - Bell Gardens	Bell Gardens	Jul-01	0.3	0	0	RO	IR
Bank of the West	Walnut	Sep-01	0.1	0.001	1	COM	IR
Gym/Teen Center	Walnut	Sep-01	0.6	0.002	2	PF	IR
CDM	Santa Fe Springs	Oct-01	0.1	0.001	2	COM	IR
Laskey-Weil	Cerritos	Oct-01	0.4	0.004	4	COM	IR
Harvard Estates	Rowland Heights	Dec-01	2	0.002	2	RE	IR
Los Angeles County Recorders Office	Norwalk	Jan-02	2.7	0.008	9	PF	IR
Tays Cool Fuel	Paramount	Feb-02	0.2	0.002	2	COM	IR
Walnut Nazarene Church	Walnut	Feb-02	0.8	0	0	CH	IR
Antelope Valley Farms	Palmdale	Mar-02	1703	6.847	7,672	AG	IR
Comphone	Walnut	Apr-02	0.7	0.003	3	COM	IR
Majestic Management (168-188 Brea Canyon Rd)	Walnut	Apr-02	0.6	0.002	3	COM	IR
Port Logistics Group (108-288 Mayo Ave)	Walnut	Apr-02	4.3	0.013	15	COM	IR
Holiday Inn Express	Walnut	May-02	0.4	0.002	3	COM	IR
Lemon Avenue Investments	Walnut	Jun-02	0.6	0.002	3	COM	IR
Lakewood Blvd medians	Downey	Jul-02	3.9	0.044	49	RO	IR
Magnolia at Snow Creek	Walnut	Jul-02	5.4	0.019	21	RE	IR
River Ridge Golf Course	Pico Rivera	Jul-02	21.3	0.029	32	GC	IR
Everbright Management (1163 Fairway Dr)	Walnut	Sep-02	0.6	0.002	2	COM	IR
Everbright Management (1169 Fairway Dr)	Walnut	Sep-02	0.2	0.001	1	COM	IR
Grand Avenue and Valley Blvd medians	Industry	Sep-02	0.1	0.005	5	COM	IR
Kelly Paper	Walnut	Sep-02	1.2	0.006	6	COM	IR
V-Tec Automotive	Walnut	Sep-02	0.1	0.0002	0.3	COM	IR
Extra Space Storage	Walnut	Oct-02	0.8	0.001	2	COM	IR
Latter-Day Saints Church	Walnut	Oct-02	0.9	0.002	2	CH	IR
Nogales Street medians @ Killian Avenue	Diamond Bar	Oct-02	0.1	0.001	1	RO	IR
Chancellor Village Senior Housing	Cerritos	Nov-02	0.9	0.002	2	RE	IR
Double Five Investments	Diamond Bar	Nov-02	0.2	0.001	1	COM	IR
Foster Road/Coldbrook Avenue median	Bellflower	Nov-02	0.1	0.0002	0.2	RO	IR
Los Angeles County Library	Norwalk	Nov-02	0.9	0.004	4	PF	IR
Simon Trucking	Santa Fe Springs	Nov-02	0.9	0.001	1	COM	IR
Metro State Hospital-Wheelabrator	Norwalk	Jan-03	--	0.153	172	C	IN

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Reuse Site	City	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
LVL (LB advanced treated)	Long Beach	Feb-03	--	3.551	3,979.4	I	RC
Boeing	Long Beach	Mar-03	52	0.035	39	COM	IR
Brea Canyon Road/Old Ranch Road median	Walnut	May-03	0.1	0.0003	0.4	RO	IR
Lemon Ave Investments LTD	Walnut	May-03	0.6	0.002	2	COM	IR
Gateway Pointe	Whittier	Jun-03	8	0.019	21	COM	IR
Mill Elementary School	Whittier	Jun-03	15	0.008	9	S	IR
Rio Hondo College	Whittier	Jun-03	85	0.015	17	S	IR
Del Amo Boulevard median	Lakewood	Jul-03	0.3	0.002	2	RO	IR
Imperial Equestrian Center	South Gate	Jul-03	1.5	0.007	8	DC	IN
Norwalk walkway and parking area	Santa Fe Springs	Jul-03	1	0.002	2	RO	IR
Bay Harbor Harrison Association	Walnut	Aug-03	0.8	0.003	4	COM	IR
Broadway.com Corp.	Walnut	Aug-03	0.5	0.004	4	COM	IR
Cianni Inc.	Walnut	Aug-03	0.3	0.001	1	COM	IR
CU Transport, Inc.	Walnut	Aug-03	0.2	0.001	1	COM	IR
Golden Applexx Co. Inc.	Walnut	Aug-03	0.2	0.001	1	COM	IR
Grand Ave/Village Staples	Walnut	Aug-03	1.6	0.005	6	COM	IR
J Pack International	Walnut	Aug-03	0.5	0.001	1	COM	IR
Shinetec Group, Inc.	Walnut	Aug-03	0.4	0.001	1	COM	IR
The Old Road medians	Santa Clarita	Aug-03	2	0.031	34	RO	IR
Tournament Players Club at Valencia	Santa Clarita	Aug-03	120	0.314	352	GC	IR
Max Management LLC	Walnut	Sep-03	0.7	0.003	4	COM	IR
NP 21301 Ferraro Parkway, Inc.	Walnut	Sep-03	0.8	0.002	2	COM	IR
Orange Grove Service	Walnut	Sep-03	0.4	0.002	2	COM	IR
568 Tri Net Court	Walnut	Oct-03	0.3	0.0004	0.4	RO	IR
Steven Horn Way/Bellflower Blvd medians	Downey	Nov-03	0.3	0.010	12	RO	IR
East Lion Corporation	Walnut	Dec-03	2.6	0.008	9	COM	IR
Walnut City Hall	Walnut	Dec-03	0.6	0.001	1	PF	IR
Walnut Senior Center	Walnut	Dec-03	0.5	0.001	1	PF	IR
Shell Station	Diamond Bar	Mar-04	0.1	0.001	1	COM	IR
Young Hoon Cho	Rowland Heights	Mar-04	0.1	0.0004	0.4	COM	IR
Ferrero and Grand East ramp	Walnut	Apr-04	3.8	0.007	8	RO	IR
Hing Wa Lee Plaza	Walnut	May-04	0.1	0.001	1	COM	IR
Tucker Elementary School	Long Beach	May-04	3.3	0.006	6	S	IR
APL Logistics	Walnut	Jun-04	2.1	0.006	6	COM	IR
Dream Wireless Inc.	Walnut	Jun-04	0.3	0.001	2	COM	IR
Alamitos Hill Reservoir	Long Beach	Jul-04	8.6	0	0	PF	IR
FTH Group Inc.	Walnut	Jul-04	0.1	0.001	1	COM	IR
NICCAL, LLC	Walnut	Aug-04	0.1	0	0	COM	IR
Pro Growers Nursery	Bellflower	Sep-04	11.3	0.045	51	N	IR
Kaiser Administration Building	Downey	Oct-04	2.5	0.005	6	COM	IR
Community Day School	Walnut	Nov-04	0.1	0.0002	0.3	S	IR
Majestic Management (21438 Baker Pkwy)	Industry	Jan-05	0.1	0.009	10	COM	IR

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Puente Hills Material Recovery Facility	Whittier	Feb-05	2.4	0.036	41	PF	IR
Sy Development condos	Walnut	Jun-05	0.1	0	0	RE	IR
Dills Park	Paramount	Jul-05	12.5	0.023	26	PA	IR
Jakks Pacific Inc.	Walnut	Aug-05	1.2	0.005	5	COM	IR
N/E Corner, Cheryl Lane/Baker Parkway	Walnut	Aug-05	3.3	0.008	9	RO	IR
19849 Valley Blvd medians	Walnut	Sep-05	0.4	0.001	2	RO	IR
20265 Valley Blvd medians	Walnut	Sep-05	0.4	0.001	1	RO	IR
20813 Valley Blvd medians	Walnut	Sep-05	0.4	0.002	2	RO	IR
Hollydale Elementary School	South Gate	Sep-05	3	0.008	9	S	IR
Kohl's Center	Walnut	Sep-05	2	0.009	10	COM	IR
Malburg Generation Station	Vernon	Oct-05	--	0.617	691	C	IN
Angela Preschool & Kindergarten	Rowland Heights	Dec-05	0.1	0.0002	0.2	S	IR
Stuart & Gray Road medians	Downey	Dec-05	0.4	0.004	5	RO	IR
The Home Depot	Walnut	Jan-06	2.8	0.012	14	COM	IR
The Martin Brower Co. LLC	Walnut	Jan-06	2.3	0.008	8	COM	IR
Woodruff Avenue and Maple Street medians	Bellflower	Mar-06	0.1	0.0001	0.1	RO	IR
Haitao Group LLC	Walnut	Apr-06	0.7	0.004	4	COM	IR
Jose Munoz Nursery	Whittier	Apr-06	5	0.013	14	N	IR
Fairway Drive medians @ Brea Canyon Road	Diamond Bar	Jun-06	0.3	0.001	1	RO	IR
22002 Valley Blvd medians	Industry	Jul-06	1.6	0.001	1	RO	IR
Foster Road medians	Santa Fe Springs	Jul-06	1	0.011	13	RO	IR
Grand Avenue Crossing	Walnut	Jul-06	96.0	0.272	305	RO	IR
Buddhist Tzu Chi Education	Walnut	Aug-06	2.2	0.006	7	S	IR
Target Store	Walnut	Sep-06	3.9	0.003	3	COM	IR
Whittier Narrows Recreation Area	S. El Monte	Sep-06	568	0.923	1,034	PA	IR
Leg Avenue	Walnut	Oct-06	0.5	0.003	3	COM	IR
Eastern Agricultural Site	Lancaster	Dec-06	2600	6.896	7,727	AG	IR
LandRover	Cerritos	Dec-06	0.6	0.003	3	COM	IR
Poundex Associates Group	Walnut	Jan-07	0.8	0.002	2	COM	IR
Williams-Sonoma Inc. (21508-21662 Baker Pkwy)	Walnut	Apr-07	4.8	0.015	17	COM	IR
FedEx Ground (200 Old Ranch Rd)	Walnut	May-07	28	0.009	10	COM	IR
USA Signage LLC	Walnut	May-07	0.3	0.001	1	COM	IR
Bixby Park	Long Beach	Jul-07	12.5	0.029	32	PA	IR
Bluff Park	Long Beach	Jul-07	25.8	0.010	11	PA	IR
Stearns Park	Long Beach	Jul-07	21	0.032	35	PA	IR
South El Monte High School	S. El Monte	Aug-07	16.1	0.056	63	S	IR
Williams-Sonoma Inc. (21700 Baker Pkwy)	Walnut	Aug-07	2	0.005	6	COM	IR
Douglas Park residential/commercial development	Long Beach	Nov-07	5.8	0.127	142	COM	IR
21350 Valley Blvd medians	Industry	Feb-08	0.4	0.0005	1	RO	IR
Grand Avenue Venture LLC	Walnut	Apr-08	3.5	0.001	1	COM	IR
Space Learning Center	Downey	Apr-08	10.5	0	0	PA	IR
Grand Avenue and Baker Parkway medians	Walnut	May-08	6.7	0.010	12	RO	IR

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Reuse Site	City	Start Date	Acreage	Usage		Type of Site	Type of Use
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Majestic Management (21530-21590 Valley Blvd)	Walnut	May-08	2	0.008	9	COM	IR
Surgical Center	Cerritos	May-08	0.1	0.0002	0.3	COM	IR
UPS parking structure	Cerritos	May-08	0.5	0.003	4	COM	IR
Cornerstone Commerce Center	Downey	Jun-08	0.8	0.002	2	COM	IR
Yanlin Liu	Rowland Heights	Jul-08	0.1	0	0	COM	IR
Apex Capital Investment Corp.	Diamond Bar	Aug-08	0.4	0.001	1	COM	IR
AIC Advanced Industrial Comp	Walnut	Sep-08	0.5	0.002	2	COM	IR
Chili's Restaurant	Walnut	Sep-08	0.2	0.001	1	COM	IR
Geniqua Corp.	Walnut	Sep-08	0.4	0.002	2	COM	IR
JL Concepts Inc.	Walnut	Sep-08	0.3	0.001	1	COM	IR
Majestic Management (21760-21788 Garcia Ln)	Walnut	Sep-08	0.4	0.002	2	COM	IR
CFT Developments	Walnut	Oct-08	0.01	0.001	1	COM	IR
Mora Drive medians	Santa Fe Springs	Oct-08	0.1	0.004	4	RO	IR
Fountain Walk Senior Housing	Cerritos	Nov-08	0.1	0.0003	0.3	RE	IR
Jonathan Cabrera	Walnut	Nov-08	0.1	0	0	COM	IR
UPS main building	Cerritos	Nov-08	4.4	0.012	14	COM	IR
Lancaster DPW sewer flushing	Lancaster	Jan-09	--	0.0004	0.5	SF	IN
ASCIP Building	Cerritos	Feb-09	0.1	0.001	1	COM	IR
Brea Canyon Road/Currier Road median	Walnut	Feb-09	1.6	0.008	9	RO	IR
CitiBank	Downey	Feb-09	0.1	0.001	1	COM	IR
Firestone Blvd medians	Downey	Feb-09	0.1	0.008	9	RO	IR
Lancaster DPW street sweeping	Lancaster	Feb-09	--	0.0002	0.3	SW	IN
Tincher Elementary School	Long Beach	Feb-09	1.5	0.005	6	S	IR
Apec Water Systems	Walnut	May-09	0.3	0.002	3	COM	IR
Cal Assn. for Bilingual Education	Walnut	May-09	0.1	0.0003	0.3	COM	IR
Lancaster University Center	Lancaster	May-09	2	0.005	5	COM	IR
Steve Horn Parkway medians (Kaiser Dr)	Downey	May-09	1.4	0.043	48	RO	IR
Walgreens/Big Lots	Downey	May-09	0.4	0	0	COM	IR
12800 Center Court	Cerritos	Jul-09	0.4	0.001	1	COM	IR
Ancillary Provider (16644 Johnson Dr)	Industry	Jul-09	0.1	0.0002	0.3	COM	IR
Ancillary Provider (16666 Johnson Dr)	Industry	Jul-09	0.2	0.001	1	COM	IR
Battery Technology	Industry	Jul-09	0.1	0	0	COM	IR
Blue Pacific	Industry	Jul-09	0.2	0.001	1	COM	IR
City of Industry medians (755 Nogales St)	Industry	Jul-09	0.1	0.0005	1	RO	IR
City of West Covina medians (Valley Blvd)	West Covina	Jul-09	0.2	0.0002	0.2	RO	IR
Countrywood Park	Hacienda Heights	Jul-09	5.4	0.008	9	PA	IR
Fajardo/Carolyn Rosas Park	Rowland Heights	Jul-09	5.4	0.005	5	PA	IR
GMP Products	Industry	Jul-09	0.1	0.0004	0.5	COM	IR
JJ Plaza	Rowland Heights	Jul-09	0.1	0.0001	0.1	COM	IR
New World RTCI - LP	Rowland Heights	Jul-09	0.1	0.00001	0.02	COM	IR
Nogales High School	La Puente	Jul-09	47	0.023	26	S	IR

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Nogales Medical Plaza Association	West Covina	Jul-09	0.1	0.004	5	COM	IR
Pacific Alloy Casting	South Gate	Jul-09	--	0.007	8	P	IN
Pepperbrook Park	Hacienda Heights	Jul-09	4.4	0.008	9	PA	IR
Queen of Heaven Cemetery	Rowland Heights	Jul-09	35	0.074	83	CE	IR
Romano's Macaroni Grill	Industry	Jul-09	0.1	0.002	2	COM	IR
Rowland Elementary School	Rowland Heights	Jul-09	10	0.007	8	S	IR
Rowland Heights Golf Center	Rowland Heights	Jul-09	8	0.010	12	GC	IR
Schabarum Regional County Park	Rowland Heights	Jul-09	640	0.070	79	PA	IR
Southland Schools	Rowland Heights	Jul-09	7.3	0.002	3	S	IR
Sunshine Park	La Puente	Jul-09	2.5	0.006	7	PA	IR
Super Max Corp.	Industry	Jul-09	0.1	0.0004	0.4	COM	IR
Tsai Lien Liao	West Covina	Jul-09	0.5	0.0003	0.4	CH	IR
Vonnic Inc.	Industry	Jul-09	0.2	0.001	1	COM	IR
Wedgeworth Elementary School	Hacienda Heights	Aug-09	2.5	0.002	3	S	IR
Wilson High School	Hacienda Heights	Aug-09	18.3	0.019	21	S	IR
Bixby Elementary School	Hacienda Heights	Sep-09	6.1	0.009	10	S	IR
Clemson Distribution Inc.	Walnut	Sep-09	0.1	0.0004	0.5	COM	IR
Gonzalez Nursery	Hacienda Heights	Sep-09	4	0.008	9	N	IR
Jade Fashion	Rowland Heights	Sep-09	0.1	0.001	1	COM	IR
Ybarra Elementary School	Diamond Bar	Sep-09	5.6	0.007	8	S	IR
Robertson's Ready-Mix	Pomona	Oct-09	--	0.009	10	P	IN
MTA Bike Trail	Bellflower	Nov-09	0.1	0.007	7	RO	IR
Bolt Products	Industry	Dec-09	0.1	0.0003	0.3	COM	IR
Laido International Co.	Industry	Dec-09	0.1	0.001	1	COM	IR
Seibon International	Industry	Dec-09	0.1	0.001	2	COM	IR
Whittier Narrows Golf Course	Rosemead	Dec-09	260	0.450	504	GC	IR
CalTrans: 60 Fwy (Countrywood/Fullerton)	Industry	Jan-10	5	0.002	2	RO	IR
Harmoni International Spice (881 Azusa Ave)	Industry	Jan-10	0.1	0.001	1	COM	IR
Ily Enterprise	Industry	Jan-10	0.1	0.001	1	COM	IR
Superior Profiles	Hacienda Heights	Jan-10	0.2	0.001	1	COM	IR
City of Industry medians (Azusa Ave)	Industry	Mar-10	0.2	0.001	1	RO	IR
East Group Properties (855 Anaheim-Puente Rd)	Industry	Mar-10	0.6	0.002	2	COM	IR
Paramount Blvd D646medians	Paramount	Mar-10	0.3	0.003	4	RO	IR
So. Cal. Air Condition	Industry	Mar-10	2	0.001	1	COM	IR
USACD	Industry	Mar-10	0.3	0.001	1	COM	IR
Azusa Property Co.	Industry	Apr-10	0.2	0.001	1	COM	IR
Golden West Footwear	Rowland Heights	Apr-10	0.3	0.0004	0.4	COM	IR
LACDPW medians (1442 Fullerton Rd)	Industry	Apr-10	0.3	0.0001	0.1	RO	IR
LACDPW medians (18927 Daisetta St)	Industry	Apr-10	0.2	0.0001	0.1	RO	IR
LACDPW medians (Colima Rd)	Rowland Heights	Apr-10	0.1	0.0004	0.5	RO	IR
Los Amigos Golf Course	Downey	Apr-10	110	0.237	266	GC	IR
Los Angeles County ISD	Rowland Heights	Apr-10	0.5	0.001	1	PF	IR

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Teledyne Instruments	Industry	Apr-10	0.4	0.001	2	COM	IR
Teledyne Picco	Industry	May-10	0.4	0	0	COM	IR
East Group Properties (16700 Chestnut St)	Industry	Jun-10	0.6	0.002	2	COM	IR
Harmoni International Spice (883 Azusa Ave)	Industry	Jun-10	0.1	0.001	1	COM	IR
New Age Kaleidoscope (7 Colima Rd)	Industry	Jun-10	0.6	0.002	2	COM	IR
Yusbro LLC	Industry	Jun-10	0.7	0.0001	0.1	COM	IR
FedEx (1081 Fullerton Rd)	Industry	Jul-10	0.6	0.001	1	COM	IR
Hot Topic (18305 San Jose Ave)	Industry	Jul-10	0.6	0.002	3	COM	IR
LB Public Works Sewer Flushing	Long Beach	Aug-10	--	0.003	3	SF	IN
A Professional Law Corp.	Walnut	Sep-10	0.1	0.0003	0.3	COM	IR
Port Logistics Group (18215 Rowland St)	Industry	Sep-10	0.6	0.002	2	COM	IR
717 Nogales LLC (717 Nogales St)	Rowland Heights	Oct-10	0.5	0.002	2	COM	IR
Centro Watt Operating (17414 Colima Rd)	Industry	Oct-10	0.5	0.002	2	COM	IR
Centro Watt Operating (17518A Colima Rd)	Rowland Heights	Oct-10	0.4	0.002	3	COM	IR
GBT Inc.	Industry	Oct-10	0.1	0.001	1	COM	IR
New Age Kaleidoscope (5 Stoner Creek Rd)	Industry	Oct-10	1.4	0.004	4	COM	IR
The Old Road/Magic Mountain Pkwy medians	Santa Clarita	Oct-10	5.8	0.011	12	RO	IR
Bell Memorial Church	Rowland Heights	Dec-10	0.3	0.001	1	CH	IR
Rowland Water District Office	Rowland Heights	Dec-10	0.3	0.001	1	PF	IR
Walgreens	Rowland Heights	Dec-10	0.1	0.0001	0.1	COM	IR
Chugh Firm	Cerritos	Jan-11	0.2	0.002	3	COM	IR
Atlantic Avenue medians	South Gate	Mar-11	16.3	0.004	5	RO	IR
Chevron	Cerritos	Mar-11	0.1	0.0003	0.3	COM	IR
717 Nogales LLC (18961 Arenth Ave)	Industry	May-11	0.5	0.002	3	COM	IR
Acme Trading Group	Industry	May-11	0.9	0.004	4	COM	IR
BMS Motorsports Inc.	Industry	May-11	0.4	0.001	1	COM	IR
Kimco Realty	Hacienda Heights	May-11	3	0.004	5	COM	IR
Pathfinder Park	Rowland Heights	May-11	29	0.020	23	PA	IR
Quest Nutrition	Industry	May-11	0.7	0.002	3	COM	IR
Winit America Trade Co.	Industry	May-11	0.6	0.003	3	COM	IR
Design International (745 Epperson Dr)	Industry	Jul-11	0.1	0.001	1	COM	IR
Design International (755 Epperson Dr)	Industry	Jul-11	0.1	0.001	1	COM	IR
HD Technology	Industry	Aug-11	0.2	0.001	1	COM	IR
HT Development	Industry	Aug-11	0.1	0.002	3	COM	IR
HT Window Fashions	Industry	Aug-11	0.1	0.001	1	COM	IR
Loma Elementary School	S. El Monte	Aug-11	1.9	0.006	7	S	IR
Sanchez Elementary/Temple Middle School	Rosemead	Aug-11	12.8	0.006	6	S	IR
Siegfried & Parsifal Inc.	Industry	Aug-11	0.4	0.001	1	COM	IR
Walnut Creek Energy Park	Industry	Aug-11	NA	0.099	111	C	IN
Blue Giant Investments	Industry	Sep-11	0.1	0.002	2	COM	IR
Guardian Life Insurance	Industry	Sep-11	0.2	0.001	1	COM	IR
Rubbercraft	Long Beach	Sep-11	0.9	0.003	3	COM	IR

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Reuse Site	City	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Eldridge Rice Elementary School	Rosemead	Oct-11	8.3	0.011	12	S	IR
Jess Gonzales Sports Park	Rosemead	Oct-11	4	0.009	10	PA	IR
K-1 Printing (17979 Arenth Ave)	Industry	Oct-11	0.2	0.0005	1	COM	IR
K-1 Printing (17989 Arenth Ave)	Industry	Oct-11	0.2	0.001	2	COM	IR
Millikan High School	Long Beach	Oct-11	12	0.021	24	S	IR
Southern California Edison campus	Rosemead	Oct-11	53	0.049	55	COM	IR
Penske Truck Leasing	Industry	Nov-11	0.6	0.002	2	COM	IR
Private Label PC Inc.	Industry	Nov-11	0.2	0.001	1	COM	IR
Schurr High School	Montebello	Nov-11	11	0.014	15	S	IR
Commercial Cooling	Industry	Dec-11	0.4	0.0003	0.4	COM	IR
Forever Link International	Industry	Dec-11	0.4	0.001	1	COM	IR
Garvey Avenue medians	Rosemead	Dec-11	0.1	0	0	RO	IR
Majestic Management (179 S Grand Ave)	Walnut	Dec-11	2.5	0.005	5	COM	IR
Panda Restaurant Group	Rosemead	Dec-11	8.9	0.014	16	COM	IR
Rush Street medians	Rosemead	Dec-11	0.1	0.001	1	RO	IR
Sunshine Nursery	Rosemead	Dec-11	4.6	0.003	4	N	IR
Walmart (1827 Walnut Grove Ave)	Rosemead	Dec-11	17.7	0.000003	0.003	COM	IR
Walnut Grove Avenue medians	Rosemead	Dec-11	0.1	0.002	2	RO	IR
Beverly Blvd medians	Pico Rivera	Jan-12	1.5	0.001	1	RO	IR
Brook Furniture	Industry	Jan-12	0.4	0.0001	0.1	COM	IR
Rio Hondo Park	Pico Rivera	Jan-12	8	0.030	34	PA	IR
Willard Elementary School	Rosemead	Jan-12	6	0.002	2	S	IR
CWCI Insulation of LA	Industry	Feb-12	0.2	0.001	1	COM	IR
Ferguson Fire and Fabrication	Industry	Feb-12	0.3	0.001	1	COM	IR
Hot Topic (18385 San Jose Ave)	Industry	Feb-12	0.8	0.002	3	COM	IR
Ko Amex	Industry	Feb-12	0.5	0.002	2	COM	IR
LD Products irrigation	Long Beach	Feb-12	0.7	0.002	2	COM	IR
LD Products toilet flushing	Long Beach	Feb-12	--	0.0002	0.3	DP	TF
MA Labs Inc.	Industry	Feb-12	0.4	0.002	2	COM	IR
Real Good Food	Industry	Feb-12	0.4	0.001	1	COM	IR
University of the West	Rosemead	Feb-12	0.4	0.002	2	S	IR
8 Net Inc. (18601 San Jose Ave)	Industry	Mar-12	0.6	0.003	3	COM	IR
8 Net Inc. (18691 San Jose Ave)	Industry	Mar-12	0.3	0.001	1	COM	IR
Cactus Botanics	Industry	Mar-12	0.4	0.001	1	COM	IR
Mailroom Global Inventory	Industry	Mar-12	0.6	0.002	2	COM	IR
Pinky Footware Shoes	Industry	Mar-12	0.8	0.002	2	COM	IR
Torrid LLC	Industry	Mar-12	0.6	0.003	4	COM	IR
Garvey Avenue medians	Rosemead	Apr-12	0.2	0	0	RO	IR
Zapopan Park	Rosemead	Apr-12	7	0.001	1	PA	IR
WVWD Parker Canyon Reservoir	Walnut	May-12	3.5	0.003	3	PF	IR
La Merced Elementary School	Montebello	Jun-12	10	0.015	17	S	IR
Montebello Gardens Elementary School	Pico Rivera	Jun-12	1	0.003	3	S	IR

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Amar Road medians	West Covina	Jul-12	2.1	0.002	3	RO	IR
Azusa Avenue medians	West Covina	Jul-12	3.1	0.004	4	RO	IR
BKK Landfill	West Covina	Jul-12	220	0	0	DC	IN
Home Depot	West Covina	Jul-12	0.2	0.00003	0.03	COM	IR
Nogales Street medians	West Covina	Jul-12	0.6	0	0	RO	IR
The Heights Shopping Center	West Covina	Jul-12	12.5	0.008	8	COM	IR
LACPDW medians (2357 Fullerton Rd)	Industry	Aug-12	0.4	0.002	2	RO	IR
South Hills Country Club	West Covina	Aug-12	100	0.269	301	GC	IR
McDonalds (2623 Valley Blvd)	Industry	Sep-12	0.2	0.0002	0.2	COM	IR
Big League Dreams	West Covina	Oct-12	21	0.049	55	PA	IR
Cimis Weather Station	Palmdale	Oct-12	1	0	0	AG	IR
McAdam Park	Palmdale	Oct-12	15	0.058	65	PA	IR
Whitewave Foods	Industry	Oct-12	2.6	0.003	3	COM	IR
Rowland Heights Korean Church	Rowland Heights	Jan-13	0.3	0.001	2	CH	IR
Tree Barriers	Palmdale	Jan-13	6	0.020	22	AG	IR
Beverly Blvd medians (Pico Water Distict)	Pico Rivera	Feb-13	1.5	0.001	1	RO	IR
Pearl of the East	Industry	Feb-13	0.5	0.001	1	COM	IR
Walnut Creek Energy Park irrigation	Industry	Apr-13	0.3	0.001	1	COM	IR
Bloomfield Plaza	Cerritos	May-13	0.1	0.001	1	COM	IR
Atherton Street medians	Long Beach	Jun-13	0.5	0.002	3	RO	IR
Cameron Elementary School	West Covina	Aug-13	3.9	0.016	18	S	IR
Cortez Elementary School	West Covina	Aug-13	6.2	0.015	17	S	IR
St. Lorenzo Church	Walnut	Aug-13	5.5	0.028	31	CH	IR
Vine Elementary School	West Covina	Aug-13	3.8	0.009	11	S	IR
Foothill Transit	Walnut	Sep-13	0.2	0.002	2	COM	IR
Lemon Valley LLC	Walnut	Sep-13	0.1	0.001	2	COM	IR
Air Products and Chemicals	Santa Fe Springs	Nov-13	--	0.268	300	P	IN
Countrywood Park I	Hacienda Heights	Nov-13	17	0.008	9	RE	IR
Countrywood Park II	Hacienda Heights	Nov-13	15	0.011	13	RE	IR
Hollencrest Middle School	West Covina	Jan-14	10.8	0.020	23	S	IR
Merced Elementary School	West Covina	Jan-14	7.6	0.022	25	S	IR
Shadow Oak Paseo A	West Covina	Jan-14	8.1	0.025	28	RO	IR
Shadow Oak Paseo B	West Covina	Jan-14	6.9	0.015	17	RO	IR
Shadow Oak Paseo C	West Covina	Jan-14	1.6	0.005	6	RO	IR
Shadow Oak Paseo D	West Covina	Jan-14	1.8	0.006	6	RO	IR
Shadow Oak Paseo F	West Covina	Jan-14	1.5	0.001	1	RO	IR
Shadow Oak Paseo G	West Covina	Jan-14	11.2	0.002	3	RO	IR
West Covina High School	West Covina	Jan-14	9.7	0.039	43	S	IR
Lowell Elementary/Rogers Middle Schools	Long Beach	Feb-14	5.3	0.005	6	S	IR
Stanford Middle School	Long Beach	Feb-14	13.3	0.007	8	S	IR

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Will Rogers Mini Park	Long Beach	Feb-14	1.7	0.005	6	PA	IR
Woodgrove Park	West Covina	Feb-14	10	0.015	17	PA	IR
Commerce Construction	Walnut	Mar-14	--	0.024	27	CON	IN
Firestone Blvd medians	South Gate	Mar-14	0.8	0.008	9	RO	IR
Lancaster City Park	Lancaster	Mar-14	36	0.060	67	PA	IR
CVS Pharmacy	South Gate	Apr-14	0.4	0.003	4	COM	IR
Pico Rivera Public Library	Pico Rivera	Apr-14	0.6	0.003	3	PF	IR
Smith Park	Pico Rivera	Apr-14	16	0.031	34	PA	IR
Walmart (4651 Firestone Blvd)	South Gate	Apr-14	0.7	0.001	1	COM	IR
Rimgrove Park	Valinda	Jun-14	7.1	0.023	26	PA	IR
Shadow Oak Center	West Covina	Jun-14	9.6	0.012	14	PA	IR
Cameron Park	West Covina	Jul-14	4.2	0.012	13	PA	IR
Cortez Park	West Covina	Jul-14	14	0.040	45	PA	IR
Firestone Plaza 2	South Gate	Jul-14	1.7	0.002	2	COM	IR
Grant Rea Park	Montebello	Aug-14	22.7	0.044	49	PA	IR
Pheasant Ridge Apartments	Rowland Heights	Sep-14	25	0.015	17	RE	IR
South Hills High School	West Covina	Oct-14	5.9	0.012	13	S	IR
Shawan Construction	Walnut	Nov-14	--	0	0	CON	IN
BYD Energy Road	Lancaster	Jan-15	0.1	0.0002	0.2	COM	IR
Graybar Electric Company, Inc.	Pomona	Jan-15	3.1	0.006	7	COM	IR
South Pointe Middle School	Walnut	Jan-15	7	0.012	14	S	IR
Fed Ex (11720 Greenstone Ave)	Santa Fe Springs	May-15	0.8	0.001	2	COM	IR
City Ventures Condo Complex	Downey	Jun-15	0.5	0.002	3	RE	IR
Emerson Parkside Academy	Long Beach	Jun-15	2	0.004	4	S	IR
Entrada (27640 Media Center Dr)	Santa Clarita	Jun-15	1.4	0.004	4	RO	IR
Entrada (27770 Entertainment Dr)	Santa Clarita	Jun-15	0.7	0.010	11	RO	IR
Entrada (27780 Entertainment Dr)	Santa Clarita	Jun-15	0.7	0.011	13	RO	IR
Camp Fire USA	Long Beach	Jul-15	3.2	0.006	7	PA	IR
Forest Lawn Memorial Park, Covina Hills	Covina	Jul-15	96	0.390	438	CE	IR
Maverick Field	West Covina	Jul-15	2.5	0.009	10	PA	IR
8740 Firestone Blvd	Downey	Sep-15	0.2	0.002	2	COM	IR
Downey Commons	Downey	Sep-15	0.5	0.002	2	COM	IR
Downey Crossroads	Downey	Sep-15	0.4	0.002	2	COM	IR
Lakewood City Water Truck	Lakewood	Sep-15	--	0.0001	0.1	RO	IR
Salud Park	Paramount	Nov-15	8.9	0.008	9	PA	IR
Pro Energy Services Group	Palmdale	Dec-15	--	0.001	1	H	IN
Universal Warehouse	Industry	Dec-15	0.7	0.001	1	COM	IR
Kaiser Medical Office Building	Lancaster	Jan-16	8.2	0.010	11	COM	IR
Latter-Day Saints Church (17909 Bloomfield Ave)	Cerritos	Feb-16	3.5	0.002	2	CH	IR
SCE substation	Cerritos	Feb-16	1.2	0.001	1	COM	IR
24-Hour Fitness	Downey	Mar-16	--	0.0002	0.2	DP	TF

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Downey Promenade (south side of Apollo Way)	Downey	Mar-16	2	0.005	6	COM	IR
Floor&Décor	Downey	Mar-16	--	0.0004	0.4	DP	TF
Valley Nogales 2469 LLC	Industry	Mar-16	0.2	0.001	1	COM	IR
Kaiser LMD	Lancaster	Apr-16	0.1	0.00003	0.04	COM	IR
Lancaster Cemetery	Lancaster	Apr-16	5.3	0.030	33	CE	IR
Pacific Auto Recycling Center	Lancaster	Apr-16	1.5	0.001	1	COM	IR
Steve Horn Parkway medians (Apollo Way)	Downey	May-16	0.2	0.0003	0.3	RO	IR
Stonewood Mall	Downey	May-16	0.4	0.003	3	COM	IR
Walmart (9001 Apollo Way)	Downey	May-16	0.6	0.001	2	COM	IR
Latter-Day Saints Church (16115 Studebaker Rd)	Cerritos	Jun-16	4.1	0.005	6	CH	IR
McDonalds (9250 Lakewood Blvd)	Downey	Jun-16	0.1	0.0002	0.2	COM	IR
Downey Promenade (north side of Apollo Way)	Downey	Jul-16	3.1	0.010	11	COM	IR
Carters	Downey	Aug-16	--	0.00002	0.03	DP	TF
Forest Lawn Memorial Park, Cypress	Cypress	Aug-16	77	0.185	207	CE	IR
TJ Maxx/Homegoods	Downey	Aug-16	--	0.001	1	DP	TF
Ulta Cosmetics	Downey	Aug-16	--	0.0002	0.2	DP	TF
Famous Footware	Downey	Sep-16	--	0.0001	0.1	DP	TF
Antelope Valley High School	Lancaster	Oct-16	16.5	0.055	62	S	IR
Prince RH Property LLC	Rowland Heights	Oct-16	0.5	0.0005	1	COM	IR
Cornerstone Homeowners Association	Walnut	Nov-16	2.3	0.005	6	RE	IR
First General Bank	Rowland Heights	Dec-16	0.1	0.0002	0.2	COM	IR
Larkstone Park	Walnut	Feb-17	5.2	0.015	16	PA	IR
South Pointe HOA	Walnut	Feb-17	10.8	0.021	23	RE	IR
CalTrans: 5 Fwy (13402 Excelsior Dr)	Santa Fe Springs	Mar-17	1.2	0.007	8	RO	IR
Canadian Solar	Lancaster	Mar-17	0.4	0.001	1	COM	IR
CalTrans: 5 Fwy (14616 Painter Ave)	Norwalk	Apr-17	0.5	0.0003	0.4	RO	IR
Four Acres	Lancaster	May-17	--	0.00003	0.04	H	IN
Aldi Grocery	Downey	Jul-17	0.3	0	0	COM	IR
CalTrans: 405 Fwy (Clark)	Long Beach	Jul-17	18.5	0.003	4	RO	IR
Prisk Elementary School	Long Beach	Jul-17	1.5	0.004	4	S	IR
LBWD Impoundment	Long Beach	Jul-17	--	0.001	1	PF	IM
Pico Park	Pico Rivera	Feb-18	17	0.023	26	PA	IR
Goodman Development Warehouse	Santa Fe Springs	Apr-18	2.8	0.007	8	COM	IR
Grand JK&C, Ltd.	Industry	Apr-18	0.7	0.002	2	COM	IR
Henry Acuna Park	Montebello	Apr-18	7.1	0.016	18	PA	IR
Rio Hondo Spreading Grounds	Pico Rivera	May-18	0.02	0.003	3	PF	IR
UTC Aerospace	Santa Fe Springs	May-18	--	0.072	80	P	IN
Johnson Wilshire Inc.	Industry	Jun-18	0.3	0.001	1	COM	IR
Sun Hing Foods Inc.	Industry	Jun-18	0.6	0.0005	1	COM	IR
Cali Cabinets	Industry	Jul-18	0.8	0.003	3	COM	IR
Five Below Discount Store	Downey	Jul-18	--	0.0001	0.2	DP	TF
Forever Chestnut LLC	Industry	Jul-18	1.1	0.004	4	COM	IR

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Jerome's Furniture	Downey	Jul-18	--	0.0003	0.3	DP	TF
FedEx Ground (20825 Currier Rd)	Walnut	Aug-18	0.3	0.0001	0.1	COM	IR
Rowland Heights Medical Center	Walnut	Aug-18	0.1	0.0002	0.3	COM	IR
Moon Valley Nursery	Montebello	Oct-18	20	0.015	17	N	IR
Palm Growers, Inc.	Montebello	Oct-18	20	0.015	17	N	IR
Viper Enterprises (Dodge Ram of the West)	Lancaster	Oct-18	0.7	0.001	2	COM	IR
JCC California Properties LLC (17640 Castleton St)	Industry	Dec-18	0.6	0.003	4	COM	IR
ARC (SJC advance treated)	Pico Rivera	Feb-19	--	10.365	11,614.7	SP	RC
Dennis the Menace Park	Downey	Mar-19	4	0.013	15	PA	IR
Shiveley Park	South El Monte	Mar-19	5.9	0.017	19	PA	IR
Legacy High School	South Gate	Apr-19	5	0.018	20	S	IR
Mary Van Dyke Park	South El Monte	Apr-19	1.5	0.003	3	PA	IR
New Temple Park	South El Monte	Apr-19	8.2	0.020	22	PA	IR
South El Monte Aquatics Center	South El Monte	Apr-19	1	0.003	3	PA	IR
South El Monte Community Center	South El Monte	Apr-19	0.7	0.001	1	PF	IR
South El Monte Senior Center	South El Monte	Apr-19	0.8	0.001	1	PF	IR
Los Angeles County Services Center	South El Monte	May-19	0.1	0.001	1	PF	IR
Montebello Golf Course	Montebello	May-19	120	0.274	307	GC	IR
Shiveley Middle School	South El Monte	May-19	1	0.005	6	S	IR
South El Monte Civic Center	South El Monte	May-19	0.7	0.002	3	PF	IR
South El Monte County Library	South El Monte	May-19	0.3	0.001	1	PF	IR
Santa Anita Avenue medians	South El Monte	Jun-19	1.3	0.0001	0.1	RO	IR
Legacy Middle School	South Gate	Jul-19	8.4	0.022	24	S	IR
New Temple Elementary School	South El Monte	Jul-19	3.4	0.010	11	S	IR
Shively Preschool	South El Monte	Jul-19	0.2	0.001	1	S	IR
AV Recycling	Lancaster	Aug-19	--	0.000001	0.001	H	IN
Foster Road/Dalwood Avenue medians	Norwalk	Aug-19	0.5	0.0002	0.2	RO	IR
AHMC Healthcare Inc.	South El Monte	Nov-19	0.7	0.006	7	PF	IR
DM Property Group LLC	Walnut	Jan-20	0.02	0.0001	0.1	COM	IR
JP Morgan Bank	Industry	Jan-20	0.2	0.0005	1	COM	IR
Prophecy Technology, Inc.	Walnut	Feb-20	0.3	0.001	1	COM	IR
Patriot Paving, Inc.	Palmdale	Jul-20	--	0.0001	0.2	H	IN
Montebello Blvd medians	Montebello	Aug-20	0.5	0.0004	0.5	RO	IR
Pacific Commodities Builders	Palmdale	Aug-20	--	0.005	5	H	IN
Taylor Ranch Park	Montebello	Aug-20	1.2	0.006	6	PA	IR
San Gabriel River Parkway medians	Pico Rivera	Oct-20	0.6	0	0	RO	IR
WRD ARC irrigation	Pico Rivera	Oct-20	1.1	0.007	8	PF	IR
Toll Brothers-Montebello Hills Development	Montebello	Jan-21	488	0.067	75	CON	IN
Superior Equipment	Hacienda Heights	Feb-21	0.2	0.001	1	COM	IR
Fed Ex Ground (21971 Industry Way)	Industry	Mar-21	3.3	0.006	7	COM	IR
AC Infinity Inc.	Walnut	Apr-21	0.6	0.001	1	COM	IR

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C.A. Rasmussen Inc. (PWCP 21-007)	Lancaster	Apr-21	--	0.005	6	H	IN
EA Equestrian	Palmdale	Apr-21	--	0.002	3	H	IN
Majestic Management (21860 Baker Pkwy)	Walnut	Apr-21	0.6	0.001	1	COM	IR
Shaolun Ku	Walnut	May-21	0.3	0.0005	1	COM	IR
Arrow Lighter Inc.	Industry	Jun-21	0.1	0.0003	0.3	COM	IR
Eosen LLC	Walnut	Jun-21	0.3	0.001	1	COM	IR
Homes 4 Families	Palmdale	Jun-21	--	0.0005	1	H	IN
Maisons Palmdale, LP	Palmdale	Jun-21		0.007	8	H	IN
Simply Stylish	Industry	Jun-21	0.2	0.001	1	COM	IR
Stay Tuned Performance	Industry	Jun-21	0.1	0.001	1	COM	IR
Thermaltake Inc. (4330 Valley Blvd)	Walnut	Jun-21	0.1	0.0003	0.3	COM	IR
Frontier Communities (Adainville Dr/Chapelle Dr)	Palmdale	Jul-21	--	0.00002	0.02	H	IN
Frontier Communities (Hollowglen Dr/40th St E)	Palmdale	Jul-21	--	0.001	1	H	IN
Global Premier Regency Palms, LP	Palmdale	Jul-21	--	0.0003	0.3	H	IN
Sully-Miller Contracting (25th St W, Ave S)	Palmdale	Jul-21	--	0.0003	0.3	H	IN
Manhole Adjusting, Inc.D557	Palmdale	Aug-21	--	0.001	1	H	IN
Pilot Travel Centers LLC	Palmdale	Aug-21	--	0.002	2	H	IN
RAAM Construction	Palmdale	Aug-21	--	0.001	1	H	IN
BJ's Restaurant	Industry	Sep-21	0.1	0.0004	0.4	COM	IR
Brinker Restaurant Group	Industry	Sep-21	0.03	0.0003	0.3	COM	IR
CCK Builders, Inc.	Palmdale	Sep-21	--	0.0001	0.1	H	IN
Costco	Industry	Sep-21	0.4	0.00003	0.03	COM	IR
Golden Corral Restaurant	Industry	Sep-21	0.2	0.001	1	COM	IR
JCC California Properties LLC (17585 Castleton St)	Industry	Sep-21	0.1	0.0004	0.5	COM	IR
JCC California Properties LLC (17638 Castleton St)	Industry	Sep-21	0.2	0.001	2	COM	IR
Marie Callender's Restaurant	Industry	Sep-21	0.02	0.0002	0.2	COM	IR
New Age Kaleidoscope (17588 Castelton St)	Industry	Sep-21	0.4	0.001	1	COM	IR
New Age Kaleidoscope (8 Albatross Rd)	Industry	Sep-21	0.3	0.002	2	COM	IR
Richmond American Homes	Palmdale	Sep-21	--	0.001	1	H	IN
Thirsty Cow Korean BBQ	Industry	Sep-21	0.1	0.0002	0.2	COM	IR
Apex Parks Group	Industry	Oct-21	1.0	0.002	3	COM	IR
Arnel Commercial Prop. (17700 Castleton St)	Industry	Oct-21	1.1	0.002	3	COM	IR
Arnel Commercial Prop. (17800 Castleton St)	Industry	Oct-21	1.8	0.002	2	COM	IR
Arnel Commercial Prop. (17890 Castleton St)	Industry	Oct-21	1.1	0.004	5	COM	IR
C.A. Rasmussen Inc. (PWCP 21-012)	Lancaster	Oct-21	--	0.0001	0.2	H	IN
Darden Restaurants	Industry	Oct-21	0.3	0.0005	1	COM	IR
Furniture 4U	Industry	Oct-21	0.04	0.0001	0.1	COM	IR
Hardy and Harper, Inc.	Palmdale	Oct-21	--	0.0004	0.4	H	IN
LA Engineering (PWCP 19-002)	Lancaster	Oct-21	--	0.0001	0.1	H	IN
New Age Kaleidoscope (17980 Castleton St)	Industry	Oct-21	0.1	0.001	1	COM	IR
Original Tommy's Hamburgers	Industry	Oct-21	0.04	0.0002	0.2	COM	IR

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TABLE 8
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
(22 PAGES)

Reuse Site	City	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Puente Hills Mall	Industry	Oct-21	55	0.007	8	COM	IR
Red Lobster	Industry	Oct-21	0.1	0.0003	0.4	COM	IR
Sully Miller Contracting (PWCP 21-008)	Lancaster	Oct-21	--	0.0001	0.2	H	IN
CalTrans: 60 Fwy (Castleton/Albatross)	Industry	Nov-21	8.7	0.002	2	RO	IR
Circle K	Lancaster	Dec-21	--	0.001	2	COM	IR
AM Ortega	Palmdale	Jan-22	--	0.0001	0.1	H	IN
C.A. Rasmussen Inc. (PWCP 21-010)	Lancaster	Jan-22	--	0.0002	0.3	H	IN
Mount San Antonio College	Walnut	Jan-22	3.1	0.002	3	S	IR
RAAM Construction	Palmdale	Jan-22	--	0.001	1	H	IN
Sully Miller Contracting (PWCP 21-009)	Lancaster	Jan-22	--	0.0001	0.2	H	IN
ANM Const. & Eng.	Palmdale	Mar-22	--	0.004	5	H	IN
Cedro Construction	Palmdale	Mar-22	--	0.00002	0.03	H	IN
Eminent, Inc.	Cerritos	Mar-22	2	0.002	2	COM	IR
Jose Ornelas Nursery	Bell Gardens	Mar-22	1.5	0.002	2	N	IR
O'Reilly Auto Parts	Lancaster	Mar-22	--	0.0004	0.4	H	IN
DAI General	Palmdale	Apr-22	--	0.0001	0.2	H	IN
Generations Church	Cerritos	Apr-22	0.5	0.0003	0.3	CH	IR
Nulin Technologies LLC	Palmdale	Apr-22	--	0.00001	0.01	H	IN
Buell Street Park	Downey	May-22	0.6	0.001	1	PA	IR
C.A. Rasmussen Inc. (PWCP 21-014)	Lancaster	Apr-23	--	0.0003	0.4	H	IN
C.A. Rasmussen Inc. (PWCP 22-004)	Lancaster	Apr-23	--	0.0002	0.2	H	IN

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2. LOS ANGELES BASIN

The treatment plants operated by the Sanitation Districts in the Los Angeles Basin area are the Joint Water Pollution Control Plant (JWPCP), with ocean disposal, and six water reclamation plants (WRPs): La Cañada, Long Beach, Los Coyotes, Pomona, San Jose Creek, and Whittier Narrows. These facilities and the associated trunk sewers comprise the Joint Outfall System (JOS), together producing 347.91 MGD (389,854 AFY) of treated effluent in FY21-22, an increase of 0.9% over the preceding fiscal year. Due to the on-going effects of water conservation in response to persistent drought conditions, flows in the JOS have decreased annually for 15 of the last 17 years, except for FY16-17 and this year, although the rate of decrease appears to be leveling off. This current level of flow is roughly equivalent to that last seen in 1967, over five decades ago. Of the total amount of effluent produced, 108.03 MGD (121,051 AFY), or 31.1%, was recycled water available for reuse, an increase of 12.1% in total flow over the preceding fiscal year. Prior to the last fiscal year, recycled water production had also experienced a similar pattern of year-to-year decreases in flow from FY03-04, with the only annual increases being in the higher rainfall years of FY10-11 and FY17-18. The increase in recycled water production this year was due to the optimized operation of the flow equalization tanks at the San Jose Creek WRP and the influent gate modifications at the Pomona WRP. However, recycled water production is still only 56.1% of the rated treatment capacity (215,935 AFY) of the WRPs in the JOS. During FY21-22, 84.23 MGD (94,381 AFY) was actively reused, a 15.8% increase over the preceding fiscal year due to warmer weather and relatively lower levels of rainfall. This quantity was 78.0% of the recycled water available and 24.2% of the total effluent produced in the JOS.

2.1 LA CAÑADA WRP

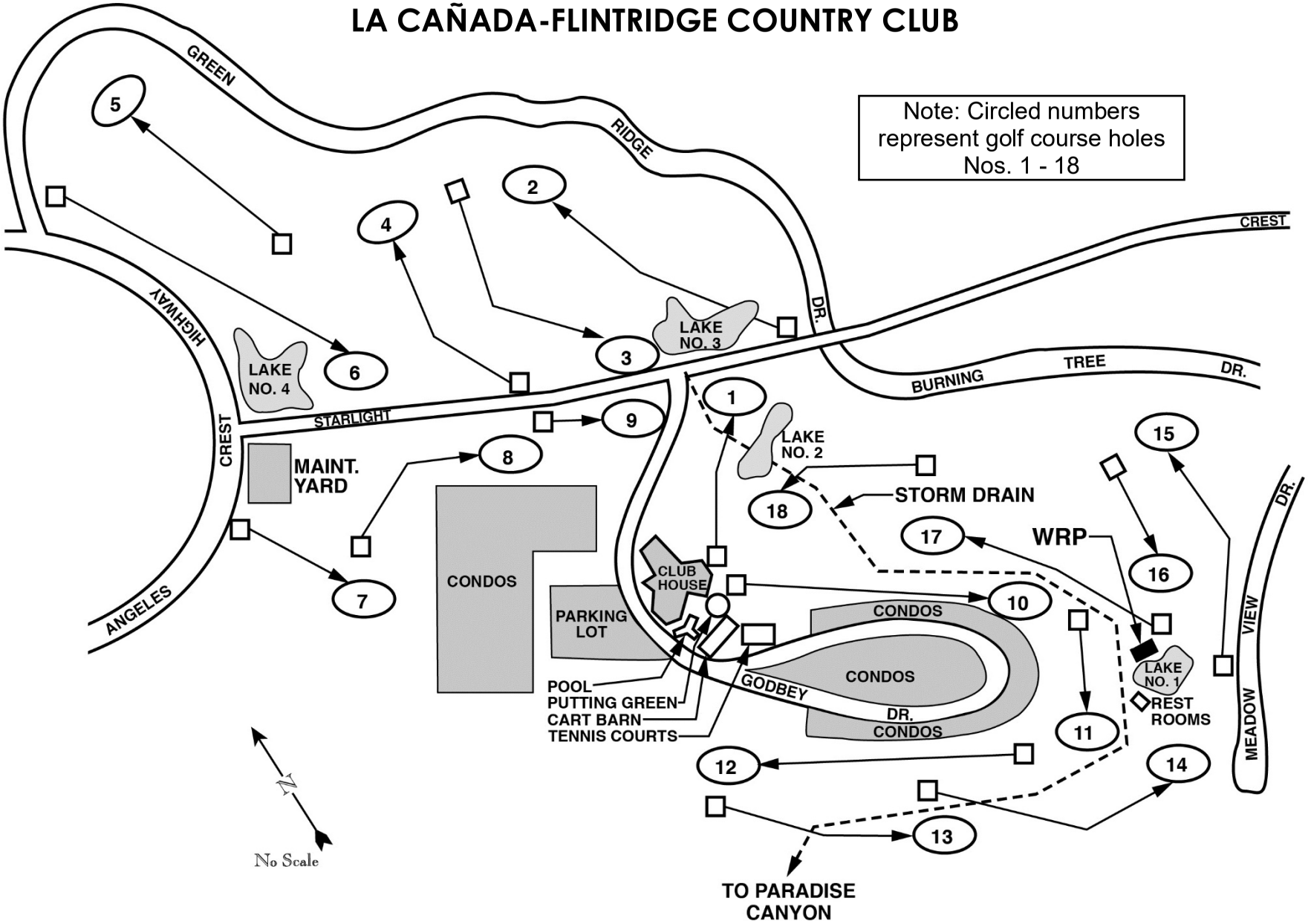
LA CAÑADA WRP FACTS

Plant capacity:	0.2 MGD
Water produced and reused:	0.064 MGD 72 AFY 2.7% FY decrease
FY21-22 O&M:	$6,385/AF
No. of reuse sites:	1 120 acres

This treatment facility, completed in 1962 and expanded in 1971, is the smallest one operated by the Sanitation Districts and is located on the site of the La Cañada-Flintridge Country Club (**Figure 6**), at 533 Meadowview Drive, La Cañada, CA 91011. In February 1996, an outfall trunk sewer (for waste activated sludge disposal and excess storm flows) was completed that connected this plant with the main sewer system in the Los Angeles Basin, officially making this plant a JOS facility. The plant, which produces disinfected secondary (activated sludge) effluent, has a capacity of 0.2 MGD; however, it only treated an average of 0.064 MGD (72 AFY) of wastewater generated by the 425 homes surrounding the country club in FY21-22 (0.02% of the effluent produced in the JOS). This flow rate was a 2.7% decrease from the preceding fiscal year. The operation and maintenance (O&M) cost in FY21-22 to produce this water was approximately $6,385/AF.

Use of recycled water from this facility is permitted under California Regional Water Quality Control Board, Los Angeles Region (LARWQCB) Order No. 00-099. All the disinfected secondary effluent from the plant is conveyed to four lakes on the 120-acre golf course. Lake water (augmented by potable water during the summer) is used for landscape irrigation of the golf course. The developers of the country club and neighboring homes financed the construction of the treatment plant, which was later sold to the Sanitation Districts for $77,268. The operators of the country club are required to use all the recycled water produced at this facility for irrigation and receive the recycled water at no cost.

FIGURE 6
LA CAÑADA-FLINTRIDGE COUNTRY CLUB



2.2 LONG BEACH WRP

LONG BEACH WRP FACTS	
Plant capacity:	25 MGD
Water produced:	12.15 MGD 13,613 AFY 2.7% FY increase
FY21-22 O&M:	$625/AF
Water reused:	8.324 MGD 9,327 AFY 1.9% FY increase 68.5% of production
Delivery systems:	2 179,680 ft. of pipe
No. of reuse sites:	70 1,989.4 acres

This treatment facility, located at 7400 East Willow Street, Long Beach, CA 90815, was completed in 1973 and was expanded in 1984 to its current design capacity of 25 MGD. However, it produced only 12.15 MGD (13,613 AFY) of coagulated, filtered, disinfected tertiary recycled water in FY21-22 (3.5% of the effluent produced in the JOS), which was a 2.7% increase over the preceding fiscal year, at an O&M cost of approximately $625/AF.

Recycled water quality for FY21-22 is presented in **Table B-1** of **Appendix B**. An average of 8.324 MGD (9,327 AFY), or 68.5% of the recycled water produced at this plant, was delivered for reuse during FY21-22. This represents a 1.9% increase over the preceding fiscal year, due to increased usage for both oil-zone repressurization and intrusion barrier injection. Use of recycled water from this facility during this fiscal year was permitted under LARWQCB Order Nos. 87-47 and 97-072 (for direct non-potable reuse). Effluent from this treatment plant is also advanced treated at WRD's LVLAWTF for seawater intrusion barrier injection under LARWQCB Order No. R4-2005-0061 (permit held by WRD). LARWQCB Order No. R4-2009-0049 (for non-irrigation uses) that had previously covered street-sweeping and sewer cleaning was rescinded and replaced by SWRCB Order No. WQ 2016-0068-DDW in April 2020.

2.2.1 *LONG BEACH WATER DEPARTMENT*

Beginning in 1980, the City of Long Beach Water Department (LBWD) embarked on a multi-phase program to distribute recycled water throughout the city,[9] mainly for landscape irrigation (**Figure 7**). Recycled water service for use in repressurization of the oil-bearing strata, initially constructed in 1971, was restored to the THUMS project on Island White in June 1995. A narrative description of the layout of LBWD's recycled water distribution system is contained in **Appendix C**. **Table 9** lists the users of the LBWD system as of the end of FY21-22.

No new sites were added to the LBWD distribution system in FY21-22; however, the use of recycled water for street sweeping ceased in April 2020, as the vehicles used by the City of Long Beach were not equipped with the proper air-gap separation on their fill lines. During FY21-22, LBWD served 4.773 MGD (5,348 AFY), or 39.3% of the recycled water produced at this plant, through approximately 179,680 feet of pipeline (6- to 24-inches in diameter) to 68 direct non-potable reuse sites encompassing 1,989.4 acres (additional recycled water was delivered by LBWD to the Alamitos Seawater Intrusion Barrier project, see **Section 2.2.2** below). This was a 1.3% decrease from the preceding fiscal year.

LBWD sells the recycled water at a rate of $1,108.17/AF for peak demand (nighttime) usage or $940.90/AF for off-peak demand (daytime) usage, or between 60-70% of the potable water rate of $1,578.18.

9 All recycled water produced at this plant was contracted to LBWD in exchange for the land on which the Sanitation Districts constructed the Long Beach WRP.

FIGURE 7
LONG BEACH WATER DEPARTMENT REUSE SITES

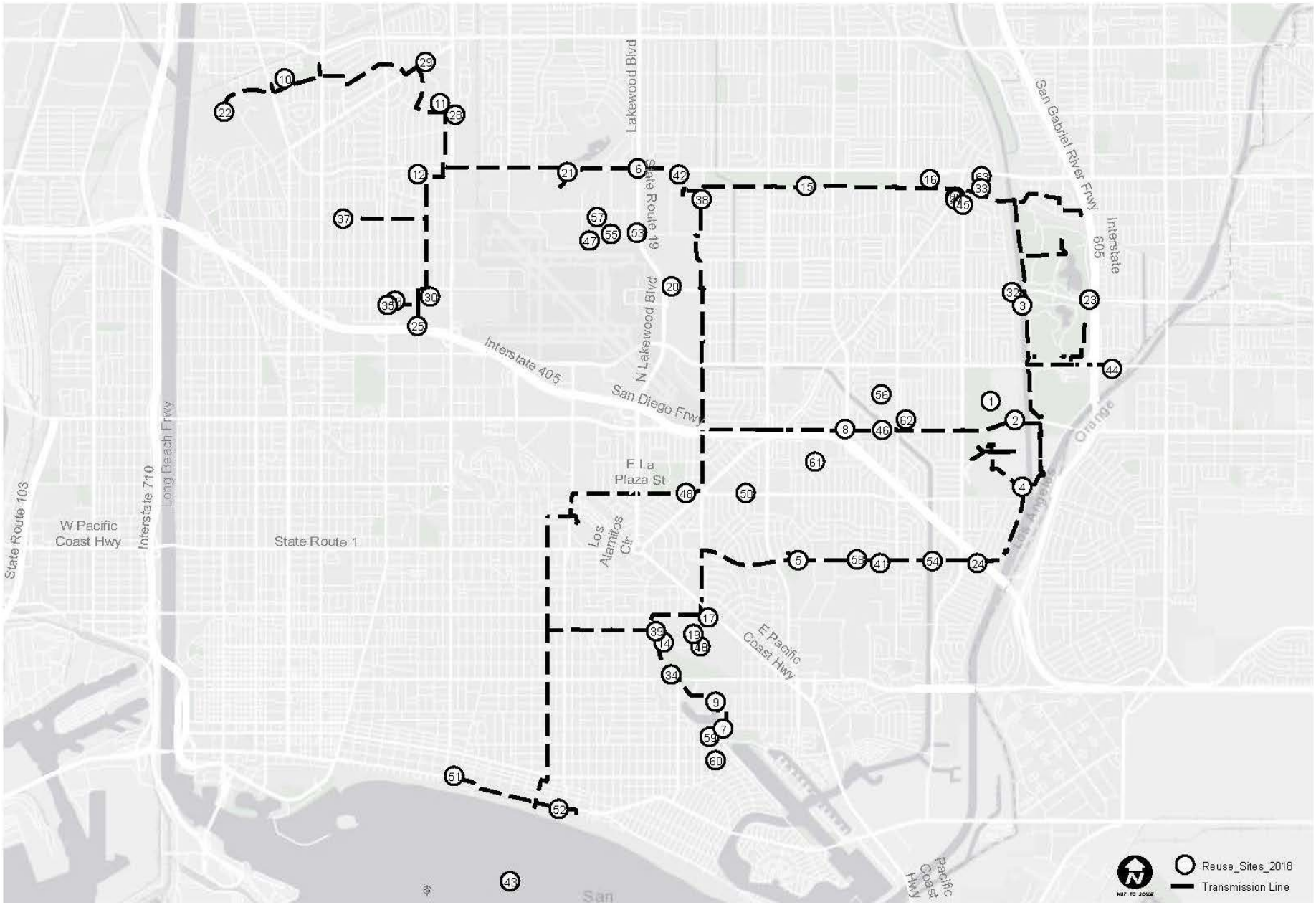


TABLE 9
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
LONG BEACH WATER DEPARTMENT
(2 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
El Dorado Golf Course	002	Aug-80	150	0.284	318	GC	IR
El Dorado Park West	001	Aug-80	135	0.176	197	PA	IR
Recreation Golf Course	018	Oct-82	149	0.282	316	GC	IR
Recreation Park	017	Oct-82	26	0.006	6	PA	IR
Whaley Park	005	Jun-83	9	0.026	29	PA	IR
El Dorado Park East	003	Jan-84	300	0.416	466	PA	IR
Nature Center	004	Jan-84	60	0.059	67	PA	IR
CalTrans: 605 Fwy (Wardlow)	023	Feb-84	50	0.010	11	RO	IR
Heartwell Park	015	Feb-84	120	0.245	275	PA	IR
Douglas Park	006	Apr-84	3	0.010	11	PA	IR
Skylinks Golf Course	020	Apr-84	155	0.287	322	GC	IR
CalTrans: 405 Fwy (Atherton)	024	May-84	5	0	0	RO	IR
DeMille Junior High School	033	Jun-84	5	0.024	27	S	IR
Heartwell Golf Course	016	Jun-84	30	0.072	80	GC	IR
Veteran's Memorial Stadium	038	Jan-85	6	0.023	26	PA	IR
Recreation Park Bowling Green	039	May-85	3	0.008	9	PA	IR
Cal State University, Long Beach	041	Dec-85	52	0.142	159	S	IR
Long Beach City College	042	Feb-86	15	0.083	93	S	IR
Recreation 9-Hole Golf Course	019	Mar-86	37	0.095	106	GC	IR
Blair Field	040	Apr-86	5	0.009	10	PA	IR
Colorado Lagoon Park	009	Apr-86	4	0.009	10	PA	IR
Marina Vista Park	007	Apr-86	30	0.038	43	PA	IR
Woodlands Park	008	Apr-86	7	0.012	14	PA	IR
Lakewood 1st Presbyterian Church	027	Sep-88	1	0.002	2	CH	IR
Lakewood Golf Course	021	Mar-89	128	0.429	481	GC	IR
Scherer Park	010	Mar-89	24	0.036	40	PA	IR
Virginia Country Club	022	Mar-89	135	0	0	GC	IR
All Souls Cemetery	028	Apr-89	40	0.131	147	CE	IR
Forest Lawn Memorial Park	029	Apr-89	35	0.090	101	CE	IR
Cherry Avenue Park	011	May-89	10	0.015	17	PA	IR
Los Coyotes Diagonal greenbelt	026	Mar-91	1	0.002	3	RO	IR
Wilson High School	034	Jun-91	5	0.020	23	S	IR
LBWD irrigation	030	Jan-92	2	0.002	3	PF	IR
Burroughs Elementary School	035	Feb-92	4	0.003	3	S	IR
Reservoir Park	013	Feb-92	2	0.009	10	PA	IR
CalTrans: 405 Fwy (Walnut)	025	Apr-92	9	0.0001	0.1	RO	IR
Hughes Middle School	036	Apr-92	3	0.006	7	S	IR
Longfellow Elementary School	037	May-92	1	0.001	1	S	IR
Somerset Park	012	May-92	3	0.0004	0.4	PA	IR
THUMS	043	Jun-95	8	1.306	1,464	C	IN

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

TABLE 9
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
LONG BEACH WATER DEPARTMENT
(2 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Joe Rodgers Park	014	Nov-96	3	0.010	12	PA	IR
Jauregui Nursery	032	Jul-97	5	0.018	20	N	IR
El Dorado Lakes Condominiums	044	Aug-98	11	0.029	33	RE	IR
Walmart (Town Center)	031	Dec-98	3	0.005	6	COM	IR
Vestar Development	045	Feb-99	8	0.028	32	COM	IR
Willow Street medians (Studebaker-Stanbridge)	046	Mar-01	2.4	0.0002	0.3	RO	IR
LVL (LB advanced treated)	--	Feb-03	--	3.551	3,979.4	I	RC
Boeing	047	Mar-03	52	0.035	39	COM	IR
Tucker Elementary School	048	May-04	3.3	0.006	6	S	IR
Alamitos Hill Reservoir	049	Jul-04	8.6	0	0	PF	IR
Bixby Park	051	Jul-07	12.5	0.029	32	PA	IR
Bluff Park	052	Jul-07	25.8	0.010	11	PA	IR
Stearns Park	050	Jul-07	21	0.032	35	PA	IR
Douglas Park residential/commercial development	053	Nov-07	5.8	0.127	142	COM	IR
Tincher Elementary School	054	Feb-09	1.5	0.005	6	S	IR
LB Public Works Sewer Flushing	--	Aug-10	--	0.003	3	SF	IN
Rubbercraft	055	Sep-11	0.9	0.003	3	COM	IR
Millikan High School	056	Oct-11	12	0.021	24	S	IR
LD Products irrigation	057	Feb-12	0.7	0.002	2	COM	IR
LD Products toilet flushing	057	Feb-12	--	0.0002	0.3	DP	TF
Atherton Street medians	058	Jun-13	0.5	0.002	3	RO	IR
Lowell Elementary/Rogers Middle Schools	060	Feb-14	5.3	0.005	6	S	IR
Stanford Middle School	061	Feb-14	13.3	0.007	8	S	IR
Will Rogers Mini Park	059	Feb-14	1.7	0.005	6	PA	IR
Emerson Parkside Academy	062	Jun-15	2	0.004	4	S	IR
Camp Fire USA	063	Jul-15	3.2	0.006	7	PA	IR
CalTrans: 405 Fwy (Clark)	064	Jul-17	18.5	0.003	4	RO	IR
Prisk Elementary School	065	Jul-17	1.5	0.004	4	S	IR
LBWD Impoundment	030	Jul-17	--	0.001	1	PF	IM

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2.2.2 *ALAMITOS SEAWATER INTRUSION BARRIER*

Due to over-drafting of the Central Basin aquifer that underlies and supplies water to the Metropolitan Los Angeles area, the groundwater level in that basin dropped below sea level by the 1950s. This condition allowed saltwater to move inland into the aquifer at various points along the coastline and led to contamination of the groundwater supplies. In response, the Los Angeles County Department of Public Works (LACDPW) constructed engineered, freshwater injection barriers in front of the advancing seawater at three locations in Los Angeles County in an effort to stem the landward movement of seawater. One of these barrier projects, the Alamitos Seawater Intrusion Barrier (Alamitos Barrier), is two miles south of the Long Beach WRP, straddling the San Gabriel River and the Los Angeles/Orange County line and creating a pressure ridge in five aquifers across the Alamitos Gap. Historically, between 4,000 and 7,000 AFY of non-interruptible imported water jointly purchased from the Metropolitan Water District of Southern California (MWD) by the Water Replenishment District of Southern California (WRD) and the Orange County Water District (OCWD) was injected into the Alamitos Barrier. In 1993, additional injection wells were constructed, increasing the freshwater injection capacity at the Alamitos Barrier to 7,500 AFY.

Originally conceived in the late 1980s, the LVLAWTF treats tertiary effluent from the Long Beach WRP with microfiltration and reverse osmosis (MF/RO), followed by application of ultraviolet light (UV) for the destruction of NDMA. The advanced treated product water is then blended with MWD supplies for injection into the seawater intrusion barrier using an existing 27-inch MWD supply line. Construction of the treatment processes on four acres of land directly north of the Long Beach WRP was completed in early 2003. Following permit adoption by LARWQCB, actual recycled water deliveries for injection began in October 2005. The approximate $15 million cost for the LVLAWTF was funded in part by MWD's Local Resource Program and the federal government.

An expansion of the LVLAWTF to its ultimate capacity of 8,800 AFY began in January 2013. Because of downstream sewer capacity issues, WRD had to design the expansion to reduce their waste streams treating and recovering backwash from the MF system and operating a third-pass of their RO processes to further concentrate brine reject water. Construction of this project was completed at the end of 2014 with full start-up of the expanded facilities beginning in spring 2015. For at least the short term, enough recycled water is expected to be available from the Long Beach WRP; however, increased use by LBWD may require that tertiary effluent from the Los Coyotes WRP be obtained. The July 1, 2013, contract between the Sanitation Districts and WRD includes 10,000 AFY of recycled water from the Los Coyotes WRP for this potential project, if necessary.

During FY21-22, the LVLAWTF produced 3.551 MGD (3,979 AFY) of advanced treated recycled water that was injected into the Alamitos Barrier, or 29.2% of the effluent produced at the Long Beach WRP. This was a 6.7% increase in the amount of recycled water used for this application over the preceding fiscal year.

2.3 LOS COYOTES WRP

This treatment facility, located at 16515 Piuma Avenue, Cerritos, CA 90703, was completed in 1970 and was expanded in 1975 to its current design capacity of 37.5 MGD. This plant produced an average of 17.43 MGD (19,527 AFY) of coagulated, filtered, disinfected tertiary recycled water during FY21-22 (5.0% of the effluent produced in the JOS), which was a decrease of 6.8% from the preceding fiscal year, at an O&M cost of approximately $564/AF. Effluent water quality for FY21-22 is presented in **Table B-2** of **Appendix B**.

Through three contracts, an average of 5.949 MGD (6,670 AFY), or 30.5% of the recycled water produced at this plant was delivered during FY21-22 for use in the cities of Bellflower, Bell Gardens, Cerritos, Compton, Cypress, Downey, Lakewood, Lynwood, Norwalk, Paramount, Santa Fe Springs, South Gate, and Vernon. This represents a 4.0% decrease in reuse flows from the preceding fiscal year. Use of recycled water from this facility had been permitted under LARWQCB Order Nos. 87-51 and 97-072 for direct non-potable applications. Beginning May 2020, recycled water use from this facility is permitted under SWRCB General Order No. WQ-2016-0068-RB4.

LOS COYOTES WRP FACTS

Plant capacity:	37.5 MGD
Water produced:	17.43 MGD 19,527 AFY 6.8% FY decrease
FY21-22 O&M:	$564/AF
Water reused:	5.951 MGD 6,670 AFY 4.0% FY decrease 34.2% of production
Delivery systems:	4 290,680 ft. of pipe
No. of reuse sites:	300 2,581.1 acres

2.3.1 *Central Basin Municipal Water District (Century System)*

Central Basin Municipal Water District (CBMWD), a regional wholesale water purveyor and member agency of MWD, is the lead agency in developing the regional Century recycled water distribution system (Century System) that serves the cities of Bellflower, Bell Gardens, Compton, Cudahy, Downey, Huntington Park, Lakewood, Lynwood, Norwalk, Paramount, Santa Fe Springs, South Gate, and Vernon. The $15 million project initially consisted of 26 miles of pipeline connected to one of the 24-inch distribution lines coming from the City of Cerritos pump station, and now has 189,800 feet of pipeline. The backbone of the distribution system is a 30-inch pipeline paralleling the San Gabriel River. Construction of the initial system was completed in 1992, with the delivery of recycled water for applications such as landscape irrigation of parks, schools and freeway slopes, nursery stock irrigation and various industrial applications. To ensure reliable and efficient delivery of recycled water to the City of Vernon's Malburg Electrical Generation Station, along with existing and future customers, CBMWD worked with the City of South Gate to construct a booster pump at Hollydale Park in November 2004. The Hollydale Pump Station has improved the overall water pressure and supply reliability for CBMWD's recycled water customers in various local cities, including the cities of South Gate, Lynwood, Cudahy, Huntington Park, and Vernon.

This system was also connected in 1994 to the completed portions of CBMWD's Rio Hondo recycled water distribution system (Rio Hondo System), as detailed in **Section 2.5.6** below. Both the Century and Rio Hondo systems can be supplied with recycled water from either the Los Coyotes or San Jose Creek WRPs individually or in combination, with no practical way to differentiate which reuse sites receive which recycled water in all cases. A large portion of the recycled water delivered through the Century System may originate at the San Jose Creek WRP. However, for the sake of consistency, recycled water usage along the Century System is reported in the water reuse reports as coming from the Los Coyotes WRP, and along the Rio Hondo System as coming from the San Jose Creek WRP. Three sites, Salt Lake Park in Huntington Park, Lugo Park in Cudahy, and the field in the southwest corner of Norwalk Boulevard and Telegraph Road in Santa Fe Springs, were previously included with CBMWD's Rio Hondo System (**Section 2.5.6**) and now have been more appropriately reassigned to the Century System. Also, 21 inactive sites were removed from the list in FY20-21, with another three sites removed in FY21-22. **Figure 8** shows all the pipelines for both distribution systems, as well as the current use sites. **Table 10** lists all the recycled water use sites connected to the Century System through FY21-22. A narrative description of the Century System is contained in **Appendix F**.

CBMWD has constructed the delivery facilities right up to the end users; however, the local retail water purveyors are the actual entities that supply the recycled water. Over the past few years, three of the retail purveyors, the cities of Downey, Santa Fe Springs, and Lynwood, constructed an additional 20,800 feet of pipelines connecting to the CBMWD distribution system. Two new sites were added to the Century System during FY21-22. In March 2022, Jose Ornelas nursery in the City of South Gate was connected. In May 2022, a new park constructed at the end of Buell St. in the City of Downey was connected.

During FY21-22, CBMWD delivered 3.829 MGD (4,291 AFY), or 22.0% of recycled water produced at the Los Coyotes WRP, through 14 retail water purveyors to 201 individual sites for direct non-potable reuse on approximately 1,545.9 acres. This was a decrease of 4.6% from the preceding fiscal year.

In FY21-22, CBMWD sold the recycled water on a wholesale basis to its retail water purveyor customers on a fixed rate schedule of $790/AF. This price is 60% of the rate of $1,313/AF it charges for Tier 1 non-interruptible potable water supplied by MWD. Recycled water delivered outside of CBMWD's service area was subject to a $25/AF surcharge. Once they receive recycled water from CBMWD, the retail purveyors then set their own rates for the recycled water delivered to individual customers.

2.3.2 *CITY OF BELLFLOWER*

Recycled water deliveries to a single, 5-acre site (Ruth B. Caruthers Park) in this city began in November 1978. During FY21-22, an average of 0.026 MGD (29 AFY), or about 0.1% of the recycled water produced at this plant, was used at this site for landscape irrigation. This was a 43.1% decrease from the preceding fiscal year. A 30 horsepower (HP) pump at the end of the plant's effluent forebay supplies recycled water to the park through 1,900 feet of 4-inch pipe that crosses the San Gabriel River along a footbridge.

2.3.3 *CITY OF CERRITOS*

Initial deliveries to this city also began in November 1978 and consisted of landscape irrigation and ornamental lake supply at the 25-acre Ironwood Nine Golf Course next to the Los Coyotes WRP. Recycled water was supplied to this site by means of a 50 HP pump at the plant's effluent forebay (next to the City of Bellflower pump) and 75 feet of 6-inch pipe. This system was abandoned in May 1988 when the City of Cerritos completed its citywide distribution system, including 142,600 feet of pipeline (**Figure 9**). A narrative description of the layout of the City of Cerritos' recycled water distribution system is contained in **Appendix D**. **Table 11** lists all the users of recycled water on the City of Cerritos distribution system (including the Forest Lawn Memorial Park site in Cypress, **Section 2.3.4**) as of the end of FY21-22.

Two new users of recycled water were added to the City of Cerritos distribution system during FY21-22. In March 2022, the landscaping around Eminent, Inc. (12616 183rd St.) was connected. In April 2022, the landscaping around Generations Church (18422 Bloomfield Ave.) was connected. During FY21-22, the City of Cerritos used 1.505 MGD (1,687 AFY), or 8.6% of the recycled water produced at the Los Coyotes WRP, for direct non-potable reuse on 767.0 acres at 91 individual sites. This was an increase of 1.9% over the preceding fiscal year. In FY21-22, the City of Cerritos charged its recycled water customers $326.70/AF, or 27% of the potable water rate of $1,197.90/AF.

FIGURE 8
CENTRAL BASIN MUNICIPAL WATER DISTRICT
CENTURY SYSTEM REUSE SITES

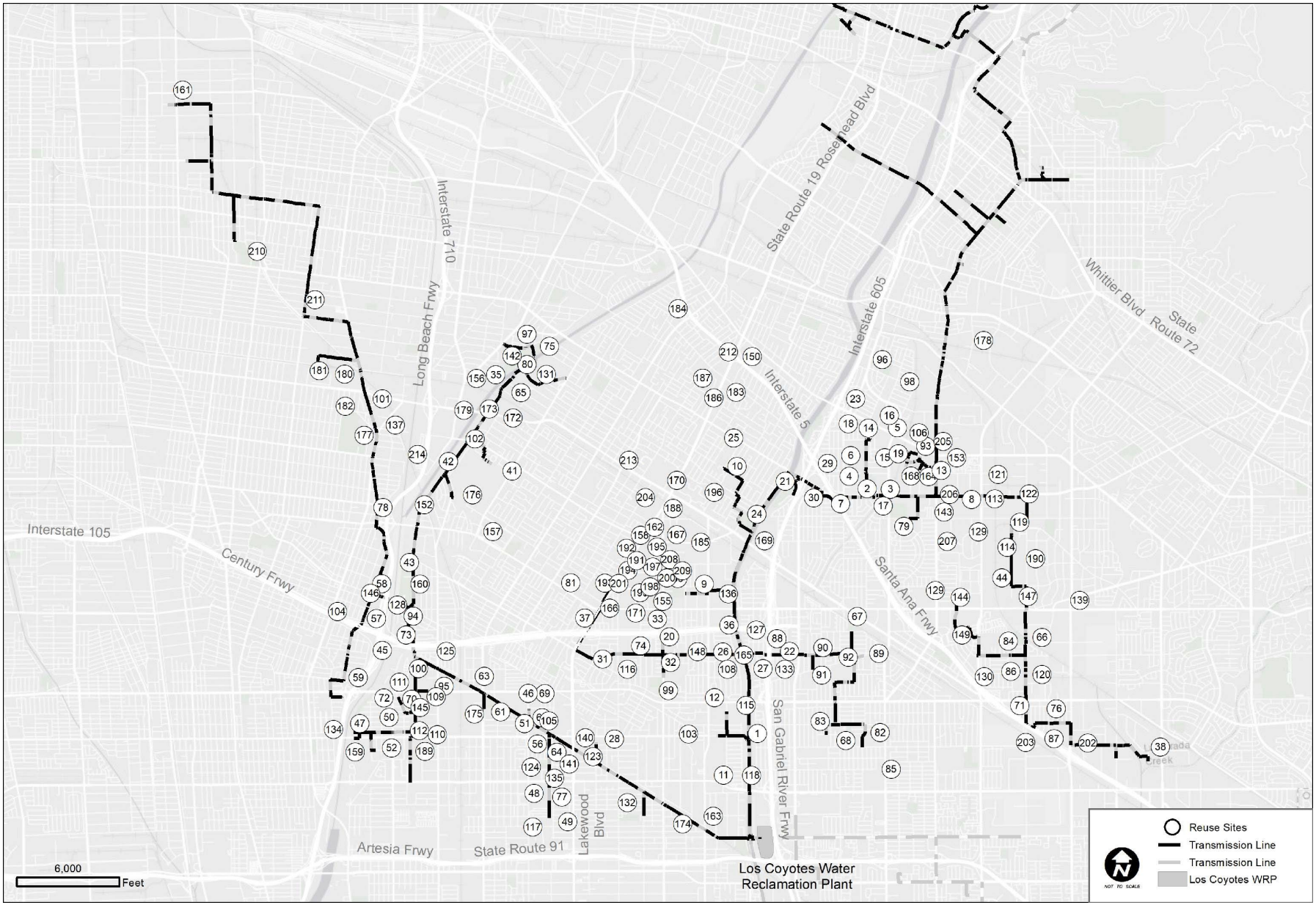

TABLE 10
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
CENTRAL BASIN MUNICIPAL WATER DISTRICT (CENTURY SYSTEM)
(5 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Andy's Nursery	001	Feb-92	9	0.021	24	N	IR
Lake Center Park	002	Mar-92	8	0.020	23	PA	IR
Lake Center School	003	Mar-92	8	0.017	19	S	IR
Towne Center walkway	005	Apr-92	0.1	0.0002	0.3	RO	IR
Lakeview Child Care playground	006	May-92	0.2	0.001	1	S	IR
Florence Avenue median	008	Jun-92	3	0.004	5	RO	IR
Gauldin Elementary School	009	Jun-92	8.4	0.009	10	S	IR
Rio San Gabriel School	010	Jun-92	14.8	0.023	26	S	IR
Bellflower High School	011	Jul-92	28.4	0.056	62	S	IR
Clark Estate	015	Aug-92	4.3	0.006	7	PA	IR
Ernie Pyle Elementary School	012	Aug-92	4.9	0.012	13	S	IR
Lakeview Park	014	Aug-92	6.7	0.013	14	PA	IR
Telegraph Road medians	013	Aug-92	0.5	0.002	2	RO	IR
Towne Center Green	016	Aug-92	2.3	0.008	9	PA	IR
Aquatic Center	019	Sep-92	0.5	0.004	5	PA	IR
Pioneer Road medians	017	Sep-92	0.4	0.003	3	RO	IR
Police Services Center	018	Sep-92	0.2	0.001	2	PF	IR
Lewis School	020	Nov-92	4.6	0.009	10	S	IR
Wilderness Park	021	Nov-92	24	0.080	90	PA	IR
CalTrans: 605-105 Fwy (Foster/Behrans)	022	Jan-93	14	0.001	1	RO	IR
East Middle School	025	Jan-93	26	0.026	29	S	IR
Promenade Walkway	023	Jan-93	0.3	0.001	1	RO	IR
Rio San Gabriel Park	024	Jan-93	6.4	0.003	3	PA	IR
Zinn Park	026	Jan-93	1.7	0.005	6	PA	IR
CalTrans: 605-105 Fwy (Foster/Flatbush)	027	Feb-93	22	0.002	2	RO	IR
CalTrans: 605-5 Fwy (Florence)	030	Feb-93	17	0.014	16	RO	IR
Hollywood Sports Center	028	Feb-93	22.5	0.001	2	GC	IR
Santa Fe Springs High School	029	Feb-93	14.5	0.035	39	S	IR
Old Downey Cemetery	031	Apr-93	7.5	0.026	29	CE	IR
Thompson Park	032	Apr-93	15	0.023	26	PA	IR
CalTrans: 105 Fwy (Bellflower)	033	May-93	17.9	0	0	RO	IR
Palms Park	34	May-93	20	0.032	36	PA	IR
Crawford Park	035	Jul-93	2.1	0.006	7	PA	IR
Humedo Nursery	036	Aug-93	11	0.005	5	N	IR
Artesia High School	40	Sep-93	20.9	0.025	28	S	IR
CalTrans: 105 Fwy (Lakewood)	037	Sep-93	25	0.0004	0.4	RO	IR
Palms Elementary School	39	Sep-93	3.5	0.014	16	S	IR
Tuftex Carpet Mill	038	Sep-93	--	0.161	180	P	IN
Circle Park	42	Oct-93	4	0.012	14	PA	IR
West Middle School	041	Oct-93	19.5	0.012	14	S	IR
Hollydale Park	43	Nov-93	46	0.141	158	PA	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

TABLE 10
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
CENTRAL BASIN MUNICIPAL WATER DISTRICT (CENTURY SYSTEM)
(5 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Alondra Junior High School	048	Dec-93	14	0.019	22	S	IR
Billy Lee Nursery	056	Dec-93	2.5	0.003	3	N	IR
CalTrans: 710-105 Fwy	045	Dec-93	18.5	0	0	RO	IR
Compton Golf Course	047	Dec-93	13	0.035	39	GC	IR
Downey Blvd/Contreras St greenbelt	046	Dec-93	0.1	0.001	1	RO	IR
Keppel Elementary School	052	Dec-93	4	0.005	6	S	IR
Los Cerritos Elementary (Steam Engine Park)	050	Dec-93	8	0.007	8	S	IR
Mokler Elementary School	049	Dec-93	10	0.006	7	S	IR
Robertson's Ready-Mix	044	Dec-93	--	0.005	6	P	IN
Wirtz Elementary School	051	Dec-93	9	0.010	11	S	IR
CalTrans: 105 Fwy (Wright)	057	Jan-94	19.6	0	0	RO	IR
CalTrans: 710 Fwy (MLK)	058	Jan-94	15.5	0.013	14	RO	IR
CalTrans: 710 Fwy (Rosecrans)	059	Jan-94	24.2	0	0	RO	IR
Independence Park	060	Feb-94	10.4	0.012	14	PA	IR
Paramount High School	062	Feb-94	19	0.031	35	S	IR
Paramount Park	061	Feb-94	9	0.022	24	PA	IR
Rosecrans Avenue/Paramount Blvd medians	063	Mar-94	0.2	0.001	1	RO	IR
Clearwater Junior High School	069	Apr-94	4	0.025	28	S	IR
Gerdes Park	068	Apr-94	8.6	0.021	23	PA	IR
Rio Hondo Golf Course	065	Apr-94	92.4	0.247	277	GC	IR
Somerset medians	064	Apr-94	0.9	0.005	5	RO	IR
Vista Verde Park	067	Apr-94	6.5	0.012	14	PA	IR
Zimmerman Park	066	Apr-94	9.5	0.024	27	PA	IR
Steam Engine Park	070	Jun-94	0.6	0.001	1	PA	IR
CalTrans: 5 Fwy (Shoemaker/Firestone)	071	Jul-94	0.8	0	0	RO	IR
Orange Avenue/Cortland Avenue parkway	073	Jul-94	1.3	0.003	4	RO	IR
Spane Park	072	Jul-94	5	0.012	13	PA	IR
Carpenter School	074	Aug-94	7.4	0.011	12	S	IR
Field, S/W corner Norwalk/Telegraph	205	Aug-94	5.2	0.011	12	RO	IR
John Anson Ford Co. Regional Park	075	Sep-94	45	0.063	71	PA	IR
Alondra median	077	Oct-94	0.6	0.007	8	RO	IR
Imperial Hwy/Wright Road median	078	Oct-94	0.2	0	0	RO	IR
Ramona Park	076	Oct-94	4.8	0.007	8	PA	IR
Little Lake Park	079	Dec-94	18	0.043	49	PA	IR
John Anson Ford Golf Course	080	Feb-95	13.6	0	0	GC	IR
South Middle School	081	May-95	15.8	0.021	23	S	IR
Lampton Middle School	083	Jun-95	9.5	0.013	15	S	IR
Nuffer Elementary School	082	Jun-95	10.4	0.008	9	S	IR
Glenn High School	086	Jul-95	38.8	0.015	17	S	IR
Hargitt Middle School	084	Jul-95	9.5	0.026	29	S	IR
Los Alisos Middle School	085	Jul-95	17.2	0.023	26	S	IR

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TABLE 10
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
CENTRAL BASIN MUNICIPAL WATER DISTRICT (CENTURY SYSTEM)
(5 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
New River Elementary School	088	Jul-95	10.3	0.012	14	S	IR
Romona Elementary School	087	Jul-95	6.8	0.009	10	S	IR
Corvallis Middle School	091	Sep-95	16.9	0.026	29	S	IR
D.D. Johnston Elementary School	090	Sep-95	8.9	0.008	9	S	IR
Morrison Elementary School	089	Sep-95	7.7	0.011	12	S	IR
Norwalk High School	092	Sep-95	35.1	0.009	10	S	IR
Heritage Park	093	Oct-95	9.2	0.008	9	PA	IR
Robertson's Ready-Mix	095	Nov-95	--	0.012	13	P	IN
Los Nietos Park	096	Jan-96	11.2	0.017	20	PA	IR
Bell Gardens Soccer Field	097	Feb-96	2.6	0.012	14	S	IR
Jersey Avenue School	098	Mar-96	8	0.007	8	S	IR
Salt Lake Municipal Park	210	Apr-96	20.9	0.043	48	PA	IR
Bellflower Blvd medians	099	Jul-96	0.3	0.003	4	RO	IR
Temple Park	102	Oct-96	1	0.001	1	PA	IR
Woodruff Avenue medians	103	Oct-96	0.8	0.009	10	RO	IR
Ham Park	104	Dec-96	10	0.011	13	PA	IR
Jauregui Nursery	105	Dec-96	2	0.008	9	N	IR
Foster Road medians	108	Jan-97	0.3	0.002	2	RO	IR
Heritage Corporate Center	106	Jan-97	29.9	0.040	45	COM	IR
Los Angeles County Vector Control Building	113	Mar-97	3.8	0.004	4	PF	IR
Rosecrans median	109	Mar-97	0.2	0.003	4	RO	IR
Greenstone Warehouse	114	Apr-97	0.4	0.002	2	COM	IR
McNab landscaping	115	Jul-97	0.1	0.001	1	RO	IR
Foster Road/Premier Avenue median	116	Aug-97	0.1	0.001	1	RO	IR
Alondra median @ San Gabriel River	118	Oct-97	0.1	0.0005	1	RO	IR
Lugo Park	211	Apr-98	7	0.003	3	PA	IR
Maruichi American	119	Oct-98	0.4	0.002	3	COM	IR
Norwalk Golf Course	120	Jan-99	8	0.025	28	GC	IR
Soco-Lynch Corporation	121	Feb-99	1	0.002	2	COM	IR
Lakewood Blvd medians	123	Mar-99	0.2	0.0004	0.4	RO	IR
MC & C Development	122	Mar-99	0.7	0.007	8	COM	IR
Progress Park	124	Mar-99	6.2	0.015	17	PA	IR
Garfield Avenue medians	125	Apr-99	0.1	0.002	2	RO	IR
Orange Avenue medians	128	Aug-99	0.1	0.002	2	RO	IR
Metro State Hospital	129	Sep-99	80	0	0	PF	IR
Moffit School	130	Sep-99	1.6	0.010	11	S	IR
Rio Hondo Channel	131	Nov-99	0.8	0	0	RO	IR
Simms Park	132	Dec-99	12.5	0.017	19	PA	IR
Foster Road greenbelt (Flatbush/Halcourt)	133	Mar-00	3.3	0.007	8	RO	IR
Jefferson School	135	Jul-00	0.5	0.002	2	S	IR

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TABLE 10
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
CENTRAL BASIN MUNICIPAL WATER DISTRICT (CENTURY SYSTEM)
(5 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Columbus High School	136	Aug-00	25	0.019	21	S	IR
Triangle Park	137	Nov-00	0.4	0.002	2	PA	IR
Golden Springs Business Park	139	Apr-01	31.4	0.122	136	COM	IR
Bellflower Storage	140	Jun-01	3	0.001	1	COM	IR
Railroad Beautification	141	Jul-01	0.5	0.001	1	RO	IR
Rio Hondo Channel - Bell Gardens	142	Jul-01	0.3	0	0	RO	IR
CDM	143	Oct-01	0.1	0.001	2	COM	IR
Los Angeles County Recorders Office	144	Jan-02	2.7	0.008	9	PF	IR
Tays Cool Fuel	145	Feb-02	0.2	0.002	2	COM	IR
Lakewood Blvd medians	150	Jul-02	3.9	0.044	49	RO	IR
Foster Road/Coldbrook Avenue median	148	Nov-02	0.1	0.0002	0.2	RO	IR
Los Angeles County Library	149	Nov-02	0.9	0.004	4	PF	IR
Simon Trucking	147	Nov-02	0.9	0.001	1	COM	IR
Metro State Hospital-Wheelabrator	129	Jan-03	--	0.153	172	C	IN
Imperial Equestrian Center	152	Jul-03	1.5	0.007	8	DC	IN
Norwalk walkway and parking area	153	Jul-03	1	0.002	2	RO	IR
Steven Horn Way/Bellflower Blvd medians	155	Nov-03	0.3	0.010	12	RO	IR
Pro Growers Nursery	156	Sep-04	11.3	0.045	51	N	IR
Kaiser Administration Building	157	Oct-04	2.5	0.005	6	COM	IR
Dills Park	159	Jul-05	12.5	0.023	26	PA	IR
Hollydale Elementary School	160	Sep-05	3	0.008	9	S	IR
Malburg Generation Station	161	Oct-05	--	0.617	691	C	IN
Stuart & Gray Road medians	162	Dec-05	0.4	0.004	5	RO	IR
Woodruff Avenue and Maple Street medians	163	Mar-06	0.1	0.0001	0.1	RO	IR
Foster Road medians	165	Jul-06	1	0.011	13	RO	IR
Space Learning Center	166	Apr-08	10.5	0	0	PA	IR
Cornerstone Commerce Center	167	Jun-08	0.8	0.002	2	COM	IR
Mora Drive medians	168	Oct-08	0.1	0.004	4	RO	IR
CitiBank	170	Feb-09	0.1	0.001	1	COM	IR
Firestone Blvd medians	169	Feb-09	0.1	0.008	9	RO	IR
Steve Horn Parkway medians (Kaiser Dr)	171	May-09	1.4	0.043	48	RO	IR
Walgreens/Big Lots	172	May-09	0.4	0	0	COM	IR
Pacific Alloy Casting	173	Jul-09	--	0.007	8	P	IN
MTA Bike Trail	174	Nov-09	0.1	0.007	7	RO	IR
Paramount Blvd D646medians	175	Mar-10	0.3	0.003	4	RO	IR
Los Amigos Golf Course	176	Apr-10	110	0.237	266	GC	IR
Atlantic Avenue medians	177	Mar-11	16.3	0.004	5	RO	IR
Air Products and Chemicals	178	Nov-13	--	0.268	300	P	IN
Firestone Blvd medians	179	Mar-14	0.8	0.008	9	RO	IR
CVS Pharmacy	181	Apr-14	0.4	0.003	4	COM	IR

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TABLE 10
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
CENTRAL BASIN MUNICIPAL WATER DISTRICT (CENTURY SYSTEM)
(5 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Walmart (4651 Firestone Blvd)	180	Apr-14	0.7	0.001	1	COM	IR
Firestone Plaza 2	182	Jul-14	1.7	0.002	2	COM	IR
Fed Ex (11720 Greenstone Ave)	190	May-15	0.8	0.001	2	COM	IR
City Ventures Condo Complex	184	Jun-15	0.5	0.002	3	RE	IR
8740 Firestone Blvd	188	Sep-15	0.2	0.002	2	COM	IR
Downey Commons	186	Sep-15	0.5	0.002	2	COM	IR
Downey Crossroads	187	Sep-15	0.4	0.002	2	COM	IR
Salud Park	189	Nov-15	8.9	0.008	9	PA	IR
24-Hour Fitness	193	Mar-16	--	0.0002	0.2	DP	TF
Downey Promenade (south side of Apollo Way)	191	Mar-16	2	0.005	6	COM	IR
Floor&Décor	192	Mar-16	--	0.0004	0.4	DP	TF
Steve Horn Parkway medians (Apollo Way)	197	May-16	0.2	0.0003	0.3	RO	IR
Stonewood Mall	196	May-16	0.4	0.003	3	COM	IR
Walmart (9001 Apollo Way)	195	May-16	0.6	0.001	2	COM	IR
McDonalds (9250 Lakewood Blvd)	183	Jun-16	0.1	0.0002	0.2	COM	IR
Downey Promenade (north side of Apollo Way)	198	Jul-16	3.1	0.010	11	COM	IR
Carters	201	Aug-16	--	0.00002	0.03	DP	TF
TJ Maxx/Homegoods	200	Aug-16	--	0.001	1	DP	TF
Ulta Cosmetics	199	Aug-16	--	0.0002	0.2	DP	TF
Famous Footware	--	Sep-16	--	0.0001	0.1	DP	TF
CalTrans: 5 Fwy (13402 Excelsior Dr)	202	Mar-17	1.2	0.007	8	RO	IR
CalTrans: 5 Fwy (14616 Painter Ave)	203	Apr-17	0.5	0.0003	0.4	RO	IR
Aldi Grocery	204	Jul-17	0.3	0	0	COM	IR
Goodman Development Warehouse	206	Apr-18	2.8	0.007	8	COM	IR
UTC Aerospace	207	May-18	--	0.072	80	P	IN
Five Below Discount Store	209	Jul-18	--	0.0001	0.2	DP	TF
Jerome's Furniture	208	Jul-18	--	0.0003	0.3	DP	TF
Dennis the Menace Park	212	Mar-19	4	0.013	15	PA	IR
Legacy High School	213	Apr-19	5	0.018	20	S	IR
Legacy Middle School	215	Jul-19	8.4	0.022	24	S	IR
Foster Road/Dalwood Avenue medians	216	Aug-19	0.5	0.0002	0.2	RO	IR
Jose Ornelas Nursery	217	Mar-22	1.5	0.002	2	N	IR
Buell Street Park	218	May-22	0.6	0.001	1	PA	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

FIGURE 9
CITY OF CERRITOS RECYCLED WATER DISTRIBUTION SYSTEM REUSE SITES

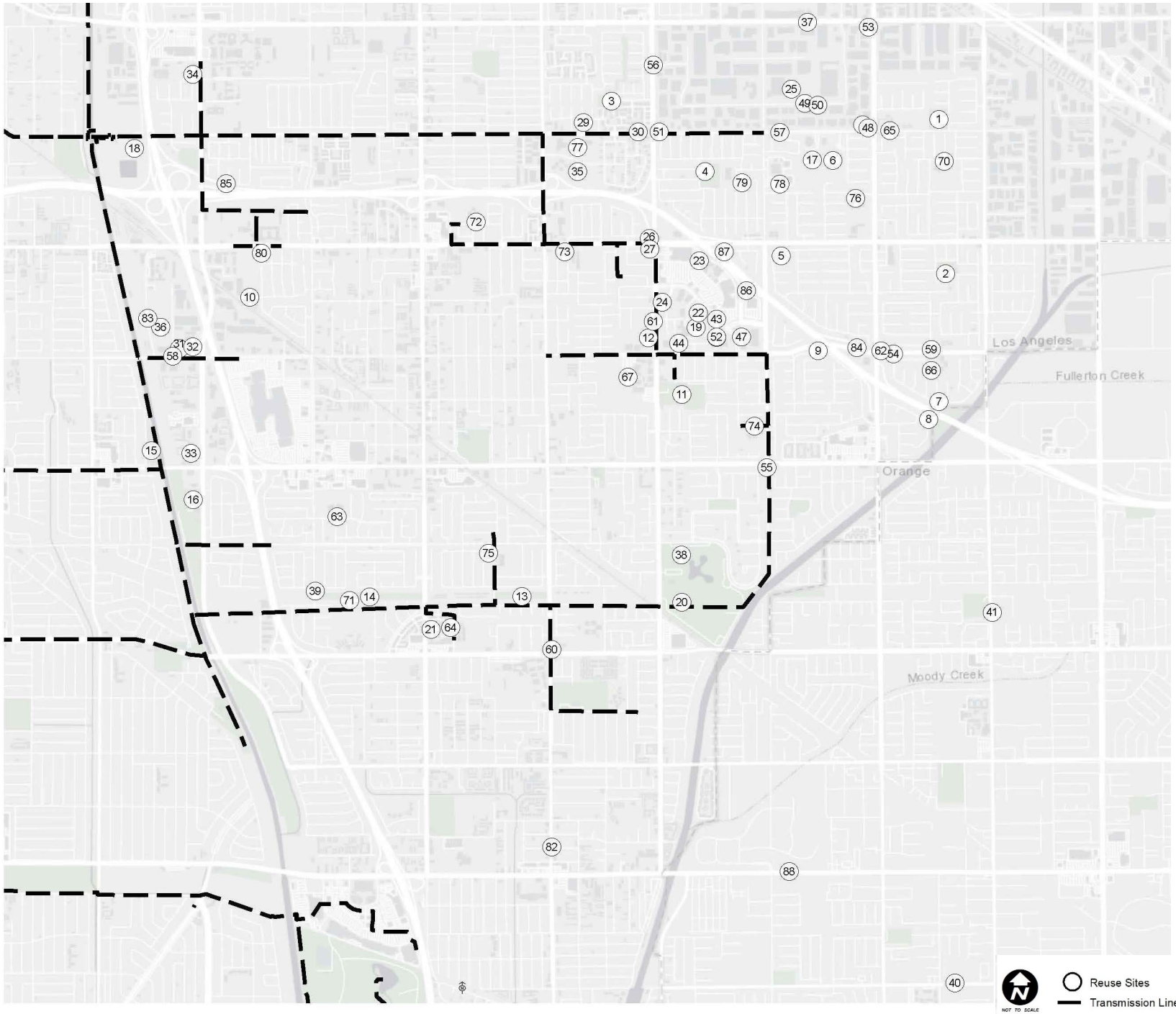


TABLE 11
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
CITY OF CERRITOS
(3 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Ironwood 9 Golf Course	020	Nov-78	25	0.009	10	GC	IR
Gahr High School	049	Dec-87	28	0.051	57	S	IR
Gonsalves Elementary School	034	Dec-87	5	0.016	18	S	IR
Library/Civic Center	012	Dec-87	4	0.014	15	PF	IR
Olympic Natatorium	019	Dec-87	6	0.017	19	PA	IR
Whitney Learning Center	044	Dec-87	10	0.022	25	S	IR
Wittman Elementary School	039	Dec-87	5	0.012	13	S	IR
ABC Adult School and Office	041	Jan-88	3	0.012	13	S	IR
Area Development Project No. 2	022	Jan-88	11.5	0.072	81	COM	IR
CalTrans: 605 Fwy	054	Jan-88	58.6	0.052	58	RO	IR
CalTrans: 91 Fwy	055	Jan-88	70	0.028	31	RO	IR
Carmenita Junior High School	040	Jan-88	5	0.017	19	S	IR
Carmenita Park	001	Jan-88	4.5	0.019	21	PA	IR
Cerritos Elementary School	033	Jan-88	6	0.018	20	S	IR
Cerritos High School	042	Jan-88	20	0.038	43	S	IR
City Park East	006	Jan-88	18	0.038	43	PA	IR
Elliott Elementary School	046	Jan-88	7	0.013	15	S	IR
Frontier Park	004	Jan-88	2.5	0.012	14	PA	IR
Gridley Park	015	Jan-88	9	0.020	22	PA	IR
Jacob Park	014	Jan-88	4.5	0.009	10	PA	IR
Juarez Elementary School	035	Jan-88	7	0.023	26	S	IR
Kennedy Elementary School	045	Jan-88	7	0.013	15	S	IR
Leal Elementary School	036	Jan-88	6	0.009	11	S	IR
Liberty Park	018	Jan-88	20	0.079	89	PA	IR
Medians/Parkways	025	Jan-88	42.7	0.139	156	RO	IR
Satellite Park	003	Jan-88	2	0.006	6	PA	IR
Stowers Elementary School	038	Jan-88	6	0.019	21	S	IR
Tracy Education Center	043	Jan-88	6	0.002	3	S	IR
Bettencourt Park	008	Feb-88	2	0.010	11	PA	IR
Bragg Elementary School	032	Feb-88	7	0.013	14	S	IR
Brookhaven Park	009	Feb-88	2	0.007	8	PA	IR
Cabrillo Lane Elementary School	047	Feb-88	9	0.012	13	S	IR
Friendship Park	002	Feb-88	4	0.011	13	PA	IR
Haskell Junior High School	048	Feb-88	18	0.040	45	S	IR
Pat Nixon Elementary School	037	Feb-88	5	0.010	12	S	IR
Saddleback Park	005	Feb-88	2	0.004	5	PA	IR
Sunshine Park	013	Feb-88	3.5	0.011	12	PA	IR
Westgate Park	017	Feb-88	4	0.010	11	PA	IR
Bellflower Christian School	050	Mar-88	31.4	0.043	49	S	IR
Cerritos Community College	051	Mar-88	55	0.067	75	S	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

TABLE 11
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
CITY OF CERRITOS
(3 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Rainbow Park	007	Mar-88	2.5	0.005	5	PA	IR
Artesia Cemetery District	052	Apr-88	10.9	0.038	43	CE	IR
Cerritos Regional County Park	053	Apr-88	59	0.070	78	PA	IR
Heritage Park	011	Apr-88	12	0.040	45	PA	IR
Rosewood Park	010	Apr-88	2.7	0.009	10	PA	IR
Sports Complex	021	Mar-89	25	0.048	53	PA	IR
Shoemaker on/off-ramp	023	Dec-89	4.6	0.012	14	RO	IR
Automated Data Processing	028	Feb-90	0.7	0.004	4	COM	IR
Transpacific Development Company	026	Feb-90	6.9	0.012	13	COM	IR
Sheraton Hotel	027	Mar-90	0.6	0.002	2	COM	IR
Cerritos Pontiac/GMC Truck	029	May-90	0.5	0.002	3	COM	IR
Moothart Chrysler	030	May-90	0.4	0.004	5	COM	IR
Browning Oldsmobile	031	Sep-90	0.1	0.001	1	COM	IR
Windjammer Road off-ramp	024	Sep-90	0.8	0.000003	0.003	RO	IR
Parkside Condominiums	056	May-91	1.8	0.005	5	RE	IR
Concordia Church	058	Jun-91	4	0.003	3	CH	IR
B&B Stables	060	Aug-91	18	0.003	4	DC	IN
Nazarene Church	059	Aug-91	1	0.005	6	CH	IR
Shadow Park Homeowners Association	057	Nov-91	6	0.022	24	RE	IR
Area Development Project No. 6	061	Apr-92	9	0.059	66	COM	IR
Granada Park Homeowners Association	062	May-92	3.8	0.011	13	RE	IR
Center for the Performing Arts	064	Mar-93	1	0.004	4	PF	IR
Cerritos Post Office	063	Mar-93	0.7	0.005	6	PF	IR
Delta Dental	065	Nov-93	1.8	0.003	3	COM	IR
Ramirez Nursery	067	Mar-94	3.5	0.003	3	N	IR
Vestar Development	068	Jun-94	9.6	0.020	22	COM	IR
Sundance Condominiums	069	Jan-95	9	0.033	37	RE	IR
Cerritos Nursery	070	Dec-95	3	0.004	5	N	IR
Encore Maintenance (Warmington Homes)	071	May-96	1.1	0.003	3	RE	IR
Artesia Off Ramp	016	Aug-96	3.3	0.008	9	RO	IR
Midway International Company	072	Feb-98	0.3	0.001	1	COM	IR
Bloomfield Associates	073	Sep-98	0.5	0.001	1	COM	IR
183rd on-ramp	074	Feb-99	0.6	0.001	1	RO	IR
AT&T Headquarters	075	Aug-99	0.9	0.009	10	COM	IR
Laskey-Weil	076	Oct-01	0.4	0.004	4	COM	IR
Chancellor Village Senior Housing	077	Nov-02	0.9	0.002	2	RE	IR
LandRover	078	Dec-06	0.6	0.003	3	COM	IR
Surgical Center	079	May-08	0.1	0.0002	0.3	COM	IR
UPS parking structure	080	May-08	0.5	0.003	4	COM	IR
Fountain Walk Senior Housing	082	Nov-08	0.1	0.0003	0.3	RE	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

TABLE 11
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
CITY OF CERRITOS
(3 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
UPS main building	081	Nov-08	4.4	0.012	14	COM	IR
ASCIP Building	083	Feb-09	0.1	0.001	1	COM	IR
12800 Center Court	084	Jul-09	0.4	0.001	1	COM	IR
Chugh Firm	085	Jan-11	0.2	0.002	3	COM	IR
Chevron	086	Mar-11	0.1	0.0003	0.3	COM	IR
Bloomfield Plaza	087	May-13	0.1	0.001	1	COM	IR
Latter-Day Saints Church (17909 Bloomfield Ave)	089	Feb-16	3.5	0.002	2	CH	IR
SCE substation	088	Feb-16	1.2	0.001	1	COM	IR
Latter-Day Saints Church (16115 Studebaker Rd)	090	Jun-16	4.1	0.005	6	CH	IR
Forest Lawn Memorial Park, Cypress	091	Aug-16	77	0.185	207	CE	IR
Eminent, Inc.	092	Mar-22	2	0.002	2	COM	IR
Generations Church	092	Apr-22	0.5	0.0003	0.3	CH	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

2.3.4 CITY OF LAKEWOOD

In August 1989, the City of Lakewood connected to two of the stub-outs provided in the City of Cerritos recycled water distribution system to supply their own distribution system. Initially, this system consisted of 28,300 feet of pipelines that served eight sites, with nine other sites being connected since then. All the users of recycled water from the City of Lakewood distribution system, as of the end of FY21-22, are shown on **Figure 10** and listed in **Table 12**. A narrative description of the layout of the City of Lakewood's recycled water distribution system is contained in **Appendix E**.

During FY21-22, the City of Lakewood used 0.407 MGD (456 AFY), or 2.3% of recycled water produced at the Los Coyotes WRP, for direct non-potable reuse on 191.0 acres at 17 individual sites, as well as via a city water truck. This was a 7.9% decrease from the preceding fiscal year. No new reuse sites were added to City's recycled water distribution system in FY21-22.

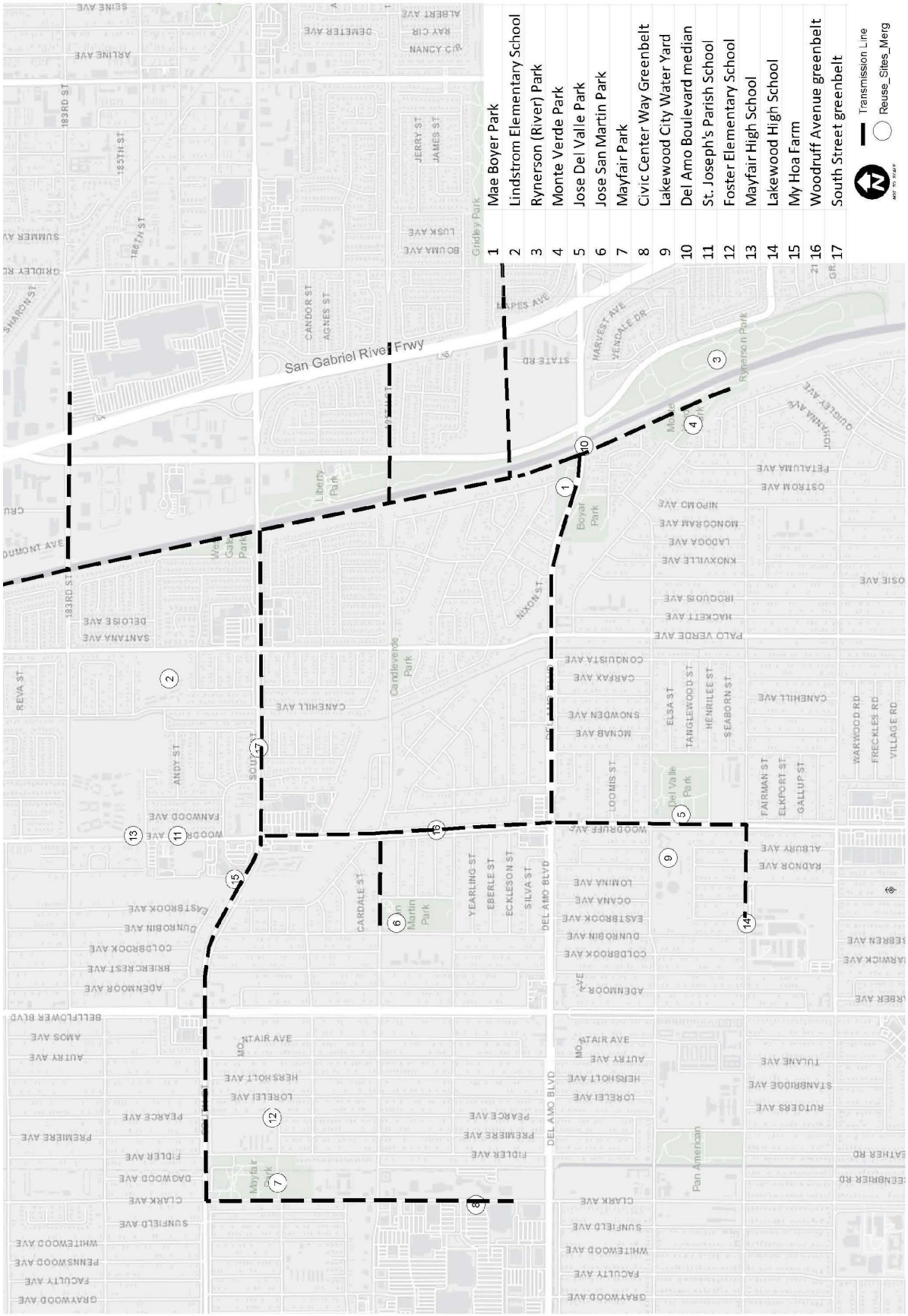
The City of Lakewood was charged $788.44/AF by the City of Cerritos for recycled water delivered during FY21-22. The City of Lakewood, in turn, retailed the recycled water to its customers for $1,136.92/AF, or 75% of its potable rate of $1,524.60/AF. However, it is the City's policy to reimburse its recycled water customers for their capital expenditures to convert their on-site facilities to accept recycled water.

TABLE 12
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
CITY OF LAKEWOOD

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Jose Del Valle Park	004	Aug-89	12	0.035	39	PA	IR
Jose San Martin Park	005	Aug-89	9.3	0.023	25	PA	IR
Lakewood City Water Yard	008	Aug-89	1	0.003	3	PF	IR
Mae Boyer Park	003	Aug-89	8	0.057	64	PA	IR
Monte Verde Park	002	Aug-89	4	0.034	38	PA	IR
Rynerson (River) Park	001	Aug-89	40	0.079	89	PA	IR
South Street greenbelt	010	Aug-89	3.3	0.009	10	RO	IR
Woodruff Avenue greenbelt	009	Aug-89	4.1	0.013	15	RO	IR
Mayfair Park	006	Dec-89	18	0.027	31	PA	IR
St. Joseph's Parish School	011	Aug-90	3.5	0.013	14	S	IR
Foster Elementary School	012	Sep-90	6	0.014	16	S	IR
Civic Center Way greenbelt	007	Nov-90	2.8	0.015	16	RO	IR
Mayfair High School	013	May-91	36.5	0.043	49	S	IR
Lakewood High School	015	Sep-91	25	0.017	19	S	IR
Lindstrom Elementary School	014	Sep-91	12	0.014	16	S	IR
My Hoa Farm	016	May-93	5	0.009	10	AG	IR
Del Amo Boulevard median	017	Jul-03	0.3	0.002	2	RO	IR
Lakewood City Water Truck	--	Sep-15	--	0.0001	0.1	RO	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

FIGURE 10
CITY OF LAKEWOOD REUSE SITES



2.3.5 *Forest Lawn Memorial Park, Cypress*

In August 2016, Forest Lawn Memorial Park completed the construction of a 9,062-foot recycled water transmission line from the City of Cerritos distribution system to its Cypress facility. During FY21-22, 0.185 MGD (207 AFY), or 1.3% of the recycled water produced at the Los Coyotes WRP, was used for landscape irrigation on 77 acres of cemetery, a decrease of 17.9% from the preceding fiscal year. Forest Lawn is charged $553.21/AF for recycled water by the City of Cerritos. This reuse site is included in **Table 11** and shown on **Figure 9** with those in the City of Cerritos.

2.4 Pomona WRP

POMONA WRP FACTS

Plant capacity:	15 MGD
Water produced:	6.47 MGD 7,251 AFY 28.2% FY increase
FY21-22 O&M:	$717/AF
Water reused: (including recharge)	6.489 MGD 7,282 AFY 27.9% FY increase 100% of production
Delivery systems:	2 211,200 ft. of pipe
No. of reuse sites:	214 2,304.6 acres

Several treatment plants serving the east San Gabriel Valley were constructed and operated by other agencies as early as 1927. The current Pomona WRP, located at 295 Humane Way, Pomona, CA 91766, was completed in 1966 and last expanded in 1991, allowing the plant to treat up to 15 MGD. In FY21-22, the plant produced 6.47 MGD (7,251 AFY) of coagulated, filtered, disinfected tertiary recycled water (1.9% of the effluent produced in the JOS), which was a 28.2% increase over the preceding fiscal year, at a FY21-22 O&M cost of approximately $717/AF. Recycled water quality for FY21-22 is presented in **Table B-3** of **Appendix B**.

Two agencies, the Pomona Water Department (PWD) and the Walnut Valley Water District (WVWD), along with the Sanitation Districts' Spadra site, together used 3.456 MGD (3,872 AFY) or 53.4% of the plant's total production. This was a 12.4% increase over the preceding fiscal year. A third purveyor, Rowland Water District (RWD), took over operation of the portion of the WVWD recycled water distribution system that ran through its service area and has connected to the City of Industry system which gets its recycled water from the San Jose Creek WRP (**Section 2.5.3**), but still maintains a back-up connection with WVWD.

The remaining recycled water is discharged to the south fork of San Jose Creek, which is tributary to the unlined portion of the San Gabriel River. Therefore, essentially 100% of the recycled water produced at this plant is reused, since most of the river discharge percolates into the underlying groundwater (Note: Effluent produced does not equal the sum of all the deliveries for reuse due to meter differences). In FY21-22, 3.034 MGD (3,400 AFY) was recharged into the groundwater, with none of the recycled water delivered from this plant being bypassed around the spreading grounds to be lost to the ocean. Also, beginning in July 2013, recycled water delivered for recharge is being purchased by the WRD. Use of recycled water from this facility is permitted by LARWQCB under Order Nos. 81-34 and 97-072 for direct non-potable applications and Order Nos. 91-100, R4-2009-0048, and R4-2009-0048-A-01 for groundwater replenishment (see **Section 2.5.1** for a discussion on the groundwater recharge permit).

2.4.1 *Pomona Water Department*

Documented use of recycled water in the Pomona area goes as far back as 1904 when effluents treated to various levels were used on the many farms and ranches in the area. The PWD began using recycled water from the Sanitation Districts' current treatment facility in December 1973 when agricultural irrigation at

California State Polytechnic University, Pomona (Cal Poly) and landscape irrigation along South Campus Drive Parkway near the university were connected to a recycled water distribution system. In July 2015, Forest Lawn Memorial Park, Covina Hills, connected to Cal Poly's on-site recycled water reservoir for landscape irrigation of its adjacent cemetery property. A narrative description of the layout of the Pomona recycled water distribution system is contained in **Appendix G**.

During FY21-22, the PWD delivered 1.997 MGD (2,238 AFY), or 30.9% of the recycled water from the Pomona WRP through 37,000 feet of pipeline, to eight retail customers on 1,426.1 acres as shown on **Figure 11**. This was a 12.7% increase over the preceding fiscal year. **Table 13** lists the users of the PWD system as of the end of FY21-22, with no new users being added during this fiscal year.

During FY21-22, the PWD sold the recycled water to its customers from its pressure system at a rate of $566.55/AF, which is set at 37% of its potable water rate of $1,546.38/AF.

2.4.2 *Spadra Landfill Site*

The Sanitation Districts' Spadra Landfill began receiving recycled water from the Pomona WRP in July 1984 from the 21-inch unreinforced concrete gravity line from the plant. Most of this gravity line has been replaced with a 24-inch cement-lined and coated steel pipe. A pressure-sustaining valve on the line at the landfill site provides enough static head in the pipeline for the pumps of the landfill to operate. Cal Poly's LandLab project (now Center for Regenerative Studies, or CRS) began receiving recycled water from the landfill site in November 1993, while the Spadra Gas-to-Energy Facility used recycled water in its cooling towers from December 1995 until its decommissioning in September 2015. These sites are shown on **Figure 11** and are also listed in **Table 13** along with the users of the PWD system.

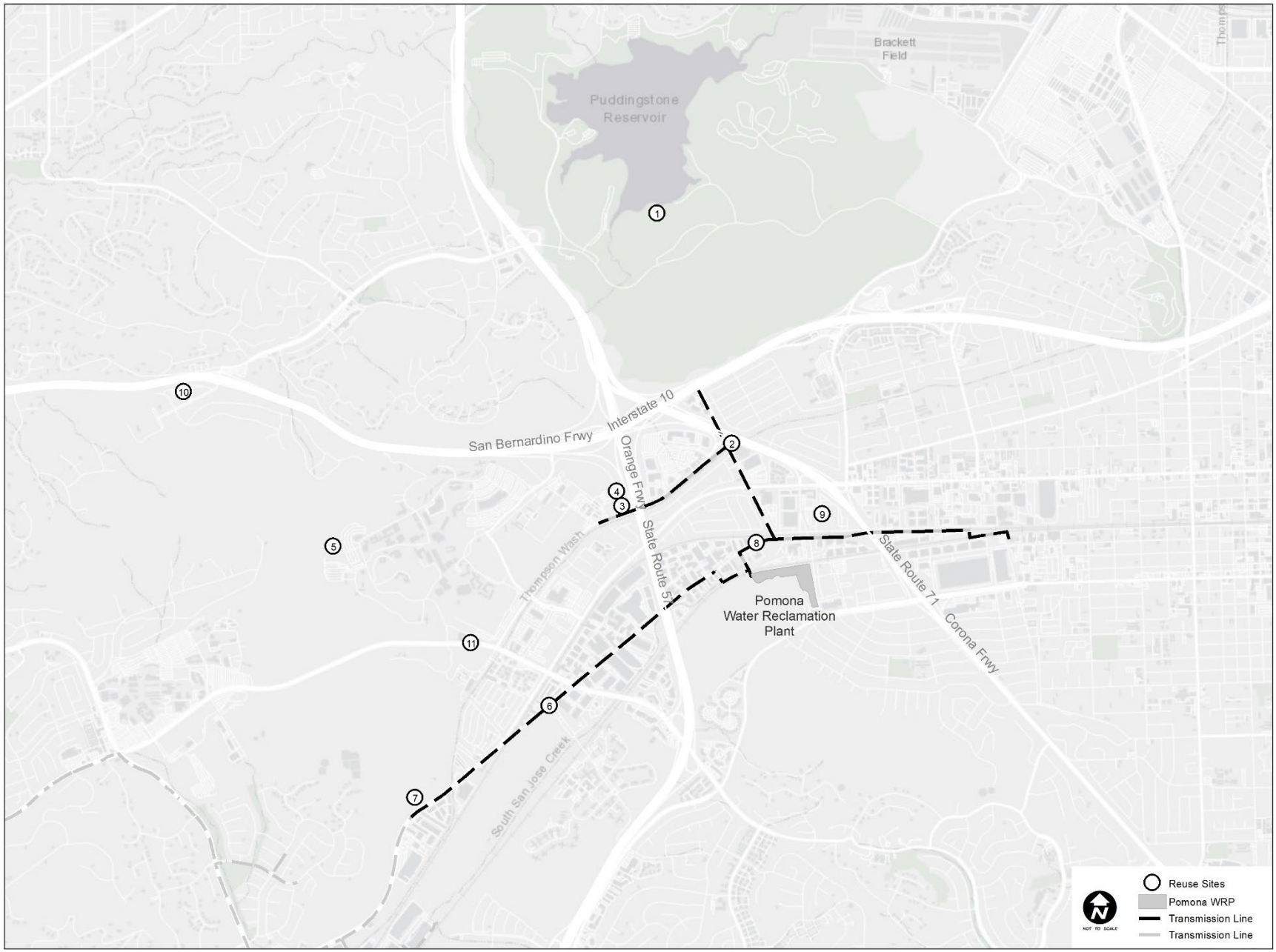
During FY21-22, 0.072 MGD (81 AFY), or 1.1% of the recycled water from the Pomona WRP, was used on approximately 56 acres at the former Spadra Landfill site and at Cal Poly's CRS. This was a 14.7% decrease from the preceding fiscal year.

TABLE 13
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
POMONA WATER DEPARTMENT & SANITATION DISTRICTS' SPADRA SITE

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Cal Poly Pomona	005	Dec-73	500	0.888	995	S	IR
South Campus Drive parkway	004	Dec-73	8	0.043	48	RO	IR
CalTrans: Route 57-10 Fwy	003	May-75	18	0.003	3	RO	IR
Bonelli Regional County Park	001	Apr-77	789	0.657	737	PA	IR
CalTrans: Route 71-10 Fwy	002	Apr-81	12	0	0	RO	IR
Spadra Landfill irrigation	007	Jul-84	53	0.067	75	PF	IR
Cal Poly LandLab	007	Nov-93	2.5	0.005	6	S	IR
Robertson's Ready-Mix	008	Oct-09	--	0.009	10	P	IN
Graybar Electric Company, Inc.	009	Jan-15	3.1	0.006	7	COM	IR
Forest Lawn Memorial Park, Covina Hills	010	Jul-15	96	0.390	438	CE	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

FIGURE 11
POMONA WATER DEPARTMENT AND SPADRA REUSE SITES



2.4.3 WALNUT VALLEY WATER DISTRICT

In March 1986, WVWD completed the initial construction of its recycled water distribution system. This system consists of a 3,500 gallons per minute (gpm) pump station and an 8,000 gallon wet well at the end of the (now) 24-inch steel gravity line from the Pomona WRP, approximately 166,320 feet of pipeline and a 2 MG reservoir. A second, 2 MG reservoir on Brea Canyon Road was constructed in mid-1992 to provide more storage for the nighttime peak demands, while a third, 1 MG reservoir was built in Parker Canyon in mid-2012. The distribution system is supplemented during the peak summer demand periods with non-potable water from a well located next to the recycled water line on Fairway Avenue and with imported water from MWD at the pump station. In January 2003, the RWD assumed operation of the 29,280 feet of the WVWD recycled water system pipeline serving seven reuse sites in RWD's service area. These sites were later connected to the City of Industry main recycled transmission line in July 2009 (see **Section 2.5.3** below).

Figure 12 and **Table 14** present the users of the WVWD system as of the end of FY21-22. A narrative description of the layout of the WVWD recycled water distribution system is contained in **Appendix H**.

One new site was added to the WVWD distribution system in FY21-22. A portion of the landscaping at Mt. San Antonio College was connected in January 2022. During FY21-22, WVWD delivered 1.387 MGD (1,554 AFY), or 21.4% of the recycled water produced at the Pomona WRP, an increase of 13.9% over the preceding fiscal year. WVWD received its recycled water directly from the Sanitation Districts and retailed it to its 204 customers (which irrigate approximately 823 acres) at 53% of its potable water rate of $1,698.84/AF, or $901.69/AF.

2.4.4 WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA

The remainder of recycled water produced by this plant and not delivered for direct reuse by the distribution systems described above is discharged into the south fork of San Jose Creek, eventually joining the San Gabriel River and recharging the Central Basin aquifer. In FY21-22, 3.034 MGD (3,400 AFY) was used to replenish the groundwater supply, a 52.2% increase over the preceding fiscal year and 46.9% of the plant's production.

FIGURE 12
WALNUT VALLEY WATER DISTRICT REUSE SITES

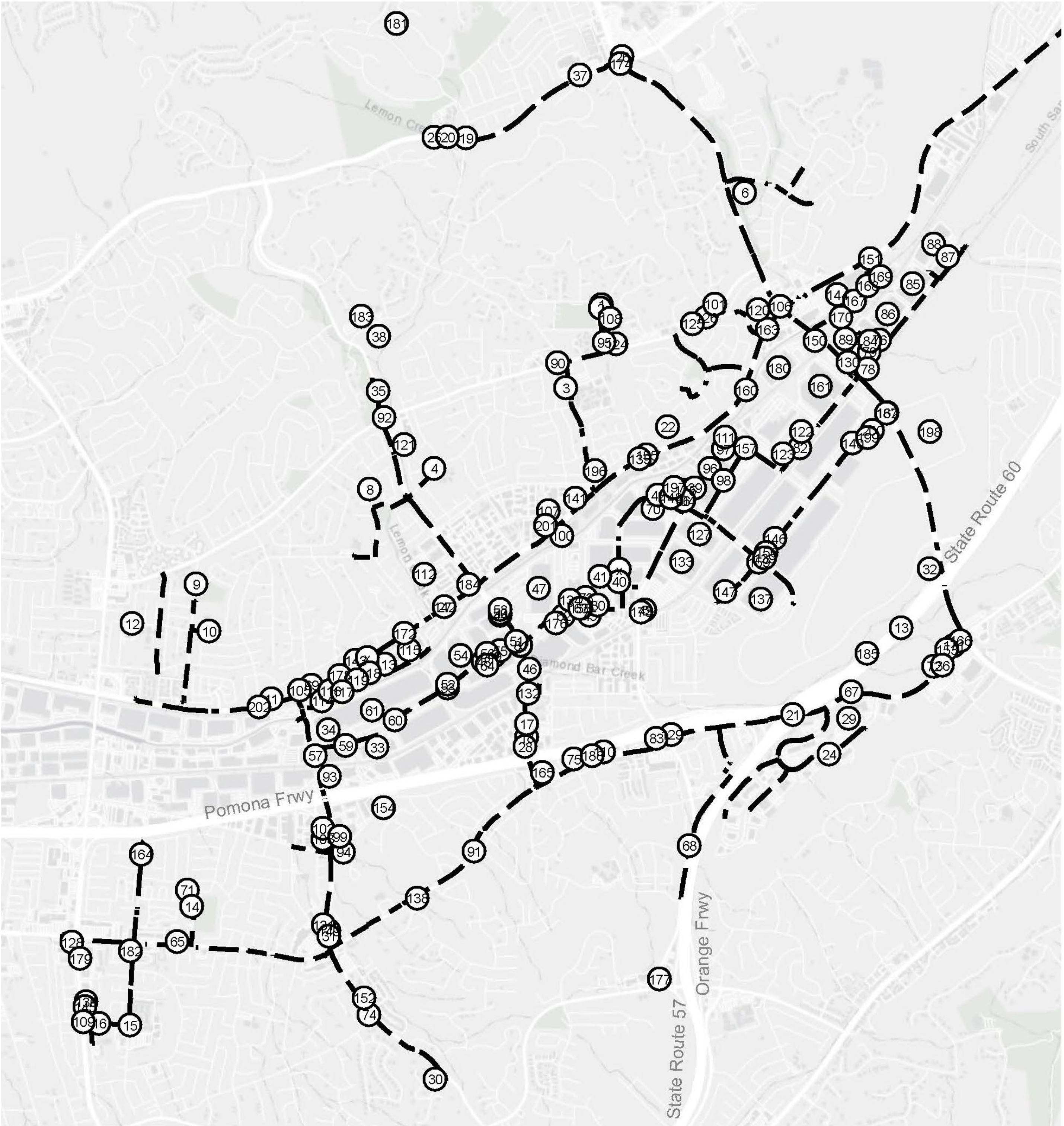


TABLE 14
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
WALNUT VALLEY WATER DISTRICT
(5 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Suzanne Park	001	Oct-80	12	0.015	17	PA	IR
CalTrans: Route 57-60 Fwy	013	May-86	19.7	0.002	2	RO	IR
Friendship Park	009	May-86	6	0.005	5	PA	IR
Hollingworth School	010	May-86	3	0.007	8	S	IR
Killian Elementary School	016	May-86	3	0.005	6	S	IR
Lanesboro Park	011	May-86	2	0.008	9	PA	IR
Lemon Creek Park	008	May-86	5	0.004	5	PA	IR
Morris Elementary School	005	May-86	9	0.007	8	S	IR
Rincon Middle School	012	May-86	3	0.011	13	S	IR
Rowland Heights County Park	014	May-86	11	0.015	16	PA	IR
Rowland High School	015	May-86	9	0.022	25	S	IR
Snowcreek Landscape Maintenance District	007	May-86	13.5	0.037	42	RE	IR
Snowcreek Park	006	May-86	7	0.012	13	PA	IR
Suzanne Middle School	002	May-86	4	0.008	9	S	IR
Vejar Elementary School	004	May-86	3	0.011	12	S	IR
Walnut Elementary School	017	May-86	4	0.006	7	S	IR
Walnut High School	003	May-86	13.1	0.022	24	S	IR
Walnut USD Administrative Service Center	018	May-86	4	0.004	4	PF	IR
Amar Road greenbelt	020	Jun-86	16	0.076	85	RO	IR
Walnut Ranch Park	019	Jun-86	26	0.017	19	PA	IR
Diamond Bar Golf Course	021	Jul-86	174	0.107	120	GC	IR
Morningside Park	023	Mar-87	4	0.005	5	PA	IR
Walnut Ridge Landscape Maintence District	022	Mar-87	25.5	0.031	35	RE	IR
Gateway Corporate Center	024	Jun-87	45	0.028	31	COM	IR
Westhoff Elementary School	025	Sep-88	8	0.007	8	S	IR
Temple Avenue greenbelt	026	Jan-90	1	0.0002	0.2	RO	IR
Walnut Tech Business Center	027	Apr-90	1	0.001	1	COM	IR
Lemon Avenue greenbelt	028	Sep-91	4.3	0.006	7	RO	IR
South Coast AQMD Office	029	Nov-91	2	0.006	7	PF	IR
WVWD Brea Canyon Reservoir	030	May-92	1	0.001	2	PF	IR
First Chinese Baptist Church	031	Dec-92	0.3	0.002	3	CH	IR
Haier US Appliance Solutions I (19705 Business Pkwy)	034	Nov-93	1.6	0.004	5	COM	IR
Majestic Management (19850 E Business Pkwy)	033	Nov-93	0.8	0.004	5	COM	IR
Rodeo Ridge Estates	035	Dec-93	6.3	0.004	5	RE	IR
Golden Springs Drive medians	036	Jan-94	1.3	0.006	6	RO	IR
Walnut Hills Village Shopping Center	037	Mar-94	2.4	0.003	4	COM	IR
Brookside Equestrian Center	038	Aug-94	13.6	0.002	2	COM	IR
Imperfect Foods	042	Oct-94	0.6	0.002	2	COM	IR
Palmtree Acq. Corp. Prologis (501 Cheryl Ln)	041	Oct-94	1	0.006	7	COM	IR
Palmtree Acq. Corp. Prologis (Cheryl Ln)	040	Oct-94	18.9	0.009	10	COM	IR
Walnut Valley Water District Office	039	Oct-94	0.2	0.001	1	PF	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

TABLE 14
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
WALNUT VALLEY WATER DISTRICT
(5 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Metrolink Station	043	Nov-94	0.6	0.005	5	PF	IR
Del Paso High School	044	Jan-95	3	0.004	4	S	IR
Sea Shield Marine Products	045	Jan-95	0.1	0.00001	0.01	COM	IR
A-Team Logistics Group	052	Apr-95	1.3	0.003	3	COM	IR
Dura Freight Lines (20405 Business Pkwy)	054	Apr-95	1	0.002	2	COM	IR
Dura Freight Lines (20595 Business Pkwy)	055	Apr-95	0.8	0.003	4	COM	IR
Dura Freight Lines (515-525 S Lemon)	050	Apr-95	0.5	0.001	1	COM	IR
Equus Computer Systems	049	Apr-95	0.5	0.004	4	COM	IR
Extra Express Industry, Inc.	056	Apr-95	0.7	0.002	2	COM	IR
Fairway Business Center	051	Apr-95	0.2	0.003	3	COM	IR
Furniture of America	053	Apr-95	0.7	0.003	3	COM	IR
Sysco Food Service	047	Apr-95	2.3	0.007	8	COM	IR
Thermaltake Inc. (20420 E Business Pkwy)	048	Apr-95	0.8	0.004	4	COM	IR
Unical Aviation Inc.	046	Apr-95	1.1	0.001	1	COM	IR
820 Fairway Drive	057	Jun-95	0.1	0.00004	0.04	RO	IR
ACME Furniture Industry	060	Jun-95	4	0.006	7	COM	IR
Haier US Appliance Solutions I (19805 Business Pkwy)	059	Jun-95	1.1	0.005	6	COM	IR
Haier US Appliance Solutions I (20005 Business Pkwy)	061	Jun-95	6.7	0.010	11	COM	IR
MSI Computer Corp.	058	Jun-95	0.5	0.001	1	COM	IR
Ping Ting Hsu	062	Aug-96	0.1	0.0002	0.3	COM	IR
TRZ International	063	Oct-96	0.1	0.0003	0.3	COM	IR
Tung Hsin Trading Group	064	Nov-96	0.4	0.001	1	COM	IR
Rowland Heights Community Christian Church	065	Feb-97	0.5	0.0001	0.1	CH	IR
Palmtree Acq. Corp. Prologis (510 Cheryl Ln)	066	Jul-97	1.8	0.009	10	COM	IR
Countryside Suites	067	Mar-98	1.4	0.003	4	COM	IR
Diamond Crest Homeowners Association	068	Oct-98	14	0.029	33	RE	IR
EP Family Corp.	070	Nov-98	0.8	0.003	3	COM	IR
Norm Ashley Park	069	Nov-98	0.2	0.001	1	PA	IR
Waterfall Estates	071	Dec-98	1.2	0.004	4	RE	IR
Calvary Chapel	072	Apr-99	1	0.018	20	CH	IR
Anfield Apparel Group Inc.	073	Jun-99	0.2	0.001	1	COM	IR
Wind River Homeowners Association	074	Jul-99	12.6	0.020	22	RE	IR
CSR Industries Corp.	076	Sep-99	0.3	0.002	2	COM	IR
Gemini Food Corp.	077	Sep-99	0.6	0.001	2	COM	IR
L.A. Fitness International	075	Sep-99	1.2	0.005	6	COM	IR
Tri-Net Technology	078	Sep-99	0.3	0.0003	0.3	COM	IR
Hupa International	079	Oct-99	0.3	0.001	2	COM	IR
Nu-Health Products	080	Oct-99	0.1	0	0	COM	IR
Lemon Avenue greenbelt	081	Dec-99	0.1	0.0005	1	RO	IR
Prudential Insurance Co.	082	Jan-00	3.5	0.003	3	COM	IR
McDonalds (21095 Golden Springs Dr)	083	Mar-00	0.1	0.0004	0.5	COM	IR

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TABLE 14
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
WALNUT VALLEY WATER DISTRICT
(5 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
J & L Footwear	084	Jul-00	0.6	0.002	3	COM	IR
Cubework.com Inc.	088	Nov-00	1.5	0.001	1	COM	IR
Lee Wang LLC	086	Nov-00	2	0.012	13	COM	IR
Markwins Inter. Corp.	085	Nov-00	1.9	0.003	3	COM	IR
Sun-Yin USA	087	Nov-00	0.8	0.001	1	COM	IR
Morrow Meadows Corp	089	Apr-01	0.9	0.001	1	COM	IR
The Cross Schools of Education	090	May-01	0.6	0.001	1	S	IR
Bank of the West	091	Sep-01	0.1	0.001	1	COM	IR
Gym/Teen Center	092	Sep-01	0.6	0.002	2	PF	IR
Harvard Estates	094	Dec-01	2	0.002	2	RE	IR
Walnut Nazarene Church	095	Feb-02	0.8	0	0	CH	IR
Comphone	097	Apr-02	0.7	0.003	3	COM	IR
Majestic Management (168-188 Brea Canyon Rd)	096	Apr-02	0.6	0.002	3	COM	IR
Port Logistics Group (108-288 Mayo Ave)	098	Apr-02	4.3	0.013	15	COM	IR
Holiday Inn Express	099	May-02	0.4	0.002	3	COM	IR
Lemon Avenue Investments	100	Jun-02	0.6	0.002	3	COM	IR
Magnolia at Snow Creek	101	Jul-02	5.4	0.019	21	RE	IR
Everbright Management (1163 Fairway Dr)	102	Sep-02	0.6	0.002	2	COM	IR
Everbright Management (1169 Fairway Dr)	103	Sep-02	0.2	0.001	1	COM	IR
Grand Avenue and Valley Blvd medians	106	Sep-02	0.1	0.005	5	COM	IR
Kelly Paper	104	Sep-02	1.2	0.006	6	COM	IR
V-Tec Automotive	105	Sep-02	0.1	0.0002	0.3	COM	IR
Extra Space Storage	107	Oct-02	0.8	0.001	2	COM	IR
Latter-Day Saints Church	108	Oct-02	0.9	0.002	2	CH	IR
Nogales Street medians @ Killian Avenue	109	Oct-02	0.1	0.001	1	RO	IR
Double Five Investments	110	Nov-02	0.2	0.001	1	COM	IR
Brea Canyon Road/Old Ranch Road median	111	May-03	0.1	0.0003	0.4	RO	IR
Lemon Ave Investments LTD	112	May-03	0.6	0.002	2	COM	IR
Bay Harbor Harrison Association	115	Aug-03	0.8	0.003	4	COM	IR
Broadway.com Corp.	114	Aug-03	0.5	0.004	4	COM	IR
Cianni Inc.	118	Aug-03	0.3	0.001	1	COM	IR
CU Transport, Inc.	113	Aug-03	0.2	0.001	1	COM	IR
Golden Applexx Co. Inc.	117	Aug-03	0.2	0.001	1	COM	IR
Grand Ave/Village Staples	120	Aug-03	1.6	0.005	6	COM	IR
J Pack International	116	Aug-03	0.5	0.001	1	COM	IR
Shinetec Group, Inc.	119	Aug-03	0.4	0.001	1	COM	IR
Max Management LLC	122	Sep-03	0.7	0.003	4	COM	IR
NP 21301 Ferraro Parkway, Inc.	123	Sep-03	0.8	0.002	2	COM	IR
Orange Grove Service	121	Sep-03	0.4	0.002	2	COM	IR
568 Tri Net Court	124	Oct-03	0.3	0.0004	0.4	RO	IR
East Lion Corporation	127	Dec-03	2.6	0.008	9	COM	IR

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TABLE 14
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
WALNUT VALLEY WATER DISTRICT
(5 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Walnut City Hall	125	Dec-03	0.6	0.001	1	PF	IR
Walnut Senior Center	126	Dec-03	0.5	0.001	1	PF	IR
Shell Station	129	Mar-04	0.1	0.001	1	COM	IR
Young Hoon Cho	128	Mar-04	0.1	0.0004	0.4	COM	IR
Ferrero and Grand East ramp	130	Apr-04	3.8	0.007	8	RO	IR
Hing Wa Lee Plaza	131	May-04	0.1	0.001	1	COM	IR
APL Logistics	133	Jun-04	2.1	0.006	6	COM	IR
Dream Wireless Inc.	132	Jun-04	0.3	0.001	2	COM	IR
FTH Group Inc.	134	Jul-04	0.1	0.001	1	COM	IR
NICCAL, LLC	135	Aug-04	0.1	0	0	COM	IR
Community Day School	136	Nov-04	0.1	0.0002	0.3	S	IR
Majestic Management (21438 Baker Pkwy)	137	Jan-05	0.1	0.009	10	COM	IR
Sy Development condos	138	Jun-05	0.1	0	0	RE	IR
Jakks Pacific Inc.	140	Aug-05	1.2	0.005	5	COM	IR
N/E Corner, Cheryl Lane/Baker Parkway	139	Aug-05	3.3	0.008	9	RO	IR
19849 Valley Blvd medians	143	Sep-05	0.4	0.001	2	RO	IR
20265 Valley Blvd medians	142	Sep-05	0.4	0.001	1	RO	IR
20813 Valley Blvd medians	141	Sep-05	0.4	0.002	2	RO	IR
Kohl's Center	144	Sep-05	2	0.009	10	COM	IR
Angela Preschool & Kindergarten	145	Dec-05	0.1	0.0002	0.2	S	IR
The Home Depot	146	Jan-06	2.8	0.012	14	COM	IR
The Martin Brower Co. LLC	147	Jan-06	2.3	0.008	8	COM	IR
Haitao Group LLC	148	Apr-06	0.7	0.004	4	COM	IR
Fairway Drive medians @ Brea Canyon Road	149	Jun-06	0.3	0.001	1	RO	IR
22002 Valley Blvd medians	151	Jul-06	1.6	0.001	1	RO	IR
Grand Avenue Crossing	150	Jul-06	96.0	0.272	305	RO	IR
Buddhist Tzu Chi Education	152	Aug-06	2.2	0.006	7	S	IR
Target Store	153	Sep-06	3.9	0.003	3	COM	IR
Leg Avenue	154	Oct-06	0.5	0.003	3	COM	IR
Poundex Associates Group	155	Jan-07	0.8	0.002	2	COM	IR
Williams-Sonoma Inc. (21508-21662 Baker Pkwy)	156	Apr-07	4.8	0.015	17	COM	IR
FedEx Ground (200 Old Ranch Rd)	157	May-07	28	0.009	10	COM	IR
USA Signage LLC	158	May-07	0.3	0.001	1	COM	IR
Williams-Sonoma Inc. (21700 Baker Pkwy)	159	Aug-07	2	0.005	6	COM	IR
21350 Valley Blvd medians	160	Feb-08	0.4	0.0005	1	RO	IR
Grand Avenue Venture LLC	161	Apr-08	3.5	0.001	1	COM	IR
Grand Avenue and Baker Parkway medians	162	May-08	6.7	0.010	12	RO	IR
Majestic Management (21530-21590 Valley Blvd)	154	May-08	2	0.008	9	COM	IR
Yanlin Liu	164	Jul-08	0.1	0	0	COM	IR
Apex Capital Investment Corp.	156	Aug-08	0.4	0.001	1	COM	IR
AIC Advanced Industrial Comp	167	Sep-08	0.5	0.002	2	COM	IR

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TABLE 14
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
WALNUT VALLEY WATER DISTRICT
(5 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Chili's Restaurant	166	Sep-08	0.2	0.001	1	COM	IR
Geniqua Corp.	168	Sep-08	0.4	0.002	2	COM	IR
JL Concepts Inc.	169	Sep-08	0.3	0.001	1	COM	IR
Majestic Management (21760-21788 Garcia Ln)	170	Sep-08	0.4	0.002	2	COM	IR
CFT Developments	171	Oct-08	0.01	0.001	1	COM	IR
Jonathan Cabrera	172	Nov-08	0.1	0	0	COM	IR
Brea Canyon Road/Currier Road median	173	Feb-09	1.6	0.008	9	RO	IR
Apec Water Systems	175	May-09	0.3	0.002	3	COM	IR
Cal Assn. for Bilingual Education	174	May-09	0.1	0.0003	0.3	COM	IR
Clemson Distribution Inc.	167	Sep-09	0.1	0.0004	0.5	COM	IR
Ybarra Elementary School	177	Sep-09	5.6	0.007	8	S	IR
A Professional Law Corp.	178	Sep-10	0.1	0.0003	0.3	COM	IR
Bell Memorial Church	179	Dec-10	0.3	0.001	1	CH	IR
Majestic Management (179 S Grand Ave)	180	Dec-11	2.5	0.005	5	COM	IR
WVWD Parker Canyon Reservoir	172	May-12	3.5	0.003	3	PF	IR
Rowland Heights Korean Church	182	Jan-13	0.3	0.001	2	CH	IR
St. Lorenzo Church	183	Aug-13	5.5	0.028	31	CH	IR
Foothill Transit	185	Sep-13	0.2	0.002	2	COM	IR
Lemon Valley LLC	184	Sep-13	0.1	0.001	2	COM	IR
Commerce Construction	186	Mar-14	--	0.024	27	CON	IN
Shawan Construction	187	Nov-14	--	0	0	CON	IN
South Pointe Middle School	188	Jan-15	7	0.012	14	S	IR
Cornerstone Homeowners Association	191	Nov-16	2.3	0.005	6	RE	IR
First General Bank	190	Dec-16	0.1	0.0002	0.2	COM	IR
Larkstone Park	192	Feb-17	5.2	0.015	16	PA	IR
South Pointe HOA	193	Feb-17	10.8	0.021	23	RE	IR
FedEx Ground (20825 Currier Rd)	194	Aug-18	0.3	0.0001	0.1	COM	IR
Rowland Heights Medical Center	195	Aug-18	0.1	0.0002	0.3	COM	IR
DM Property Group LLC	196	Jan-20	0.02	0.0001	0.1	COM	IR
Prophecy Technology, Inc.	197	Feb-20	0.3	0.001	1	COM	IR
Fed Ex Ground (21971 Industry Way)	198	Mar-21	3.3	0.006	7	COM	IR
AC Infinity Inc.	200	Apr-21	0.6	0.001	1	COM	IR
Majestic Management (21860 Baker Pkwy)	199	Apr-21	0.6	0.001	1	COM	IR
Shaolun Ku	201	May-21	0.3	0.0005	1	COM	IR
Arrow Lighter Inc.	202	Jun-21	0.1	0.0003	0.3	COM	IR
Eosen LLC	202	Jun-21	0.3	0.001	1	COM	IR
Simply Stylish	202	Jun-21	0.2	0.001	1	COM	IR
Stay Tuned Performance	202	Jun-21	0.1	0.001	1	COM	IR
Thermaltake Inc. (4330 Valley Blvd)	202	Jun-21	0.1	0.0003	0.3	COM	IR
Mount San Antonio College	203	Jan-22	3.1	0.002	3	S	IR

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SAN JOSE CREEK WRP FACTS	
Plant capacity:	100 MGD
Water produced:	63.57 MGD 71,235 AFY 21.3% FY increase
FY21-22 O&M:	$499/AF (east) $302/AF (west)
Water reused:	55.13 MGD 61,776 AFY 22.6% FY increase 86.7% of production
Delivery systems:	7 511,480 ft. of pipe
No. of reuse sites:	204 4,286.4 acres

2.5 SAN JOSE CREEK WRP

This treatment facility, located at 1965 Workman Mill Road, Whittier, CA 90601, was first built in 1971 with a design capacity of 37.5 MGD. The 25 MGD Stage II expansion was completed in 1982 and the 37.5 MGD Stage III expansion was completed in 1993. The facility currently has a design capacity of 100 MGD, with enough space having been provided for a future 25 MGD Stage IV expansion; however, the area set aside for future secondary tanks has been utilized for construction of two, 4 MG flow equalization tanks that were completed in February 2020. During FY21-22, Stages I & II (east side) produced 35.92 MGD (40,247 AFY) and Stage III (west side) produced 27.65 MGD (30,988 AFY), at O&M costs of $499/AF and $302/AF, respectively. The entire facility produced a total of 63.57 MGD (71,235 AFY) of coagulated, filtered, disinfected tertiary recycled water (18.3% of the effluent produced in the JOS), a 21.3% increase over the preceding fiscal year, a result of the optimized use of the flow equalization tanks.

Recycled water quality from both the east and west sides of the plant for FY21-22 is presented in **Tables B-4 and B-5**, respectively, of **Appendix B**. Of the total amount of recycled water produced, 55.130 MGD (61,776 AFY), or 86.7% of the plant's combined production, was actively reused, a 22.6% increase over the preceding fiscal year (again, due to the flow equalization tanks).

None of the effluent produced during FY21-22 was discharged to the concrete-lined portion of the San Gabriel River below Firestone Boulevard where it would be lost to the ocean. Recycled water from this plant is used at 186 sites (not including recharge) shown on **Figures 13-A** (southwestern sites) and **13-B** (eastern sites). Use of recycled water from this facility is permitted under LARWQCB Order Nos. 87-50 and 97-072 for direct non-potable applications and Order Nos. 91-100, R4-2009-0048, and R4-2009-0048-A-01 for groundwater replenishment. Effluent from this treatment plant is also advanced treated at WRD's ARCAWTF for groundwater replenishment under LARWQCB Order No. R4-2018-0129 (permit held by WRD).

2.5.1 *CALIFORNIA COUNTRY CLUB*

In June 1978, deliveries of recycled water began to this 120-acre golf course located directly across the San Jose Creek Channel from the San Jose Creek WRP East. This site is shown on **Figure 13-A** and listed in **Table 15**.

An 8-inch polypropylene line inside a 24-inch reinforced concrete pipe siphon under the channel delivers chlorinated recycled water from the plant's "foam spray" system to the golf course's 0.75-acre lake No. 2. The golf course irrigation system is supplied by two pumps that can deliver a maximum of 1,800 gpm of recycled water from the lake. During FY21-22, 0.413 MGD (463 AFY), or 0.6% of recycled water produced at this plant, was delivered to this site, an increase of 14.6% over the preceding fiscal year.

TABLE 15
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
SAN JOSE CREEK WRP DIRECT USERS

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
California Country Club	002	Jun-78	120	0.413	463	GC	IR
Industry Hills Recreation Area	003	Aug-83	600	0.872	977	GC	IR
Puente Hill Gas-to-Energy Facility (PERG)	019	Nov-97	--	0.491	550	C	IN
Puente Hills Landfill irrigation	017	Nov-97	320	0.311	348	PF	IR
Rose Hills Memorial Park	021	Jun-98	772.5	1.728	1,936	CE	IR
Puente Hills Material Recovery Facility	027	Feb-05	2.4	0.036	41	PF	IR
Jose Munoz Nursery	028	Apr-06	5	0.013	14	N	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

2.5.2 CENTRAL BASIN MUNICIPAL WATER DISTRICT (RIO HONDO SYSTEM)

CBMWD has developed a second regional distribution system, called the Rio Hondo System, to deliver an estimated 5,000 to 10,000 AFY of recycled water from the San Jose Creek WRP to sites in the upper portion of its service area in the cities of Montebello, Pico Rivera, and Whittier. This project is patterned after the regional concept of the "Century Project" described previously in **Section 2.3.5**. Interconnections with the Century System originating from the Los Coyotes WRP would allow for a looped system (if and when the western connection from the City of Vernon is ever completed) served by both treatment plants for additional reliability and system pressures. Both the Century and Rio Hondo systems can be partially supplied with recycled water from either the Los Coyotes WRP or either side of the San Jose Creek WRP and there is no practical way to differentiate which reuse sites receive which recycled water at any given point in time. Therefore, for the sake of consistency, recycled water usage from the Rio Hondo System is reported in water reuse reports as coming from the San Jose Creek WRP and from the Century System as coming from the Los Coyotes WRP. Three sites, Salt Lake Park in Huntington Park, Lugo Park in Cudahy, and the field in the southwest corner of Norwalk Boulevard and Telegraph Road in Santa Fe Springs, were previously included in the Rio Hondo System and now have been more appropriately reassigned to the CBMWD's Century System (**Section 2.3.5**). Recycled water is used at 31 sites shown on **Figure 13-A**, along with the distribution system and listed in **Table 16**. A narrative description of the layout of the Rio Hondo System is contained in **Appendix I**.

During FY21-22, CBMWD delivered 0.730 MGD (818 AFY), or 1.1% of the recycled water produced at this plant, through 290,400 feet of pipeline to seven water purveyors (SGVWC, Pico Water District, Montebello Land & Water, California Water Service, and the cities of Whittier, Montebello, and Pico Rivera) for direct non-potable reuse on approximately 873.4 acres at the 31 sites. This represents a 5.9% decrease from the preceding fiscal year. CBMWD has constructed the delivery facilities right up to the end users; however, the local retail water purveyors are the actual entities supplying the recycled water. Construction was completed in January 2021 on a 16-inch pipeline extending the CBMWD's existing recycled water distribution system from Lincoln Avenue north approximately 2,600 linear feet along Montebello Boulevard to serve Toll Brothers Construction for construction of the Montebello Hills residential development. Once construction at this site is completed, recycled water use at this site will be for landscape irrigation. No new sites were connected to the Rio Hondo System during FY21-22.

In FY21-22, CBMWD wholesaled the recycled water to its customers, the retail water purveyors, on a fixed rate schedule of $790/AF. This is 60% of the rate of $1,313/AF it charges for Tier 1 non-interruptible potable water supplied by MWD. Recycled water delivered outside of CBMWD's service area was subject to a $25/AF surcharge. The retail purveyors then set their own rates for the recycled water delivered in their service area.

TABLE 16
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
CENTRAL BASIN MUNICIPAL WATER DISTRICT (RIO HONDO SYSTEM)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
CalTrans: 605 Fwy (Beverly)	006	Sep-94	30	0	0	RO	IR
Washington Elementary	005	Sep-94	5	0.013	14	S	IR
Sorenson Elementary School	007	Oct-94	4	0.009	10	S	IR
Palm Park West	008	Nov-94	5	0.012	14	PA	IR
Orange Grove Elementary School	009	Apr-95	6.6	0.013	15	S	IR
Katherine Edwards School	010	Sep-95	19	0.028	32	S	IR
Longfellow Elementary School	011	Sep-95	4.5	0.007	8	S	IR
Walter Dexter Middle School	012	Sep-95	15.5	0.015	17	S	IR
Founder's Memorial Park	013	Jan-96	4	0.021	24	PA	IR
Sorenson Park	015	May-96	10.7	0.015	16	PA	IR
River Ridge Golf Course	023	Jul-02	21.3	0.029	32	GC	IR
Schurr High School	096	Nov-11	11	0.014	15	S	IR
Beverly Blvd medians	120	Jan-12	1.5	0.001	1	RO	IR
Rio Hondo Park	121	Jan-12	8	0.030	34	PA	IR
La Merced Elementary School	135	Jun-12	10	0.015	17	S	IR
Montebello Gardens Elementary School	136	Jun-12	1	0.003	3	S	IR
Beverly Blvd medians (Pico Water Distict)	171	Feb-13	1.5	0.001	1	RO	IR
Pico Rivera Public Library	173	Apr-14	0.6	0.003	3	PF	IR
Smith Park	172	Apr-14	16	0.031	34	PA	IR
Grant Rea Park	169	Aug-14	22.7	0.044	49	PA	IR
Pico Park	180	Feb-18	17	0.023	26	PA	IR
Henry Acuna Park	20	Apr-18	7.1	0.016	18	PA	IR
Rio Hondo Spreading Grounds	181	May-18	0.02	0.003	3	PF	IR
Moon Valley Nursery	4	Oct-18	20	0.015	17	N	IR
Palm Growers, Inc.	14	Oct-18	20	0.015	17	N	IR
Montebello Golf Course	188	May-19	120	0.274	307	GC	IR
Montebello Blvd medians	193	Aug-20	0.5	0.0004	0.5	RO	IR
Taylor Ranch Park	192	Aug-20	1.2	0.006	6	PA	IR
San Gabriel River Parkway medians	189	Oct-20	0.6	0	0	RO	IR
WRD ARC irrigation	190	Oct-20	1.1	0.007	8	PF	IR
Toll Brothers-Montebello Hills Development	194	Jan-21	488	0.067	75	CON	IN

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

FIGURE 13-A
SAN JOSE CREEK WRP SOUTHWESTERN REUSE SITES

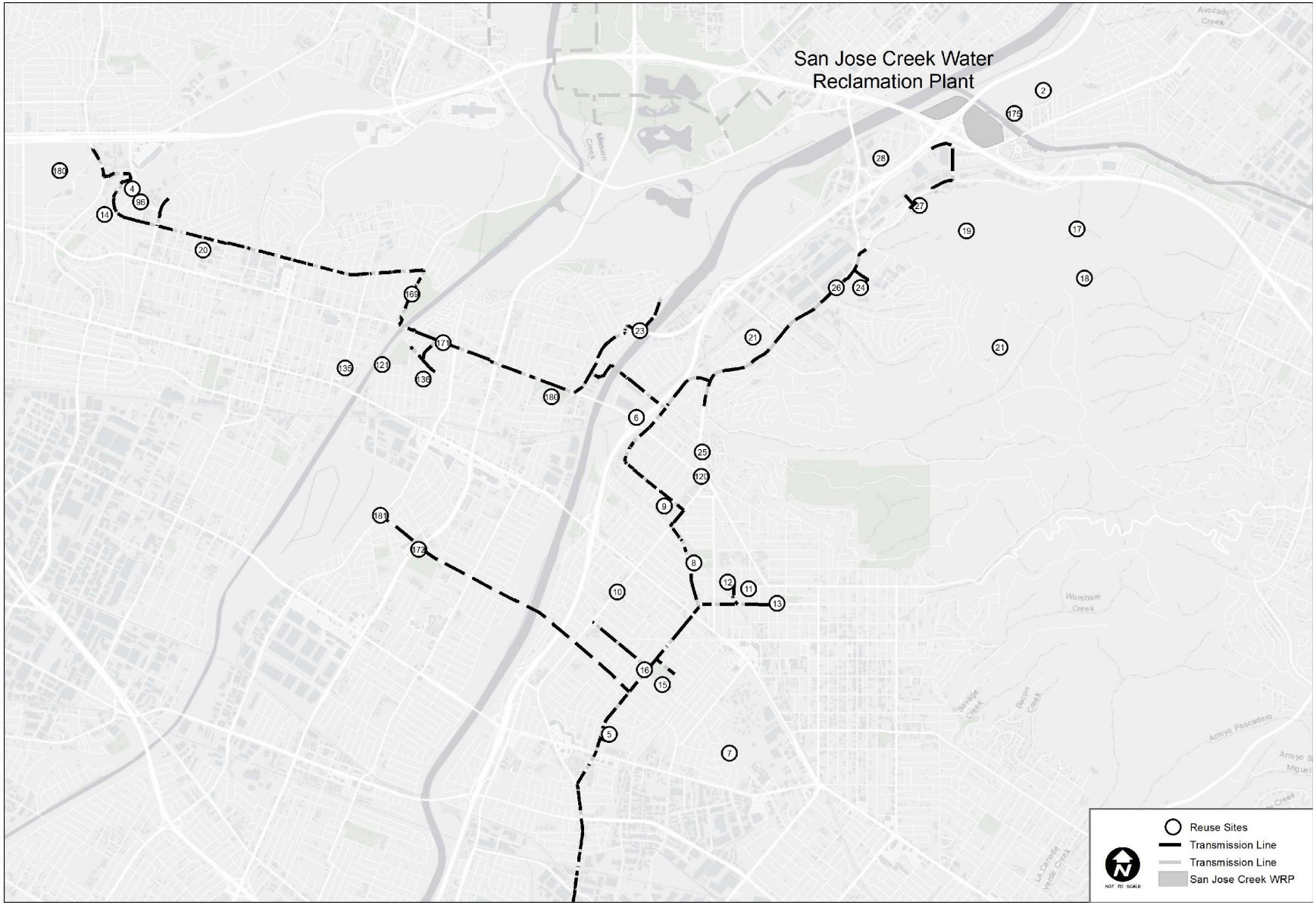
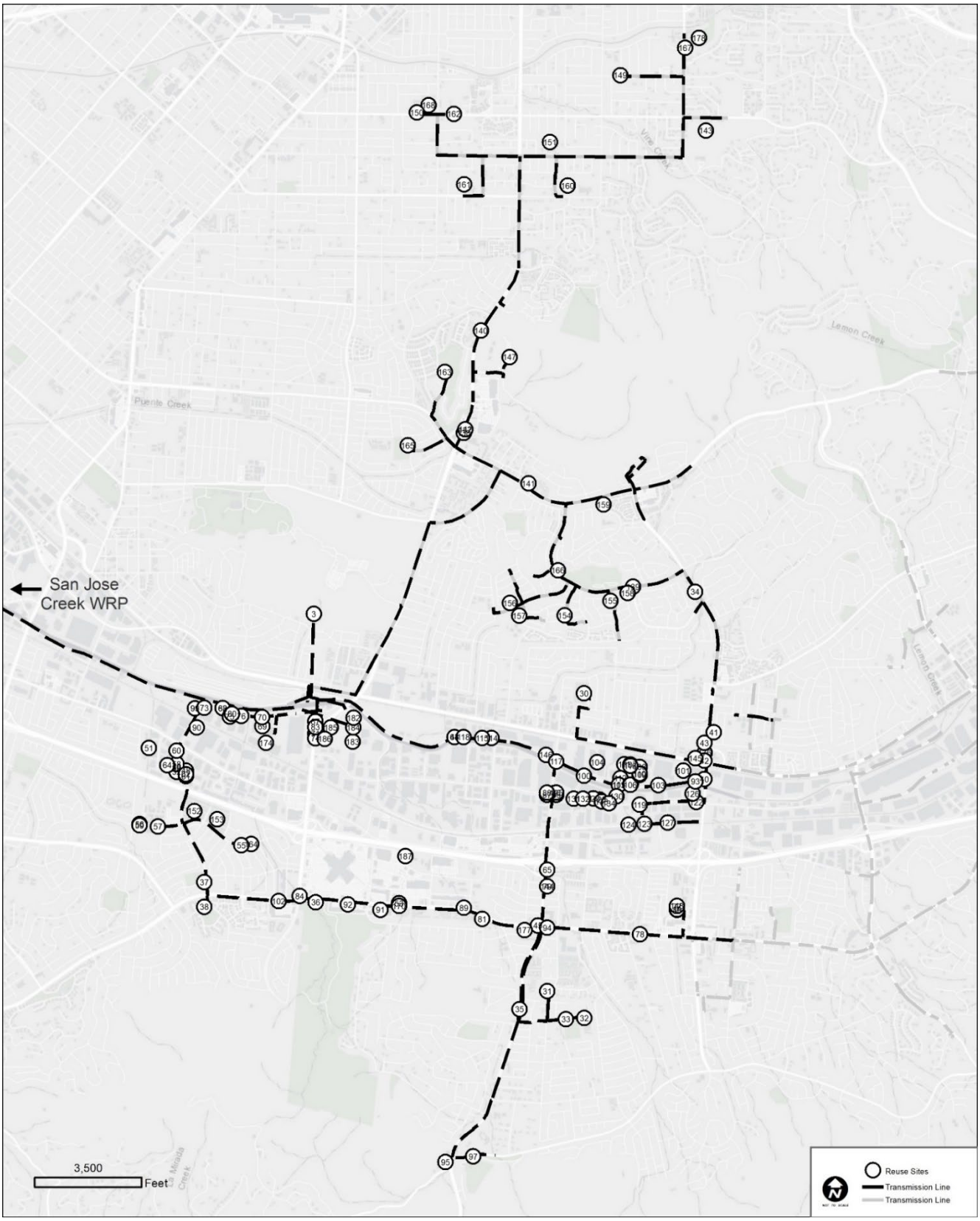


FIGURE 13-B
SAN JOSE CREEK WRP EASTERN REUSE SITES



2.5.3 CITY OF INDUSTRY

In August 1983, the City of Industry completed a recycled water distribution system to serve the Industry Hills Recreation and Conservation Area. This site is shown on **Figure 13-B** and listed in **Table 15**.

This system includes a 13,500-gpm pump station at the San Jose Creek WRP East, 36,960 feet of 36-inch pipe following the San Jose Creek Channel and a 2 MG reservoir with a 3,400 gpm booster pump station at Anaheim-Puente Road. From the reservoir, a 16-inch pipe with a second, 3,300 gpm booster pump station brings recycled water into the 600-acre site for landscape irrigation of two 18-hole golf courses, an equestrian center and six city-owned residences, as well as a source of supply for six ornamental lakes/storage impoundments. Construction was completed in 2012 on an expansion of the San Jose Creek WRP pump station which included the replacement of the existing three pumps, addition of a fourth pump, installation of a larger surge tank, new control panels and a new, separate SCE power supply.

During FY21-22, 0.872 MGD (977 AFY), or 1.4% of recycled water produced at this plant, was delivered through a total of 44,350 feet of pipeline and used at the Industry Hills site, a 3.1% decrease from the preceding fiscal year. While no new sites were directly connected to the City's distribution system, RWD did, however, continue connecting sites to its own extension off the Industry system during the fiscal year (discussed in **Sections 2.5.4**).

2.5.4 PUENTE HILLS/ROSE HILLS

A distribution system was constructed to deliver recycled water from the San Jose Creek WRP to the Sanitation Districts' nearby Puente Hills Landfill, Materials Recovery Facility (MRF), Puente Hills Energy Recovery from Landfill Gas (PERG) Facility, Field Office, Intermodal Facility, and to Rose Hills Memorial Park (Rose Hills). These sites are shown on **Figure 13-A** and listed in **Table 15**.

This project was conceived of as far back as 1978 as a means of reducing the Landfill's $20,000 per month water bill; however, various impediments stalled this project over the years. Not the least of these impediments was the claim of "duplication of services" by the local water company that had served domestic water to the Puente Hills Landfill. To resolve this, Senate Bill 778 (Dills) became law on January 1, 1995, allowing the Sanitation Districts to deliver its recycled water to its own landfill, without having to pay the water company for lost revenues, paying only for the physical facilities that would be rendered less useful (i.e., "stranded assets").

Recycled water deliveries to the Puente Hills Landfill and the PERG Facility began in November 1997, while deliveries commenced to Rose Hills in June 1998 and to the MRF, Field Office, and Intermodal Facility in February 2005. The total project cost was approximately $7.2 million and was funded by a low-interest State water reclamation loan. In order to serve the eastern portions of the Landfill and the upper areas of the cemetery, $4 million of additional on-site distribution facilities were completed in mid-2001. A narrative description of the layout of the Puente Hills/Rose Hills recycled water distribution system is contained in **Appendix J**.

During FY21-22, the Puente Hills/Rose Hills distribution system delivered 2.566 MGD (2,875 AFY), or 4.0% of the recycled water produced at this plant, through 8,900 feet of pipeline to approximately 1,094.9 acres, an increase of 0.1% over the preceding fiscal year. Recycled water is used for landscape irrigation of slopes, toilet flushing, and landscape irrigation at the MRF, field office, and intermodal facility buildings, minimal dust control at the MRF, cooling tower supply at the PERG Facility, and for landscape irrigation and impoundments at Rose Hills Memorial Park. Dust control on the former working deck at the Puente Hills Landfill has essentially ended following the closure of the landfill in 2013. The entirety of the Rose

Hills site, including that portion previously served via another system (**Section 2.5.8** below) and previously unserved portions, has been connected to this distribution system as of April 2016.

2.5.5 ROWLAND WATER DISTRICT

In July 2009, RWD began recycled water deliveries through a new distribution system that branched off the City of Industry pipeline. In FY21-22, RWD connected 21 new reuse sites to its distribution system. The landscaping around New Age Kaleidoscope (8 Albatross Rd. and 17588 Castelton St.), Golden Corral Restaurant (17635 Castelton St.), BJ's Restaurant (17615 Castelton St.), Brinker Restaurant Group (17588 Castelton St.), Thirsty Cow Korean BBQ (17500 Castleton St.), Marie Callender's Restaurant (1560 Albatross Rd.), JCC California Properties LLC (17638 & 17585 Castleton St.), and Costco Utility Bills (17550 Castleton St.) in the City of Industry were connected in September 2021. The landscaping around New Age Kaleidoscope (17980 Castelton St.), Original Tommy's Hamburgers (17573 Castleton), Darden Restaurants (17585 Castleton St.), Red Lobster (17601 Castleton St.), Apex Parks Group (17871 Castleton St.), Arnel Commercial Prop. (17800, 17700 & 17890 Castleton St.), Furniture 4U (17510 Castleton St.), and the Puente Hills Mall in the City of Industry were connected in October 2021. The CalTrans landscaping along the 60 Freeway (Castleton St. and Albatross Rd.) was connected in November 2021.

During FY21-22, RWD delivered 0.559 MGD (626 AFY), or 0.9% of the recycled water produced at the San Jose Creek WRP to 137 sites serving 999.0 acres listed in **Table 17** and shown on **Figure 13-B**. This was a 5.9% increase over the preceding fiscal year. RWD purchased the recycled water from the City of Industry, retailing it at 66% of its "Zone I" elevation potable rate of $1,568.16/AF, or $1,041.80/AF.

2.5.6 SAN GABRIEL VALLEY WATER COMPANY

The operators of the Jose Muñoz nursery are operating under a lease with Los Angeles Department of Water and Power (LADWP) for the property immediately adjacent to San Jose Creek WRP West formerly occupied by Arbor, Chuy's, J&E's, Ortiz's, and LA Sanchez nurseries. This site is shown on **Figure 13-A** and listed in **Table 15**.

Contract No. 3286 with the San Gabriel Valley Water Company (SGVWC) replaced the old contract for the sale of recycled water directly to this nursery's initial predecessor (Contract No. 2835) beginning in September 1994. During FY21-22, 0.013 MGD (14 AFY) was delivered to this site for the irrigation of ornamental plants for commercial resale. This was 0.01% of recycled water produced at this plant and a 7.7% increase over the preceding fiscal year. The former Kolstad property (1601 Rolling Greens Way) ceased receiving recycled water in March 2021 as the owner sold the property and the recycled water meter was pulled by SGVWC. SGVWC resold the recycled water to the nursery site for $1,398.54/AF, a 22% discount from its potable water rate of $1,798.16/AF.

2.5.7 UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT (PHASE I EXTENSION)

A distribution system was constructed to transport water from CBMWD's recycled water distribution system to the Upper San Gabriel Valley Municipal Water District's (USGVMWD's) service area, referred to by this latter agency as its Phase I Extension. From the existing Whittier Connector Unit on CBMWD's Rio Hondo System (**Section 2.5.6** above), a 36-inch distribution pipeline located at intersection of Strong Avenue and Pioneer Avenue, USGVMWD installed a tee connecting to a 16-inch steel pipeline, which extends north along Pioneer Avenue to Workman Mill Road. Approximately 200 feet north of the intersection of Workman Mill Road and Mill Road, a 6-inch service lateral provides service to Mill Elementary School. The 16-inch steel pipeline continues north along Workman Mill Road, terminating approximately 50 feet south of the main entrance of Rio Hondo College in a 10-inch service connection to the college. Rio Hondo College and Mill Elementary School were both connected in June 2003 and the

Gateway Pointe commercial development was connected in January 2005. This system had previously delivered recycled water to 275 acres of the lower, older portion of Rose Hills; however, this site, along with the remainder of the cemetery property, was connected to the Puente Hills/Rose Hills distribution system in April 2016 (**Section 2.5.7** above). These sites are shown on **Figure 13-A** and listed in **Table 18**.

During FY21-22, the USGVMWD distribution system delivered 0.043 MGD (48 AFY), or 0.1% of the recycled water produced at this plant, through 11,020 feet of pipeline to three users on 108 acres, a decrease of 7.7% from the preceding fiscal year. SGVWC, the retail purveyor for this system, resold the recycled water to its customers at its tariff rate of $1,292.75/AF, or 85% of its corresponding potable water rate of $1,521.11/AF.

2.5.8 Upper San Gabriel Valley Municipal Water District (Phase II-B Extension)

The City of Industry has long planned to extend its recycled water distribution system, since the demand at its Industry Hills Recreation Area only uses a small portion of the capacity of the City's 36-inch distribution line coming from the San Jose Creek WRP. The proposed expansion involved several alternatives over the years, including the possibility of locating a 10,000 AF open reservoir in the Tres Hermanos area of the City of Diamond Bar for seasonal storage of recycled water. In 2000, the City of Industry, Suburban Water Systems (SWS, which had purchased the City of West Covina's water system), the former BKK Landfill, RWD, and WVWD signed an MOU to develop a regional distribution system. A revised contract between the Sanitation Districts and City of Industry that included additional quantities of recycled water was executed on September 27, 2000. The "Phase II-B Extension" off the City of Industry transmission line was developed by USGVMWD to serve SWS, BKK Landfill, and, perhaps in the future, WVWD.

USGVMWD's distribution system was built in four phases, consisting of a pump station, storage reservoir, and approximately 15.1 miles of 6- to 24-inch pipeline. The first phase pipeline was completed in December 2010 and connects to the City of Industry's existing 36-inch pipeline at the intersection of Azusa Avenue and Temple Avenue. The pipeline extends to the Big League Dreams Development/BKK landfill entrance and continues east to Nogales Street. As part of this phase, a new reservoir was completed in December 2011. The second phase pipeline was completed in August 2011 and continues north along Azusa Avenue to the South Hills Country Club.

The third phase consisted of approximately 3.8 miles of pipeline ranging in size from 4- to 12-inches in diameter. The pipelines are located in the City of West Covina and branch off of the Phase 2 recycled water main installed in Azusa Avenue and Vine Avenue. The fourth phase consists of approximately 3.4 miles of pipeline ranging in size from 4- to 12-inches in diameter. The pipelines are located in the cities of West Covina and Walnut along Shadow Oak Drive, Gemini Street, Stephanie Drive, Woodgate Drive, and other local side streets. Construction of these phases was completed in winter 2012, with deliveries of recycled water beginning in July 2012. Recycled water deliveries were extended to sites in the Valencia Heights Water Company (VHWC) service area in January 2015. These sites are shown on **Figure 13-B** and listed in **Table 18**.

During FY21-22, the USGVMWD distribution system delivered 0.632 MGD (708 AFY), or 1.0% of the recycled water produced at this plant, through 71,360 feet of pipeline to 27 users on 485.9 acres. This was a 10.9% decrease from the preceding fiscal year. SWS, one of the retail purveyors for this system, resold the recycled water to its customers at its tariff rates of $1,426.15 to $1,525.91/AF (depending on pressure zone), or 85% of its corresponding potable water rates of $1,677.93 to $1,795.11 /AF. The second retail purveyor for this system, VHWC, resold the recycled water to its customers at its tariff rate of $1,089.00/AF, or 58-79% of its corresponding potable water rates of $1,372.14 to $1,881.79/AF.

TABLE 17
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
ROWLAND WATER DISTRICT
(4 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Ancillary Provider (16644 Johnson Dr)	049	Jul-09	0.1	0.0002	0.3	COM	IR
Ancillary Provider (16666 Johnson Dr)	050	Jul-09	0.2	0.001	1	COM	IR
Battery Technology	047	Jul-09	0.1	0	0	COM	IR
Blue Pacific	052	Jul-09	0.2	0.001	1	COM	IR
City of Industry medians (755 Nogales St)	040	Jul-09	0.1	0.0005	1	RO	IR
City of West Covina medians (Valley Blvd)	042	Jul-09	0.2	0.0002	0.2	RO	IR
Countrywood Park	038	Jul-09	5.4	0.008	9	PA	IR
Fajardo/Carolyn Rosas Park	033	Jul-09	5.4	0.005	5	PA	IR
GMP Products	044	Jul-09	0.1	0.0004	0.5	COM	IR
JJ Plaza	045	Jul-09	0.1	0.0001	0.1	COM	IR
New World RTCI - LP	046	Jul-09	0.1	0.00001	0.02	COM	IR
Nogales High School	034	Jul-09	47	0.023	26	S	IR
Nogales Medical Plaza Association	041	Jul-09	0.1	0.004	5	COM	IR
Pepperbrook Park	037	Jul-09	4.4	0.008	9	PA	IR
Queen of Heaven Cemetery	035	Jul-09	35	0.074	83	CE	IR
Romano's Macaroni Grill	053	Jul-09	0.1	0.002	2	COM	IR
Rowland Elementary School	031	Jul-09	10	0.007	8	S	IR
Rowland Heights Golf Center	039	Jul-09	8	0.010	12	GC	IR
Schabarum Regional County Park	036	Jul-09	640	0.070	79	PA	IR
Southland Schools	032	Jul-09	7.3	0.002	3	S	IR
Sunshine Park	030	Jul-09	2.5	0.006	7	PA	IR
Super Max Corp.	048	Jul-09	0.1	0.0004	0.4	COM	IR
Tsai Lien Liao	043	Jul-09	0.5	0.0003	0.4	CH	IR
Vonnic Inc.	051	Jul-09	0.2	0.001	1	COM	IR
Wedgeworth Elementary School	055	Aug-09	2.5	0.002	3	S	IR
Wilson High School	056	Aug-09	18.3	0.019	21	S	IR
Bixby Elementary School	057	Sep-09	6.1	0.009	10	S	IR
Gonzalez Nursery	059	Sep-09	4	0.008	9	N	IR
Jade Fashion	058	Sep-09	0.1	0.001	1	COM	IR
Bolt Products	062	Dec-09	0.1	0.0003	0.3	COM	IR
Laido International Co.	061	Dec-09	0.1	0.001	1	COM	IR
Seibon International	060	Dec-09	0.1	0.001	2	COM	IR
CalTrans: 60 Fwy (Countrywood/Fullerton)	065	Jan-10	5	0.002	2	RO	IR
Harmoni International Spice (881 Azusa Ave)	067	Jan-10	0.1	0.001	1	COM	IR
Ily Enterprise	063	Jan-10	0.1	0.001	1	COM	IR
Superior Profiles	064	Jan-10	0.2	0.001	1	COM	IR
City of Industry medians (Azusa Ave)	071	Mar-10	0.2	0.001	1	RO	IR
East Group Properties (855 Anaheim-Puente Rd)	068	Mar-10	0.6	0.002	2	COM	IR
So. Cal. Air Condition	069	Mar-10	2	0.001	1	COM	IR
USACD	070	Mar-10	0.3	0.001	1	COM	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

TABLE 17
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
ROWLAND WATER DISTRICT
(4 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Azusa Property Co.	074	Apr-10	0.2	0.001	1	COM	IR
Golden West Footwear	075	Apr-10	0.3	0.0004	0.4	COM	IR
LACDPW medians (1442 Fullerton Rd)	079	Apr-10	0.3	0.0001	0.1	RO	IR
LACDPW medians (18927 Daisetta St)	077	Apr-10	0.2	0.0001	0.1	RO	IR
LACDPW medians (Colima Rd)	078	Apr-10	0.1	0.0004	0.5	RO	IR
Los Angeles County ISD	073	Apr-10	0.5	0.001	1	PF	IR
Teledyne Instruments	076	Apr-10	0.4	0.001	2	COM	IR
Teledyne Picco	080	May-10	0.4	0	0	COM	IR
East Group Properties (16700 Chestnut St)	082	Jun-10	0.6	0.002	2	COM	IR
Harmoni International Spice (883 Azusa Ave)	083	Jun-10	0.1	0.001	1	COM	IR
New Age Kaleidoscope (7 Colima Rd)	084	Jun-10	0.6	0.002	2	COM	IR
Yusbro LLC	085	Jun-10	0.7	0.0001	0.1	COM	IR
FedEx (1081 Fullerton Rd)	087	Jul-10	0.6	0.001	1	COM	IR
Hot Topic (18305 San Jose Ave)	086	Jul-10	0.6	0.002	3	COM	IR
Port Logistics Group (18215 Rowland St)	088	Sep-10	0.6	0.002	2	COM	IR
717 Nogales LLC (717 Nogales St)	093	Oct-10	0.5	0.002	2	COM	IR
Centro Watt Operating (17414 Colima Rd)	092	Oct-10	0.5	0.002	2	COM	IR
Centro Watt Operating (17518A Colima Rd)	091	Oct-10	0.4	0.002	3	COM	IR
GBT Inc.	090	Oct-10	0.1	0.001	1	COM	IR
New Age Kaleidoscope (5 Stoner Creek Rd)	089	Oct-10	1.4	0.004	4	COM	IR
Rowland Water District Office	095	Dec-10	0.3	0.001	1	PF	IR
Walgreens	094	Dec-10	0.1	0.0001	0.1	COM	IR
717 Nogales LLC (18961 Arenth Ave)	101	May-11	0.5	0.002	3	COM	IR
Acme Trading Group	103	May-11	0.9	0.004	4	COM	IR
BMS Motorsports Inc.	105	May-11	0.4	0.001	1	COM	IR
Kimco Realty	102	May-11	3	0.004	5	COM	IR
Pathfinder Park	097	May-11	29	0.020	23	PA	IR
Quest Nutrition	100	May-11	0.7	0.002	3	COM	IR
Winit America Trade Co.	104	May-11	0.6	0.003	3	COM	IR
Design International (745 Epperson Dr)	108	Jul-11	0.1	0.001	1	COM	IR
Design International (755 Epperson Dr)	107	Jul-11	0.1	0.001	1	COM	IR
HD Technology	111	Aug-11	0.2	0.001	1	COM	IR
HT Development	110	Aug-11	0.1	0.002	3	COM	IR
HT Window Fashions	109	Aug-11	0.1	0.001	1	COM	IR
Siegfried & Parsifal Inc.	106	Aug-11	0.4	0.001	1	COM	IR
Walnut Creek Energy Park	099	Aug-11	NA	0.099	111	C	IN
Blue Giant Investments	113	Sep-11	0.1	0.002	2	COM	IR
Guardian Life Insurance	112	Sep-11	0.2	0.001	1	COM	IR
K-1 Printing (17979 Arenth Ave)	115	Oct-11	0.2	0.0005	1	COM	IR
K-1 Printing (17989 Arenth Ave)	114	Oct-11	0.2	0.001	2	COM	IR
Penske Truck Leasing	117	Nov-11	0.6	0.002	2	COM	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

TABLE 17
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
ROWLAND WATER DISTRICT
(4 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Private Label PC Inc.	116	Nov-11	0.2	0.001	1	COM	IR
Commercial Cooling	118	Dec-11	0.4	0.0003	0.4	COM	IR
Forever Link International	119	Dec-11	0.4	0.001	1	COM	IR
Brook Furniture	122	Jan-12	0.4	0.0001	0.1	COM	IR
CWCI Insulation of LA	124	Feb-12	0.2	0.001	1	COM	IR
Ferguson Fire and Fabrication	127	Feb-12	0.3	0.001	1	COM	IR
Hot Topic (18385 San Jose Ave)	125	Feb-12	0.8	0.002	3	COM	IR
Ko Amex	126	Feb-12	0.5	0.002	2	COM	IR
MA Labs Inc.	128	Feb-12	0.4	0.002	2	COM	IR
Real Good Food	123	Feb-12	0.4	0.001	1	COM	IR
8 Net Inc. (18601 San Jose Ave)	130	Mar-12	0.6	0.003	3	COM	IR
8 Net Inc. (18691 San Jose Ave)	129	Mar-12	0.3	0.001	1	COM	IR
Cactus Botanics	133	Mar-12	0.4	0.001	1	COM	IR
Mailroom Global Inventory	132	Mar-12	0.6	0.002	2	COM	IR
Pinky Footware Shoes	134	Mar-12	0.8	0.002	2	COM	IR
Torrid LLC	131	Mar-12	0.6	0.003	4	COM	IR
LACPDW medians (2357 Fullerton Rd)	144	Aug-12	0.4	0.002	2	RO	IR
McDonalds (2623 Valley Blvd)	145	Sep-12	0.2	0.0002	0.2	COM	IR
Whitewave Foods	146	Oct-12	2.6	0.003	3	COM	IR
Pearl of the East	148	Feb-13	0.5	0.001	1	COM	IR
Walnut Creek Energy Park irrigation	099	Apr-13	0.3	0.001	1	COM	IR
Countrywood Park I	152	Nov-13	17	0.008	9	RE	IR
Countrywood Park II	153	Nov-13	15	0.011	13	RE	IR
Pheasant Ridge Apartments	170	Sep-14	25	0.015	17	RE	IR
Universal Warehouse	174	Dec-15	0.7	0.001	1	COM	IR
Valley Nogales 2469 LLC	176	Mar-16	0.2	0.001	1	COM	IR
Prince RH Property LLC	177	Oct-16	0.5	0.0005	1	COM	IR
Grand JK&C, Ltd.	182	Apr-18	0.7	0.002	2	COM	IR
Johnson Wilshire Inc.	184	Jun-18	0.3	0.001	1	COM	IR
Sun Hing Foods Inc.	183	Jun-18	0.6	0.0005	1	COM	IR
Cali Cabinets	185	Jul-18	0.8	0.003	3	COM	IR
Forever Chestnut LLC	186	Jul-18	1.1	0.004	4	COM	IR
JCC California Properties LLC (17640 Castleton St)	187	Dec-18	0.6	0.003	4	COM	IR
JP Morgan Bank	191	Jan-20	0.2	0.0005	1	COM	IR
Superior Equipment	195	Feb-21	0.2	0.001	1	COM	IR
BJ's Restaurant	199	Sep-21	0.1	0.0004	0.4	COM	IR
Brinker Restaurant Group	200	Sep-21	0.03	0.0003	0.3	COM	IR
Costco	205	Sep-21	0.4	0.00003	0.03	COM	IR
Golden Corral Restaurant	198	Sep-21	0.2	0.001	1	COM	IR
JCC California Properties LLC (17585 Castleton St)	204	Sep-21	0.1	0.0004	0.5	COM	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

TABLE 17
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ROWLAND WATER DISTRICT
(4 PAGES)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
JCC California Properties LLC (17638 Castleton St)	203	Sep-21	0.2	0.001	2	COM	IR
Marie Callender's Restaurant	202	Sep-21	0.02	0.0002	0.2	COM	IR
New Age Kaleidoscope (17588 Castelton St)	197	Sep-21	0.4	0.001	1	COM	IR
New Age Kaleidoscope (8 Albatross Rd)	196	Sep-21	0.3	0.002	2	COM	IR
Thirsty Cow Korean BBQ	201	Sep-21	0.1	0.0002	0.2	COM	IR
Apex Parks Group	208	Oct-21	1.0	0.002	3	COM	IR
Arnel Commercial Prop. (17700 Castleton St)	211	Oct-21	1.1	0.002	3	COM	IR
Arnel Commercial Prop. (17800 Castleton St)	210	Oct-21	1.8	0.002	2	COM	IR
Arnel Commercial Prop. (17890 Castleton St)	212	Oct-21	1.1	0.004	5	COM	IR
Darden Restaurants	207	Oct-21	0.3	0.0005	1	COM	IR
Furniture 4U	213	Oct-21	0.04	0.0001	0.1	COM	IR
New Age Kaleidoscope (17980 Castleton St)	214	Oct-21	0.1	0.001	1	COM	IR
Original Tommy's Hamburgers	206	Oct-21	0.04	0.0002	0.2	COM	IR
Puente Hills Mall	215	Oct-21	55	0.007	8	COM	IR
Red Lobster	209	Oct-21	0.1	0.0003	0.4	COM	IR
CalTrans: 60 Fwy (Castleton/Albatross)	216	Nov-21	8.7	0.002	2	RO	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

TABLE 18
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
UPPER SAN GABRIEL VALLEY WATER DISTRICT (SAN JOSE CREEK WRP)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Gateway Pointe	026	Jun-03	8	0.019	21	COM	IR
Mill Elementary School	025	Jun-03	15	0.008	9	S	IR
Rio Hondo College	024	Jun-03	85	0.015	17	S	IR
Amar Road medians	141	Jul-12	2.1	0.002	3	RO	IR
Azusa Avenue medians	140	Jul-12	3.1	0.004	4	RO	IR
BKK Landfill	142	Jul-12	220	0	0	DC	IN
Home Depot	137	Jul-12	0.2	0.00003	0.03	COM	IR
Nogales Street medians	139	Jul-12	0.6	0	0	RO	IR
The Heights Shopping Center	138	Jul-12	12.5	0.008	8	COM	IR
South Hills Country Club	143	Aug-12	100	0.269	301	GC	IR
Big League Dreams	147	Oct-12	21	0.049	55	PA	IR
Cameron Elementary School	150	Aug-13	3.9	0.016	18	S	IR
Cortez Elementary School	149	Aug-13	6.2	0.015	17	S	IR
Vine Elementary School	151	Aug-13	3.8	0.009	11	S	IR
Hollencrest Middle School	160	Jan-14	10.8	0.020	23	S	IR
Merced Elementary School	161	Jan-14	7.6	0.022	25	S	IR
Shadow Oak Paseo A	154	Jan-14	8.1	0.025	28	RO	IR
Shadow Oak Paseo B	155	Jan-14	6.9	0.015	17	RO	IR
Shadow Oak Paseo C	156	Jan-14	1.6	0.005	6	RO	IR
Shadow Oak Paseo D	157	Jan-14	1.8	0.006	6	RO	IR
Shadow Oak Paseo F	158	Jan-14	1.5	0.001	1	RO	IR
Shadow Oak Paseo G	159	Jan-14	11.2	0.002	3	RO	IR
West Covina High School	162	Jan-14	9.7	0.039	43	S	IR
Woodgrove Park	163	Feb-14	10	0.015	17	PA	IR
Rimgrove Park	165	Jun-14	7.1	0.023	26	PA	IR
Shadow Oak Center	166	Jun-14	9.6	0.012	14	PA	IR
Cameron Park	168	Jul-14	4.2	0.012	13	PA	IR
Cortez Park	167	Jul-14	14	0.040	45	PA	IR
South Hills High School	178	Oct-14	5.9	0.012	13	S	IR
Maverick Field	179	Jul-15	2.5	0.009	10	PA	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

2.5.9 *WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA*

The vast majority of recycled water actively used from the San Jose Creek WRP goes to recharge the Central Basin groundwater aquifer, which in FY21-22 was 49.301 MGD (55,245 AFY), a 26.2% increase over the preceding fiscal year and 77.5% of the recycled water produced by this plant. Of this amount, 38.936 MGD (43,630 AFY) was tertiary effluent that was delivered directly for recharge, an increase of 32.5% over the preceding fiscal year. In December 2018, WRD began start-up of its ARCAWTF (formerly known as the Groundwater Reliability Improvement Program, or GRIP) with product water becoming

available for recharge in February 2019. During FY21-22, ARCAWTF produced 10.365 MGD (11,615 AFY) of advanced treated (MF/RO/AO) recycled water that was recharged, an increase of 7.0% over the preceding fiscal year. During FY21-22, 0.505 MGD (566 AFY) of the tertiary-treated recycled water delivered to the spreading grounds was bypassed and lost to the ocean during storm episodes in December 2021. Any discrepancy between the total amount discharged and the totals recharged and bypassed is attributed to not only differences in metering between the Sanitation Districts and the LACDPW, but to waste brine from the ARCAWTF that is returned to the sewer system.

The groundwater recharge operation was previously limited by its 1991 permit that restricted recycled water use to a three-year running total of 150,000 AFY, with no more than 35% of the total water recharged may be comprised of recycled water (with maximum limits of 60,000 AFY and 50% recycled water in any one year). To allow the use of more recycled water, LARWQCB revised the 1991 recharge permit in April 2009 to eliminate the existing annual and three-year total quantity limits (60,000 and 150,000 AF, respectively) and rely instead on a 5-year running average recycled water contribution of 35%. This permit modification was supported by the Drinking Water Program staff of the California Department of Public Health (now the Division of Drinking Water, or DDW, under the SWRCB). The permit was readopted in May 2013 using a more versatile 10-year running average that more closely aligned with the region's cyclical rainfall pattern. An April 2014 permit revision increased the recycled water contribution from 35 to 45%, allowing approximately 5,000-10,000 AFY more recycled water to be recharged. With the advent of the ARCAWTF, imported water is no longer being purchased from MWD by WRD to reach the groundwater basin.

2.6 WHITTIER NARROWS WRP

This treatment facility, located at 301 North Rosemead Boulevard, El Monte, CA 91733, was completed in 1962 as the first of the Sanitation Districts' activated sludge plants, with a design capacity of 15 MGD. Of the 8.35 MGD (9,353 AFY) of coagulated, filtered, disinfected tertiary recycled water produced during FY21-22 (2.4% of the effluent produced in the JOS) at an O&M cost of $632/AF, 8.271 MGD (9,268 AFY) was actively reused. Recycled water production increased very slightly (0.1%) over the preceding fiscal year, while the amount reused increased 0.2% and was essentially all the plant's production.

WHITTIER NARROWS WRP FACTS

Plant capacity:	15 MGD
Water produced:	8.35 MGD 9,353 AFY 0.1% FY increase
FY21-22 O&M:	$632/AF
Water reused (including recharge):	8.271 MGD 9,268 AFY 0.2% FY increase 99.1% of production
Delivery systems:	1 49,770 ft. of pipe
No. of reuse sites:	33 995.0 acres

Recycled water quality for FY21-22 is presented in **Table B-6** of **Appendix B**. Recycled water from this plant is used at 32 direct non-potable reuse sites and for groundwater recharge of the Central Basin, as shown on **Figure 14**. Use of recycled water from this facility is permitted under SWRCB General Order No. WQ-2016-0068-RB4 for direct non-potable applications and LARWQCB Order Nos. 91-100, R4-2009-0048, and R4-2009-0048-A-01 for groundwater replenishment (see **Section 2.5.1** for a discussion on the groundwater recharge permit).

2.6.1 *UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT (PHASE II-A EXTENSION) – WHITTIER NARROWS RECREATION AREA*

This project, designated Phase II-A by USGVMWD, began deliveries of recycled water to the Los Angeles County Department of Parks and Recreation's Whittier Narrows Recreation Area, adjacent to the Whittier

Narrows WRP, in September 2006, followed by South El Monte High School in July 2007 and the Whittier Narrows Golf Course in December 2009. The $9 million project was constructed with the help of a $2.1 million Proposition 50 grant from SWRCB, utilizing the plant's existing chlorine contact tanks that are no longer needed for effluent disinfection following conversion to UV disinfection. Construction of 14,467 linear feet of pipeline for the "Rosemead Extension" began in the fall of 2009 and was completed in 2010, with retrofits and connections completed in early 2012. SGVWC, with State grant funding, completed its "South El Monte Extension" to this system in early 2019. The 15,435 feet of new distribution lines connect to the existing USGVMWD recycled water distribution line on Loma Avenue, then run east along Rush Street, south on Central Avenue and northeast on Santa Anita Avenue. The South El Monte extension was developed by the local retail purveyor, SGVWC, which has received Proposition 84 and Proposition1 grant funds. Construction of 14,140 of pipeline for Phase 1 has been completed with 14 sites being connected between March and November 2019. A narrative description of the layout of the USGVMWD recycled water distribution system is contained in **Appendix K**.

During FY21-22, the USGVMWD distribution system delivered 1.605 MGD (1,798 AFY) through 34,335 feet of pipeline for use at 32 sites on 995.0 acres. These sites are shown on **Figure 14** and listed in **Table 19**. This was 19.2% of the recycled water produced at this plant and a 15.3% increase over the preceding fiscal year. No new sites were added to the system on the original system, the Rosemead Extension, or the South El Monte Extension during FY21-22.

USGVMWD wholesaled the recycled water to SGVWC, the retail purveyor for this system, who then resold the recycled water to its users at the recycled water tariff rate of $1,398.54/AF, 78% of the potable water rate of $1,798.16/AF.

2.6.2 *Water Replenishment District of Southern California*

The majority of recycled water actively used from this plant went to recharge the Central Basin aquifer. In FY21-22, 6.666 MGD (7,470 AFY) was used to replenish the groundwater supply, a 2.8% decrease from the preceding fiscal year and 79.9% of the plant's production.

The total amount of recycled water delivered from the Whittier Narrows WRP to recharge the Central Basin aquifer, was split between the Rio Hondo Spreading Grounds and the San Gabriel Coastal Spreading Grounds during this fiscal year (74.8% and 25.2%, respectively). None of the recycled water produced by this plant and discharged to either the Rio Hondo or San Gabriel River during this fiscal year was bypassed around the spreading grounds and lost to the ocean. Any discrepancy between the total amount discharged and the total recharged is attributed to differences in metering between the Sanitation Districts and LACDPW.

FIGURE 14
UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT (WHITTIER NARROWS WRP)
REUSE SITES

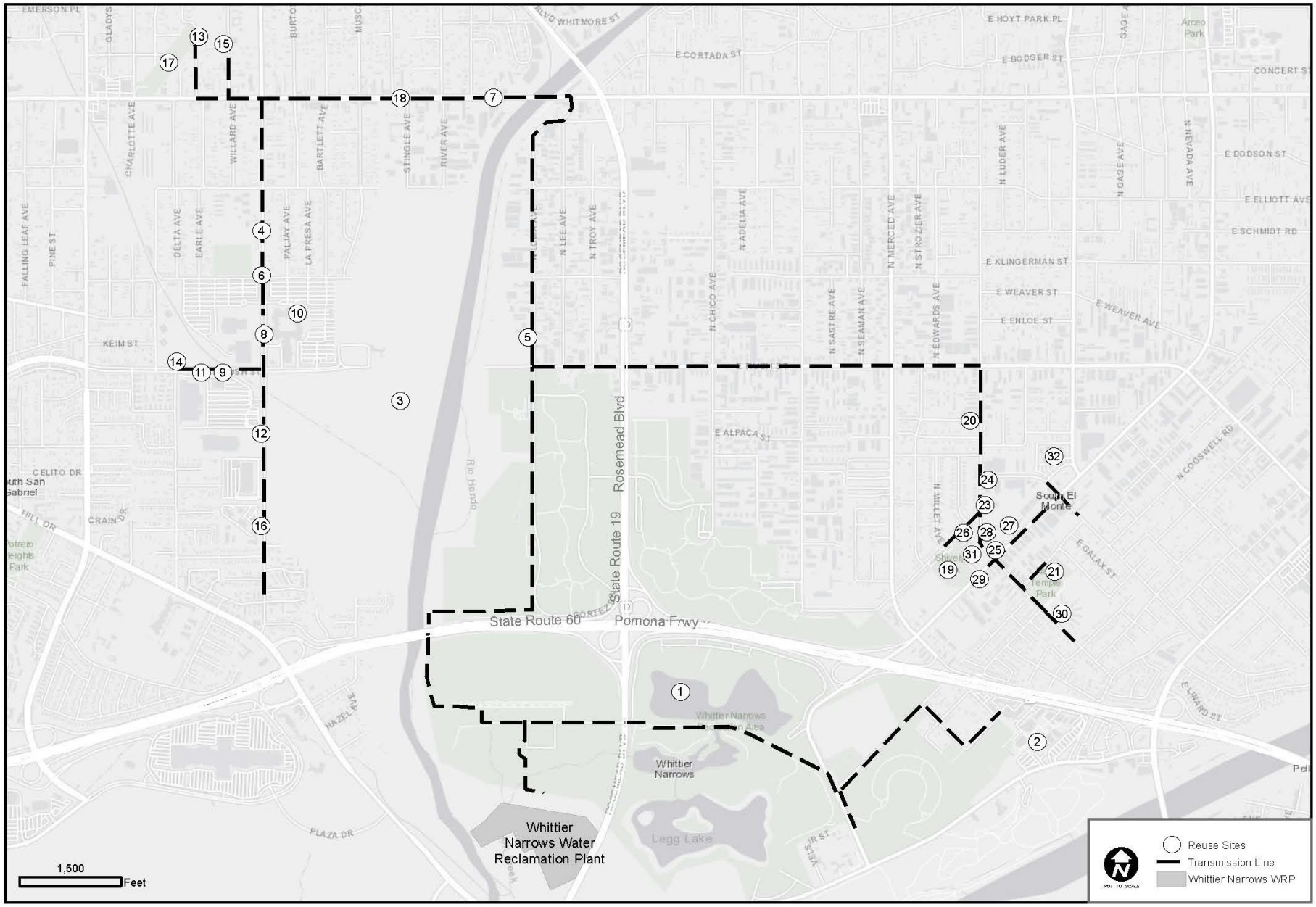


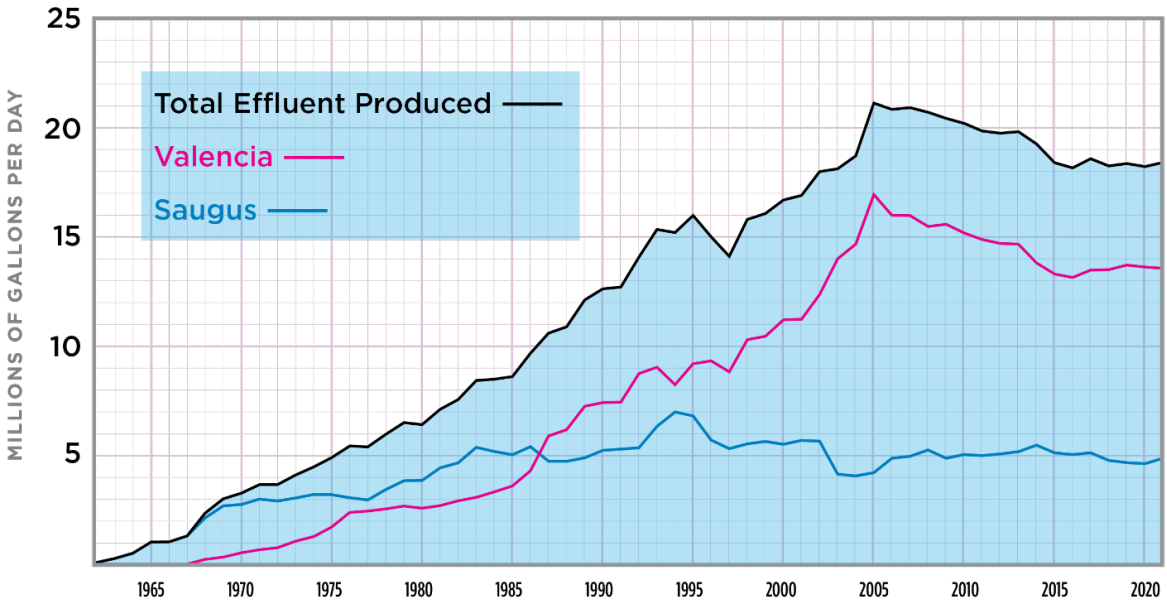
TABLE 19
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT (WHITTIER NARROWS WRP)

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
Whittier Narrows Recreation Area	1	Sep-06	568	0.923	1,034	PA	IR
South El Monte High School	2	Aug-07	16.1	0.056	63	S	IR
Whittier Narrows Golf Course	3	Dec-09	260	0.450	504	GC	IR
Loma Elementary School	5	Aug-11	1.9	0.006	7	S	IR
Sanchez Elementary/Temple Middle School	4	Aug-11	12.8	0.006	6	S	IR
Eldridge Rice Elementary School	14	Oct-11	8.3	0.011	12	S	IR
Jess Gonzales Sports Park	6	Oct-11	4	0.009	10	PA	IR
Southern California Edison campus	10	Oct-11	53	0.049	55	COM	IR
Garvey Avenue medians	7	Dec-11	0.1	0	0	RO	IR
Panda Restaurant Group	12	Dec-11	8.9	0.014	16	COM	IR
Rush Street medians	9	Dec-11	0.1	0.001	1	RO	IR
Sunshine Nursery	13	Dec-11	4.6	0.003	4	N	IR
Walmart (1827 Walnut Grove Ave)	11	Dec-11	17.7	0.000003	0.003	COM	IR
Walnut Grove Avenue medians	8	Dec-11	0.1	0.002	2	RO	IR
Willard Elementary School	15	Jan-12	6	0.002	2	S	IR
University of the West	16	Feb-12	0.4	0.002	2	S	IR
Garvey Avenue medians	18	Apr-12	0.2	0	0	RO	IR
Zapopan Park	17	Apr-12	7	0.001	1	PA	IR
Shiveley Park	19	Mar-19	5.9	0.017	19	PA	IR
Mary Van Dyke Park	20	Apr-19	1.5	0.003	3	PA	IR
New Temple Park	21	Apr-19	8.2	0.020	22	PA	IR
South El Monte Aquatics Center	22	Apr-19	1	0.003	3	PA	IR
South El Monte Community Center	23	Apr-19	0.7	0.001	1	PF	IR
South El Monte Senior Center	24	Apr-19	0.8	0.001	1	PF	IR
Los Angeles County Services Center	27	May-19	0.1	0.001	1	PF	IR
Shiveley Middle School	26	May-19	1	0.005	6	S	IR
South El Monte Civic Center	25	May-19	0.7	0.002	3	PF	IR
South El Monte County Library	28	May-19	0.3	0.001	1	PF	IR
Santa Anita Avenue medians	29	Jun-19	1.3	0.0001	0.1	RO	IR
New Temple Elementary School	30	Jul-19	3.4	0.010	11	S	IR
Shively Preschool	31	Jul-19	0.2	0.001	1	S	IR
AHMC Healthcare Inc.	32	Nov-19	0.7	0.006	7	PF	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

This area, which includes the City of Santa Clarita, is located northwest of the City of Los Angeles. The Valencia and Saugus WRPs together make up the Santa Clarita Valley Joint Sewerage System (SCVJSS), which is physically separate and distinct from the Sanitation Districts' JOS and have a combined design capacity of 28.1 MGD (31,487 AFY). During FY21-22, these plants produced 18.38 MGD (20,600 AFY) of recycled water available for reuse, a 1.2% increase over the preceding fiscal year. **Figure 15** illustrates recycled water production from Valencia and Saugus WRPs from 1962 through the end of 2021. Like elsewhere in the Sanitation Districts' service area, wastewater flows began decreasing in 2006 due to a combination of water conservation and decreased economic activity. During most of the history of these plants, only occasional reuse via water truck hauling occurred. The use of recycled water through a permanent distribution system began during FY03-04, with 0.381 MGD (427 AFY), or 2.1% of the total amount of recycled water produced in the SCVJSS, being delivered from the Valencia WRP during FY21-22. This was a 13.2% decrease from the preceding fiscal year.

FIGURE 15
SANTA CLARITA VALLEY JOINT SEWERAGE SYSTEM RECYCLED WATER PRODUCTION
1962-2021



3.1 VALENCIA WRP

The Valencia WRP, located at 28185 The Old Road, Valencia, CA 91355, was completed in 1967. Several expansions, the construction of a 4.4 MG flow equalization tank in February 1995, a solids handling expansion in August 2002, the construction of additional aeration tanks for NDN in May 2003, and the on-going conversion of disinfection to UV brought the Valencia WRP to its current capacity of 21.6 MGD. In FY21-22, the plant produced an average of 13.22 MGD (14,814 AFY) of recycled water, a 2.0% decrease from the preceding fiscal year and 71.9% of the effluent produced in SCVJSS. The FY21-22 O&M cost to produce this water was approximately $1,024/AF, which does not include solids processing for both the Saugus and Valencia WRPs. Recycled water quality for FY21-22 is presented in **Table B-7** of **Appendix B**. Use of recycled water from this facility is permitted under LARWQCB Order Nos. 65-86 and 97-072.

Use of recycled water from this facility is permitted under LARWQCB Order Nos. 87-48 and 97-072. During FY21-22, 0.381 MGD (427 AFY), or 2.9% of the recycled water produced was actively reused, a 13.2% decrease from the preceding year.

VALENCIA WRP FACTS

Plant capacity:	21.6 MGD
Water produced:	13.22 MGD 14,814 AFY 2.0% FY decrease
FY21-22 O&M:	$1,024/AF
Water reused:	0.381 MGD 426 AFY 13.4% FY decrease 2.9% of production
Delivery systems:	1
No. of reuse sites:	6 130.6 acres

3.1.1 SANTA CLARITA VALLEY WATER AGENCY

The Santa Clarita Valley Water Agency (SCVWA),[10] the regional importer and wholesaler of State Project water in the Santa Clarita Valley, owns and operates the area's recycled water distribution system. In 1999, construction was completed on a 10,000 gpm pump station located adjacent to the Valencia WRP's chlorine contact tanks, with construction of a 20- and 24-inch pipeline southerly along The Old Road to Valencia Boulevard being completed in May 2002. Recycled water deliveries to the Tournament Players Club golf course began in August 2003. These facilities are shown on **Figure 16** and listed in **Table 20**.

During FY21-22, 0.381 MGD (426 AFY), or 2.9% of the recycled water produced at the Valencia WRP was delivered through 16,490 feet of pipeline, a 13.4% decrease from the preceding fiscal year. No new reuse sites were added during FY21-22.

Valencia Water Company had been the retail purveyor for this system: however, the company was purchased by the former Castaic Lake Water Agency (CLWA) in December 2012 and was formally dissolved in early 2018 when it became a division of the newly formed SCVWA. During FY21-22, the Valencia Water Division sold the recycled water at $727.45/AF, or 80% of its corresponding potable water rate of $910.40/AF.

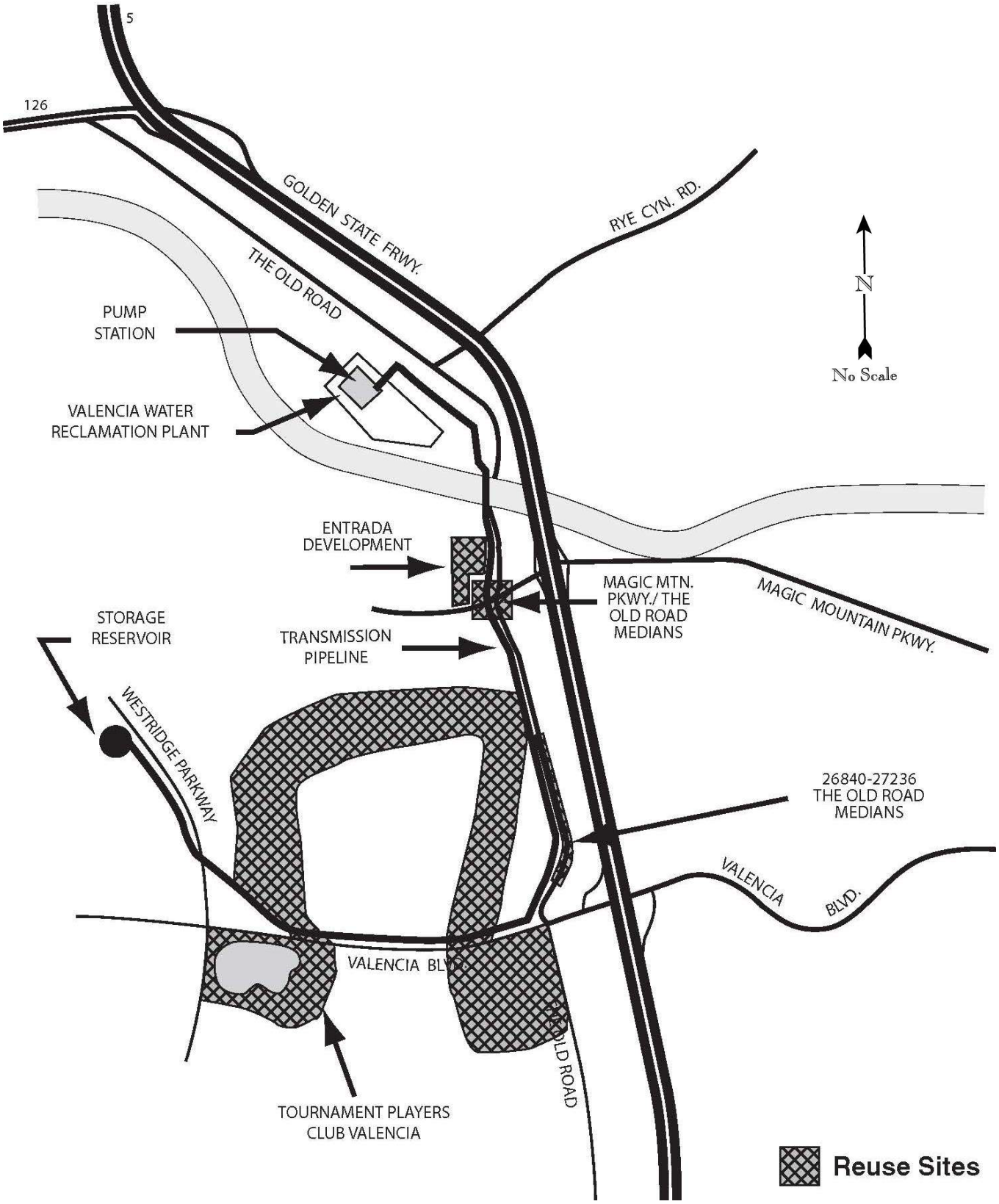
TABLE 20
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
SANTA CLARITA VALLEY WATER AGENCY

Reuse Site	Site No.	Start Date	Acreage	Usage		Type of Site	Type of Use
				MGD	AFY		
The Old Road medians	002	Aug-03	2	0.031	34	RO	IR
Tournament Players Club at Valencia	001	Aug-03	120	0.314	352	GC	IR
The Old Road/Magic Mountain Pkwy medians	003	Oct-10	5.8	0.011	12	RO	IR
Entrada (27640 Media Center Dr)	004	Jun-15	1.4	0.004	4	RO	IR
Entrada (27770 Entertainment Dr)	006	Jun-15	0.7	0.010	11	RO	IR
Entrada (27780 Entertainment Dr)	005	Jun-15	0.7	0.011	13	RO	IR

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

10 Senate Bill 634 reorganized Newhall County Water District and Castaic Lake Water Agency into the Santa Clarita Valley Water Agency, effective January 1, 2018.

FIGURE 16
SANTA CLARITA VALLEY WATER AGENCY REUSE SITES



3.2 SAUGUS WRP

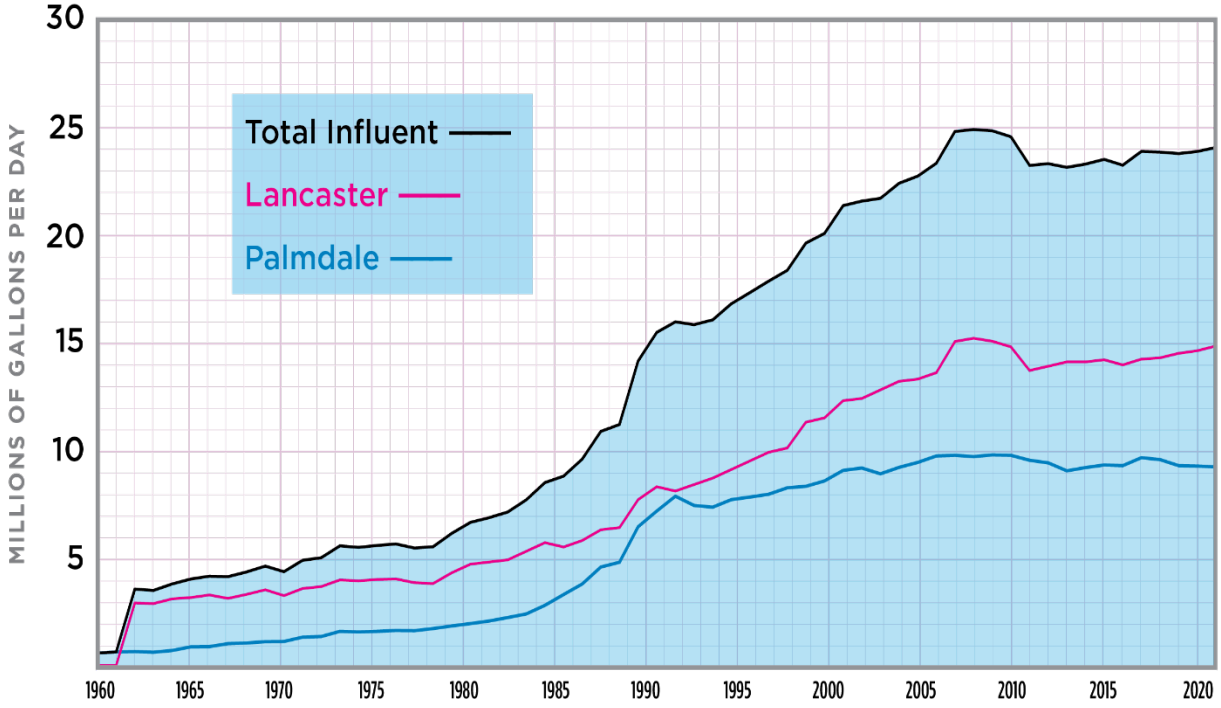
SAUGUS WRP FACTS	
Plant capacity:	6.5 MGD
Water produced:	5.16 MGD 5,785 AFY 10.1% FY increase
FY21-22 O&M:	$905/AF
Water reused:	none

The Saugus WRP, located at 26200 Springbrook Avenue, Saugus, CA 91350, was completed in 1962. Subsequent expansions in 1964, 1965, and 1968 and flow equalization facilities in 1991 brought its current design capacity to 6.5 MGD. The treatment process was upgraded to tertiary with the addition of dual-media pressure filters in 1987 and the plant is currently converting to UV disinfection. No future conventional expansions are possible due to space limitations on the site unless it involved some form of compact treatment technology, (e.g., membrane bioreactors, MBRs). In FY21-22, the plant produced an average of 5.16 MGD (5,785 AFY) of recycled water, which was a 10.1% increase over the preceding fiscal year and 28.1% of the effluent produced in SCVJSS, at an O&M cost of $905/AF. Recycled water quality for FY21-22 is presented in **Table B-8** of **Appendix B**. Use of recycled water from this facility is permitted under LARWQCB Order Nos. 87-49 and 97-072; however, no recycled water was used from this plant in FY21-22.

Two treatment plants serve the communities of the southern Antelope Valley, one each in the cities of Lancaster and Palmdale (Sanitation Districts Nos. 14 and 20, respectively). Historically, both WRPs produced secondary effluent by means of oxidation ponds but have been upgraded to replace the oxidation ponds with an activated sludge and nitrification-denitrification secondary treatment process, including tertiary filtration and chlorination for disinfection. The plant upgrades were completed in December 2011 at the Palmdale WRP and July 2012 at the Lancaster WRP. Both plants use anaerobic digesters and drying beds for solids processing. During FY21-22, these plants produced 22.30 MGD (24,984 AFY) of effluent available for reuse, an increase of 0.8% over the preceding fiscal year. **Figure 17** illustrates the growth of influent flows at the Lancaster and Palmdale WRPs from 1960 through the end of 2021. From this graph, the growth in influent flows began slowing and later decreased beginning in 2006 indicating that water conservation and the economic slowdown have outweighed population growth in regard to wastewater generation in the Antelope Valley, at least for the short-term. For the Antelope Valley plants, influent has proven to be a more accurate gauge of plant flows because the actual amount of effluent from the previously employed oxidation ponds had been extremely variable from month to month, as water was either lost by evaporation/percolation or gained by rainfall. Even though both WRPs have had their treatment processes upgraded so that their effluent flows are now much more accurate, influent flow will continue to be used as a long-term gauge due to the availability of accurate historical data.

During FY21-22, 18.07 MGD (20,249 AFY), or 81.0% of the recycled water produced, was actively reused, an 8.8% decrease from the preceding fiscal year. The difference between production and reuse flows would be the effect of evaporation from the recycled water storage reservoirs and changes in storage and not discharge to a waterway. This means essentially all the recycled water produced and available in the Sanitation Districts' Antelope Valley service area is put to beneficial use.

FIGURE 17
ANTELOPE VALLEY WRPS INFLUENT FLOW
1960-2021



4.1 LANCASTER WRP

LANCASTER WRP FACTS	
Plant capacity:	18 MGD
Water produced:	14.00 MGD 15,683 AFY 1.3% FY increase
FY21-22 O&M:	$645/AF
Water reused:	11.094 MGD 12,432 AFY 5.6% FY decrease 100% of production
Delivery systems:	5
No. of reuse sites:	15 (11 temporary) 3,126.8 acres

The existing treatment facility, located at 1865 West Avenue D, Lancaster, CA 93534, began operation in 1959, replacing an earlier treatment plant that had begun operation in 1941. The plant's capacity was expanded in 1989 to 8 MGD, with 460 MG (1,400 AF) of storage ponds to capture excess winter flows. The Stage III expansion increased plant capacity to 10 MGD in December 1992. The Stage IV expansion, consisting of a flow equalization basin, two sedimentation tanks and additional aeration equipment in the oxidation ponds, increased the plant's secondary treatment capacity to 16 MGD in May 1997. The MBR plant that went into operation in February 2007 raised the total plant treatment capacity to 17 MGD. In June 1969, the Antelope Valley Tertiary Treatment Plant (AVTTP) was placed in operation with the ability to treat 0.6 MGD of Lancaster WRP secondary effluent to tertiary quality. The Lancaster WRP completed its conversion to full tertiary treatment in mid-2012 with a capacity of 18 MGD, after which the AVTTP and MBR facilities were taken off-line. Recycled water quality for FY21-22 is presented in **Table B-9** of **Appendix B**. Use of recycled water from this facility is permitted under Lahontan Regional Water Quality Control Board (LRWQCB) Order No. R6V-2009-0141.

This plant produced an average of 14.00 MGD (15,683 AFY) of recycled water in FY21-22, or a 1.3% increase over the preceding fiscal year. The FY21-22 O&M cost to produce tertiary effluent was approximately $645/AF (not including solids processing). During FY21-22, 11.094 MGD (12,431 AFY), essentially all of the plant's production when considering storage and evaporation, was actively reused on 3,126.8 acres at 15 permanent sites and 11 active hauled uses shown on **Figure 18** and presented in **Table 21** (there had been 57 previous hauled users). This was a 5.6% decrease from the preceding fiscal year.

4.1.1 APOLLO COMMUNITY REGIONAL PARK

In 1962, the then Los Angeles County Engineer devised and developed an aquatic recreation area next to the General William J. Fox Airfield in the City of Lancaster. The source of water was an advanced treatment plant located at the Lancaster WRP that consisted of chemical coagulation (for the reduction of phosphate to inhibit algal growth), sedimentation, dual-media filtration and chlorination. The AVTTP was placed in operation in June 1969 with a capacity of 0.6 MGD. Recycled water from the AVTTP was delivered through a 12-inch force main for construction of the 56-acre Apollo Community Regional Park (formerly known as Apollo Lakes County Park), which was opened to the public in November 1972.The three lakes in the park, named Aldrin, Armstrong, and Collins, are stocked with trout and catfish for public fishing, although no swimming is allowed. Following the upgrade of the Lancaster WRP to tertiary treatment, the AVTTP was taken out of service, decommissioned, and later dismantled, with recycled water produced by the Lancaster WRP being delivered for use at Apollo Park instead.

In FY21-22, 0.220 MGD (247 AFY) of recycled water was delivered through 23,800 feet of pipeline to maintain 26 acres (80 MG) of lakes at the park to make up for evaporative losses and for irrigation water withdrawn from the lakes for use on the park, a decrease of 43.5% from the preceding fiscal year. This reuse constitutes 1.6% of the recycled water produced at this plant.

FIGURE 18
LANCASTER WRP REUSE SITES

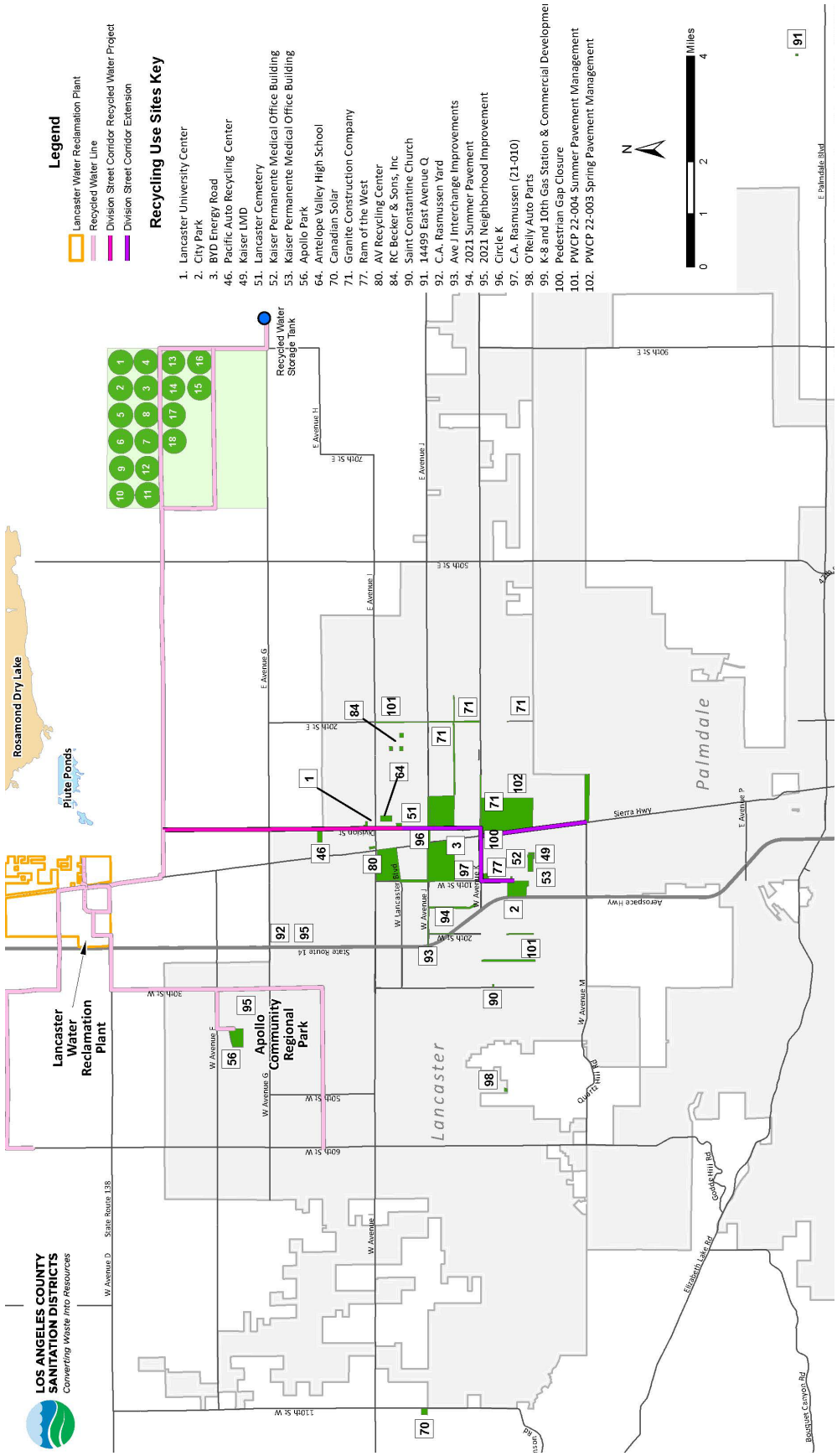


TABLE 21
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
LANCASTER WRP

Reuse Site	Start Date	Acreage	Usage		Type of Site	Type of Use
			MGD	AFY		
Apollo Lakes County Park	Jun-69	56	0.220	247	PA	IR
Piute Ponds	May-81	400	3.807	4,266	E	IM
Eastern Agricultural Site	Dec-06	2600	6.896	7,727	AG	IR
Lancaster DPW sewer flushing	Jan-09	--	0.0004	0.5	SF	IN
Lancaster DPW street sweeping	Feb-09	--	0.0002	0.3	SW	IN
Lancaster University Center	May-09	2	0.005	5	COM	IR
Lancaster City Park	Mar-14	36	0.060	67	PA	IR
BYD Energy Road	Jan-15	0.1	0.0002	0.2	COM	IR
Kaiser Medical Office Building	Jan-16	8.2	0.010	11	COM	IR
Kaiser LMD	Apr-16	0.1	0.00003	0.04	COM	IR
Lancaster Cemetery	Apr-16	5.3	0.030	33	CE	IR
Pacific Auto Recycling Center	Apr-16	1.5	0.001	1	COM	IR
Antelope Valley High School	Oct-16	16.5	0.055	62	S	IR
Canadian Solar	Mar-17	0.4	0.001	1	COM	IR
Four Acres	May-17	--	0.00003	0.04	H	IN
Viper Enterprises (Dodge Ram of the West)	Oct-18	0.7	0.001	2	COM	IR
AV Recycling	Aug-19	--	0.000001	0.001	H	IN
C.A. Rasmussen Inc. (PWCP 21-007)	Apr-21	--	0.005	6	H	IN
C.A. Rasmussen Inc. (PWCP 21-012)	Oct-21	--	0.0001	0.2	H	IN
LA Engineering (PWCP 19-002)	Oct-21	--	0.0001	0.1	H	IN
Sully Miller Contracting (PWCP 21-008)	Oct-21	--	0.0001	0.2	H	IN
Circle K	Dec-21	--	0.001	2	COM	IR
C.A. Rasmussen Inc. (PWCP 21-010)	Jan-22	--	0.0002	0.3	H	IN
Sully Miller Contracting (PWCP 21-009)	Jan-22	--	0.0001	0.2	H	IN
O'Reilly Auto Parts	Mar-22	--	0.0004	0.4	H	IN
C.A. Rasmussen Inc. (PWCP 21-014)	Apr-23	--	0.0003	0.4	H	IN
C.A. Rasmussen Inc. (PWCP 22-004)	Apr-23	--	0.0002	0.2	H	IN

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

4.1.2 CITY OF LANCASTER – DIVISION STREET CORRIDOR

A contract for the sale of recycled water produced at the Lancaster and Palmdale WRPs to the City of Lancaster was signed in March 2008 for deliveries of up to 950 AFY. Recycled water deliveries from the Lancaster WRP to the City's Division Street Corridor Recycled Water Project began in January 2009. The City, in collaboration with the U.S. Army Corps of Engineers, constructed an extension of this distribution pipeline, which was completed in early 2014. In late 2014, the City completed installation of a booster pump station along the distribution pipeline to maintain adequate system pressure, thus enabling additional sites to begin receiving recycled water for landscape irrigation and other hard-plumbed uses. Through the Sanitation Districts' Supplementary Environmental Project Fund, more than $3.5 million was contributed to the construction of this system, with the remaining financing consisting of City and American Recovery and Reinvestment Act funds. During FY21-22, a total of 0.171 MGD (192 AFY) was delivered through

29,800 feet of pipeline, a 38.3% decrease from the preceding fiscal year, which constitutes 1.2% of the recycled water produced at this plant. Tertiary treated recycled water was also used by the City of Lancaster for non-irrigation uses, such as street sweeping of 2,125 curb-miles of roadways and parking lots, sewer flushing, catch basin cleaning, road maintenance, and dust control. The City of Lancaster also mandates that private construction projects within the city must use recycled water in lieu of potable water for dust control, grading, and other construction applications. Sixty-eight construction or temporary use sites hauled recycled water by truck at various times from this system (11 sites were active during FY21-22), with eight new hauled use customers starting up during the year.

4.1.3 *Eastern Agricultural Site Development and Storage Project*

In order to prevent unauthorized overflows of effluent from Piute Ponds onto Rosamond Dry Lake and to handle future increases in effluent flow, the 2020 Facilities Plan for the Lancaster WRP identified new treatment processes (conventional NDN activated sludge replacing oxidation ponds, followed by tertiary filtration and disinfection) and treatment capacity expansion (18 MGD in 2010, with an ultimate capacity of 26 MGD). This plant expansion was completed in July 2012. Additionally, since agricultural demand for recycled water is seasonal and weather dependent, approximately 4,000 AF of storage ponds were constructed.

There has been an increased interest in the recycled water produced by the plant. Agreements for the purchase of recycled water have been executed with Los Angeles County Waterworks District 40 (13,500 AFY), City of Lancaster (950 AFY) and City of Palmdale (2,000 AFY). These agreements allow recycled water to be provided from the Lancaster and/or Palmdale WRPs. Since many industrial/municipal reuse projects and the required infrastructure are still in their early development stages, the Eastern Agricultural Site was developed to immediately utilize the water. In February 2006, construction of the 18.3-mile distribution pipeline to the Eastern Agricultural Site was completed. A narrative description of the layout of this system is included in **Appendix M**.

While the new tertiary treatment facilities were being designed and constructed, a 1 MGD MBR pilot plant with a chlorine disinfection system and a UV disinfection system was installed and put into operation in February 2007. The effluent from this plant had been delivered to the first agricultural area consisting of eight center pivot irrigation systems in the area bounded by 70th and 90th Streets East and Avenues D and E. However, tertiary recycled water from the upgraded Lancaster WRP has been delivered since the start-up of the new facilities, and the MBR plant has been decommissioned and dismantled with some of the tanks being repurposed for use at the Lancaster WRP. During FY21-22, 6.896 MGD (7,727 AFY) of recycled water was used at this site for the irrigation of 2,600 acres of fodder crops, such as alfalfa or grains, through 16 of the 18 center pivots. Reuse at this site constitutes 49.3% of the recycled water produced at this plant and a decrease of 9.4% from the preceding fiscal year.

4.1.4 *Piute Ponds*

The initial discharge point for disposal of effluent from the Lancaster WRP had been to Amargosa Creek that then flowed onto Rosamond Dry Lake. In order to prevent flooding of the dry lakebed, which is located within the boundaries of Edwards Air Force Base, a 1-⅓ mile long dike was constructed by the Air Force in 1960 to impound the effluent. Approximately 200 acres of wetlands formed, becoming an important migratory stopover for ducks along the Pacific Flyway. In a 1981 agreement with Edwards Air Force Base and the California Department of Fish and Wildlife, the Sanitation Districts agreed to maintain at least 200 acres of wetlands with recycled water in order to preserve Piute Ponds as a wildlife refuge and allow Air Force officers to use this area for duck-hunting.

In FY21-22, 3.807 MGD (4,266 AFY) was delivered to Piute Ponds, an increase of 4.8% over the preceding fiscal year. This reuse constitutes 27.2% of the recycled water produced at this facility.

4.2 PALMDALE WRP

This treatment facility, located at 39300 30th Street East, Palmdale, CA 93550, began operation in 1953 as a 0.75 MGD plant, with subsequent expansions in 1958 (2.5 MGD), 1972 (3.1 MGD), 1989 (6.5 MGD), 1993 (8 MGD), and 1996 (15 MGD). This plant completed its conversion to full tertiary treatment in December 2011, although with only a capacity of 12 MGD through the filters. Additional filters can be added in the future as influent flow to this plant increases.

This plant produced an average of 8.30 MGD (9,301 AFY) of recycled water in FY21-22, a 0.3% decrease from the preceding fiscal year. The O&M cost to produce this water was approximately $963/AF (not including solids processing). Recycled water quality for FY21-22 is presented in **Table B-10** of **Appendix B**. Use of recycled water from this facility is permitted under LRWQCB Order No. R6V-2012-0002.

PALMDALE WRP FACTS

Plant capacity:	12 MGD
Water produced:	8.30 MGD 9,301 AFY 0.3% FY decrease
FY21-22 O&M:	$963/AF
Water reused:	6.976 MGD 7,817 AFY 13.4% FY decrease 84.0% of production
Delivery systems:	2
No. of reuse sites:	6 (14 temporary) 1,776.0 acres

During FY21-22, 6.976 MGD (7,817 AFY), or 84.0% of the plant's production, was actively reused on 1,776 acres at six fixed permanent sites and 22 active hauled uses (there had been 51 previous hauled users). Most of the reuse occurred on property owned by the City of Los Angeles World Airports (LAWA) but now under long-term lease to the Sanitation Districts. The total usage represents a 13.4% decrease in reuse from the preceding fiscal year. The area receiving recycled water is shown on **Figure 19**. The reuse sites are listed in **Table 22**.

FIGURE 19
PALMDALE WRP REUSE SITES

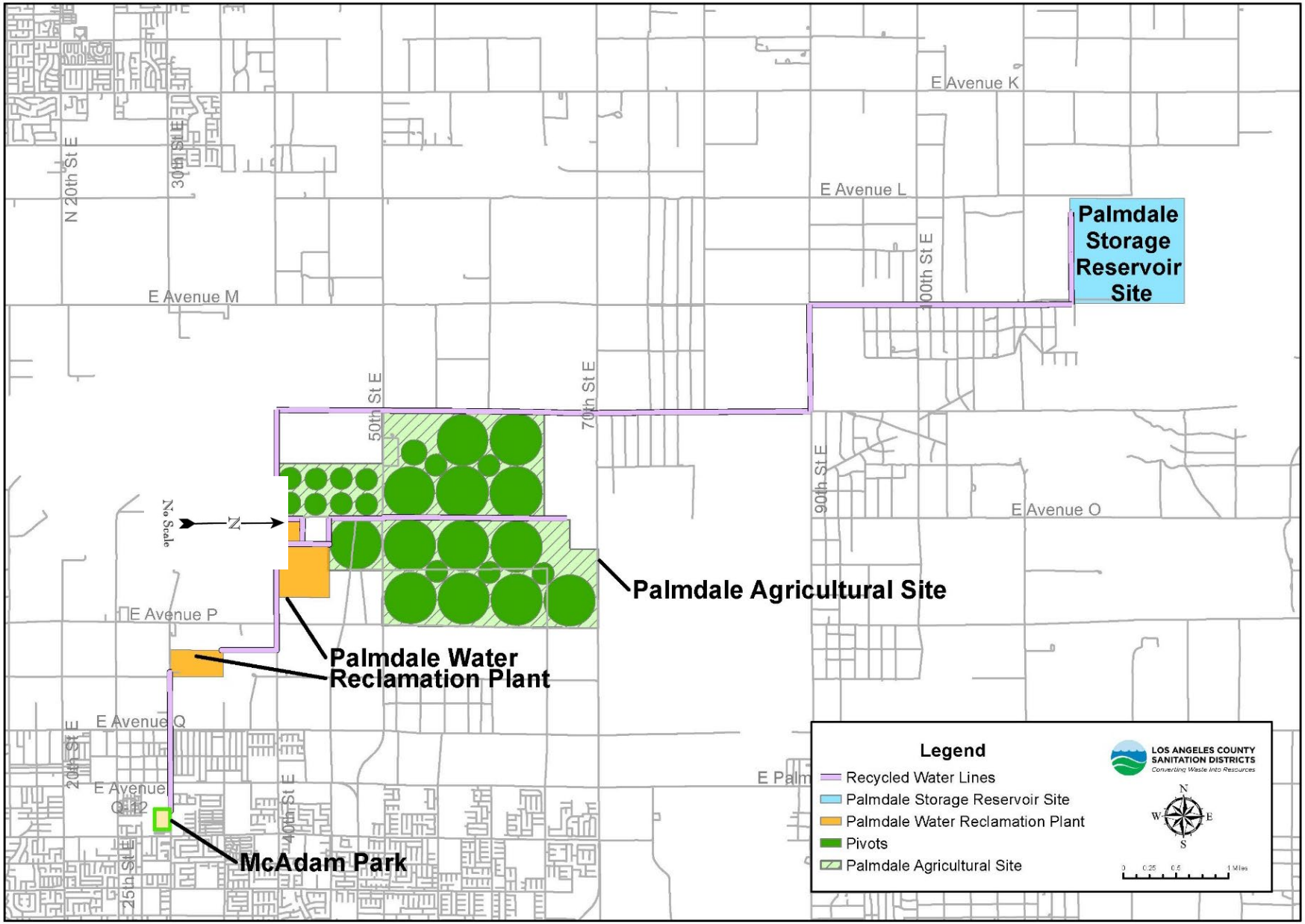


TABLE 22
SUMMARY OF FISCAL YEAR 2021-2022 RECYCLED WATER USAGE
PALMDALE WRP

Reuse Site	Start Date	Acreage	Usage		Type of Site	Type of Use
			MGD	AFY		
Harrington Farm Pistachio Orchard	Apr-85	23	0.023	26	AG	IR
Tree Farm	Feb-89	28	0	0	AG	IR
Antelope Valley Farms	Mar-02	1703	6.847	7,672	AG	IR
Cimis Weather Station	Oct-12	1	0	0	AG	IR
McAdam Park	Oct-12	15	0.058	65	PA	IR
Tree Barriers	Jan-13	6	0.020	22	AG	IR
Pro Energy Services Group	Dec-15	--	0.001	1	H	IN
Patriot Paving, Inc.	Jul-20	--	0.0001	0.2	H	IN
Pacific Commodities Builders	Aug-20	--	0.005	5	H	IN
EA Equestrian	Apr-21	--	0.002	3	H	IN
Homes 4 Families	Jun-21	--	0.0005	1	H	IN
Maisons Palmdale, LP	Jun-21		0.007	8	H	IN
Frontier Communities (Adainville Dr/Chapelle Dr)	Jul-21	--	0.00002	0.02	H	IN
Frontier Communities (Hollowglen Dr/40th St E)	Jul-21	--	0.001	1	H	IN
Global Premier Regency Palms, LP	Jul-21	--	0.0003	0.3	H	IN
Sully-Miller Contracting (25th St W, Ave S)	Jul-21	--	0.0003	0.3	H	IN
Manhole Adjusting, Inc.D557	Aug-21	--	0.001	1	H	IN
Pilot Travel Centers LLC	Aug-21	--	0.002	2	H	IN
RAAM Construction	Aug-21	--	0.001	1	H	IN
CCK Builders, Inc.	Sep-21	--	0.0001	0.1	H	IN
Richmond American Homes	Sep-21	--	0.001	1	H	IN
Hardy and Harper, Inc.	Oct-21	--	0.0004	0.4	H	IN
AM Ortega	Jan-22	--	0.0001	0.1	H	IN
RAAM Construction	Jan-22	--	0.001	1	H	IN
ANM Const. & Eng.	Mar-22	--	0.004	5	H	IN
Cedro Construction	Mar-22	--	0.00002	0.03	H	IN
DAI General	Apr-22	--	0.0001	0.2	H	IN
Nulin Technologies LLC	Apr-22	--	0.00001	0.01	H	IN

NOTES: AG = Agricultural, C = Cooling, CE = Cemetery, CH = Church, COM = Commercial, CON = Construction, DC = Dust Control, DP = Dual Plumb, E = Environmental enhancement, GC = Golf Course, H = Hauled, I = Injection, IM = Impoundment, IN = Industrial, IR = Irrigation, N = Nursery, P = Process, PA = Park, PF = Public Facility, RC = Recharge, RE = Residential, RO = Roadway, S = School, SF = Sewer Flushing, SP = Spreading, SW = Street Sweeping, TF = Toilet Flushing

4.2.1 CITY OF LOS ANGELES WORLD AIRPORTS LEASE

Recycled water from the Palmdale WRP has been sold to a series of local farmers since 1959. However, since the recycled water produced at the Palmdale WRP had originally been secondary effluent, its applications were limited. In January 1981, the Sanitation Districts signed Contract No. 2474 for the delivery of all the plant's effluent to LAWA,[11] who had purchased much of the land in the area in anticipation of the construction of Palmdale International Airport. LAWA had planned to lease out this land to farmers until the airport could be built, reselling the recycled water to these farmers and spreading the excess on uncultivated land. However, LAWA was unable to find tenants to buy the recycled water, so a second contract (No. 3013) was signed in 1989 to extend the 1981 agreement. In January 2001, in

11 Formerly known as the City of Los Angeles Department of Airports, or DOA.

accordance with the plant's Waste Discharge Requirements (WDRs), the Sanitation Districts submitted a Farm Management Plan (FMP), an Effluent Disposal Plan and a Corrective Action Plan for the Palmdale WRP. These documents provide an integrated solution for meeting the revised WDRs established in Order No. 6-00-57. As a means of implementing the FMP, the Sanitation Districts signed a long-term lease with LAWA for four square miles of land to allow for the development of an integrated reuse system for water produced by the Palmdale WRP. As the master leaseholder, the Sanitation Districts are directly responsible for all land application and reuse activities at the site and, accordingly, have implemented agricultural management measures to minimize impacts to groundwater quality in land application areas. In March 2009, the Sanitation Districts eliminated land application of the recycled water and maximized reuse activities.

Recycled water is delivered to the Sanitation Districts' LAWA-leased property through 13,200 feet of 36-inch DIP force main and is used to irrigate 23 acres of a pistachio orchard (previously planted and maintained by LAWA) and a 46-acre Sanitation Districts-operated tree farm (formerly operated by Tree Mover). Both the pistachio orchard and tree farm are leased from the Sanitation Districts by Harrington Farms. In addition, recycled water is being used to irrigate an acre of landscaping around a CIMIS weather station and four acres of tree barriers. These sites used a cumulative 0.043 MGD (48 AFY) during FY21-22, or 0.5% of the recycled water produced by the Palmdale WRP. This was a 10.9% decrease from the preceding fiscal year.

As part of the FMP implementation, the Sanitation Districts embarked on the Palmdale Agricultural Effluent Reuse Project, submitting an Engineering Report for the Demonstration Phase to LRWQCB in October 2001. In March 2002, this project officially began with Antelope Valley Farms installing two center-pivot irrigation systems (125 acres each) on land leased by the Sanitation Districts from LAWA. The only cost to the farmer was the capital costs for the irrigation systems and the O&M and energy costs for the booster pumps. By the end of FY21-22, a total of 13 center pivots and 14 mini-pivots had been installed, with a maximum of 21 of the pivots in use at any time during the year. Previously, the pivots were used primarily for land application of effluent on crops (i.e., above agronomic rates) and were not considered as "reuse". However, all application of recycled water began meeting agronomic rates in March 2009, therefore is now counted as reuse. During FY21-22, this 2,062-acre site (1,971 irrigable acres of which a maximum 1,703 were under irrigation during the fiscal year) used 6.847 MGD (7,672 AFY), or 82.5% of the recycled water produced by the Palmdale WRP to grow livestock feed (oats and alfalfa). This was an 13.0% decrease from the preceding fiscal year.

4.2.2 CITY OF PALMDALE

The Palmdale Recycled Water Authority (PRWA) was created in 2012 through an agreement between the City of Palmdale and the Palmdale Water District (see details in S**ection 5.8.2**) to implement recycled water use projects. As part of these efforts, the City of Palmdale installed a temporary pump station that began delivering recycled water to McAdam Park in October 2012, using 0.058 MGD (65 AFY) in FY21-22. In addition, recycled water was supplied to 68 hauled use sites for construction applications from this system at various times (17 active during FY21-22), using a total of 0.028 MGD (32 AFY) during the fiscal year. The total usage of 0.086 MGD (96 AFY) was a 53.8% decrease from the preceding fiscal year and was 1.0% of the recycled water produced by the Palmdale WRP in FY21-22.

5. FUTURE WATER RECYCLING PROJECTS

A number of recycled water distribution projects throughout the Sanitation Districts' service area are in various stages of assessment or development to make use of up to an estimated 16,321 AFY of the remaining recycled water currently produced but not yet beneficially reused, with the possibility of another 168,100 AFY of effluent from JWPCP receiving additional treatment prior to reuse. These projects are listed in **Table 23** along with the WRP that would supply the recycled water, the estimated quantities of recycled water and the anticipated completion date. The most notable inclusion to this table being the use of advanced treated recycled water use from JWPCP through an MWD proposed project which appears to be very likely to proceed (**Section 5.6.2**). Not included in this table are "conceptual" water recycling projects discussed in **Section 5.9**. Unsecured funding, institutional concerns and the absence of regulatory approval make the anticipated completion dates for several projects uncertain.

TABLE 23
SUMMARY OF FUTURE WATER RECYCLING PROJECTS

Project Name	Recycled Water Source	Quantity (AFY)	Anticipated Completion
LBWD Haynes Generating Station extension	Long Beach WRP	5,800	2026
City of Signal Hill	Long Beach WRP	180	TBD
City of Lakewood	Los Coyotes WRP	160	TBD
CBMWD GWMA Recycled Water Project	Los Coyotes WRP	82	TBD
CBMWD Disadvantaged Communities Project	Los Coyotes WRP	110	2023
CBMWD World Energy Paramount	Los Coyotes WRP	2,250	2023-24
Walnut Valley Water District	Pomona WRP	1,975	TBD
City of Pomona Master Plan (recommended projects)	Pomona WRP	1,500	2030
La Puente Valley County Water District	San Jose Creek WRP	70	2022
Rose Hills Memorial Park expansion	San Jose Creek WRP	350	2024
City of Arcadia	Whittier Narrows WRP	740	TBD
MWD Pure Water Southern California	JWPCP	168,100	2035
SCVWA Phase 2B Vista Canyon Project	Valencia/Saugus WRPs	415	2022
SCVWA Phase 2C South End Project	Valencia/Saugus WRPs	1,359	2025
SCVWA Phase 2D West Ranch Project	Valencia/Saugus WRPs	221	2023
Newhall Ranch Development	Valencia WRP	3,750	TBD
County Waterworks – Backbone System	Palmdale/Lancaster WRPs	400	TBD
Palmdale Recycled Water – Direct Use	Palmdale/Lancaster WRPs	2,000	TBD
Palmdale Regional Groundwater Recharge Project	Palmdale WRP	4,000	TBD
TOTAL		193,462	

TBD = to be determined

Compounding this is the fact that, beginning in FY14-15, the estimated future demands on the Sanitation Districts' recycled water supply began to approach or even exceed the remaining unused quantities (51,577 AFY in FY21-22). In the case of the Antelope Valley, this will require the transition from Sanitation Districts sponsored agricultural operations to urban applications. And while there is currently a lack of competition for recycled water from the Valencia and Saugus WRPs, the San Jose Creek WRP appears to

be headed towards oversubscription. If some of the proposed recycled water projects are to be fully developed, it may be required at some point to increase recycled water flows via sewer diversions, flow equalization, etc. (as has been already done in some cases).

5.1 LONG BEACH WRP

5.1.1 LONG BEACH WATER DEPARTMENT MASTER PLAN

In August 2010, LBWD, with the assistance of Montgomery-Watson-Harza (MWH) and in conjunction with WRD, released a draft update of its recycled water Master Plan. MWH identified an additional 49 irrigation and industrial potable water customers with a demand of approximately 4,510 AFY that could be converted to recycled water, including LADWP's Haynes Generating Station and the Southeast Resource Recovery Facility (SERRF), a number of residential developments, several industrial users and commercial laundries and numerous greenbelts (schools, parks, golf courses, commercial nurseries, etc.). The revised Master Plan also took into consideration the expansion of the LVLAWTF for increased seawater intrusion barrier injection and recommended the construction of two, 3.3 MG storage tanks at the Alamitos Reservoir site. Seventeen of these customers with a total demand of 2,505 AFY were identified as the "most probable" for conversion to recycled water in the near term, as they are either located near an existing recycled water line or have expressed interest in conversion. Eleven alternative construction projects were identified, with five being recommended for implementation. However, LBWD currently does not plan on implementing these projects in the foreseeable future, as there is insufficient recycled water available at the Long Beach WRP during the summer months to support these customers.

In lieu of implementing the projects in the Master Plan, LBWD is proceeding with a project to deliver recycled water to the Haynes power plant for their future cooling process needs. LBWD will extend the existing recycled water main located at the intersection of Atherton Street and Studebaker Road southerly along Studebaker to the State Route 22 Freeway, then east along freeway to a point of connection at Haynes. Design began in July 2022 with anticipated completion in mid-2023. Construction is currently scheduled to start in late 2023 or early 2024, pending review and approval with Caltrans, with a 24-month construction period. Construction is currently scheduled to start before end of June 2023 with a 24-month construction period. This project also includes construction of a private forced sewer line (LADWP-owned and maintained) that will convey the industrial wastewater from Haynes to the Long Beach WRP, providing an additional source of recycled water to the City. The estimated completion date for all construction is by the end of 2026. This project is expected to provide an estimated 5,800 AFY of recycled water; however, the actual amount delivered will be dependent on production at the Long Beach WRP and the demands of all the other recycled water customers of LBWD.

In order to support the additional demand on its recycled water system, LBWD is proceeding with the conversion of Tanks 19 and 20 located at the Alamitos Reservoir from potable to recycled water storage. Construction began in August 2022 and is expected to be completed by end of 2023. The two new tanks will increase the city's recycled water storage, bringing the total recycled water tanks to up to five.

5.1.2 CITY OF SIGNAL HILL

The City of Signal Hill completed a Recycled Water Feasibility Study in March 2012, the purpose of which was to identify potential customers, pipeline alignments, pump station and reservoir locations and possible connection points. The original point of connection was to have been with LBWD, but lack of available water from that system prompted a 2015 investigation into connecting to the CBMWD system through the City of Lakewood. Signal Hill's anticipated Phase 1 system would serve approximately 180 AFY to 39 customers through 25,000 feet of pipe at a total estimated cost of $6.6 million. There is no current schedule for this project, as it requires multiple agency coordination, purchase of land for a storage tank and funding.

5.2 LOS COYOTES WRP

5.2.1 CITY OF LAKEWOOD MASTER PLAN

The City of Lakewood commissioned Wildan and Associates to conduct a study to determine the feasibility of expanding its recycled water distribution system westward. This potential expansion could serve an additional 160 AFY to city parks (e.g., Bolivar and Biscailuz Parks), numerous medians and parkways and several public and private schools (e.g., Craig Williams and Lakewood Elementary Schools, the Intensive Learning Center, St. Pancratius School, and Hoover Middle School). Such an extension would require about 7.7 miles of pipeline to be built in five phases and could cost as much as $7.25 million. This study was completed in July 2010; however, no implementation schedule was set as funding had been unavailable. City staff is expected to reevaluate the economics of this project at some point in the future due to the availability of state recycled water project funding. The City has, however, completed storm water capture projects at Bolivar (proposed reuse site) and Mayfair (existing reuse site) parks to augment recycled water irrigation needs at these sites. The Bolivar Park project was completed in March 2018, while the Mayfair Park project construction was completed in January 2022.

5.2.2 CBMWD EXPANSION PROJECTS

The CBMWD recycled water distribution system consists of two separate systems. The southern portion of the system is the Thornton E. lbbetson Century Recycled Water Project (Century System) which receives recycled water primarily from the Los Coyotes WRP in Cerritos. The Esteban Torres Rio Hondo Recycled Water Project (Rio Hondo System) receives its supply primarily from the San Jose Creek WRP in Whittier. While an eventual looping of the system for flow reliability, system pressure and as an aid in chlorination would be the ultimate goal, this may not be attainable in the short-term. However, CBMWD has several projects in their Capital Improvements Plan for the near term, as detailed below. Even though the CBMWD's distribution system is interconnected between the San Jose Creek and Los Coyotes WRPs, recycled water in these areas would most likely be supplied from the latter facility.

5.2.2.1 GWMA RECYCLED WATER PIPELINES PROJECT (GATEWAY CITIES EXTENSION)

The GWMA Regional Recycled Water Expansion Project will extend the recycled water system in the City of Bell Gardens and the City of Downey to provide water for the irrigation of parks serving disadvantaged communities within the Gateway Region. These facilities will ensure that these public open spaces can continue to support their communities and bring potable water offsets to the region at a critical time during Southern California's drought.

Bell Gardens: The City of Bell Gardens is considered a 100% Disadvantaged Communities (DAC) region. The recycled water expansion will include constructing 6,000 linear feet of recycled water line for landscape irrigation purposes. The extension will run from the point of connection at Ford Park at the intersection of Garfield Avenue and Park Line to Veterans Park and Suva Elementary School at the intersection of Florence Place and Sudan Ave. The proposed extension will distribute water CBMWD through 3,000 feet of 16-inch pipeline, 2,420 feet of 12-inch pipeline, and 600 feet of 8-inch pipeline. This extension is expected to deliver 17 AFY.

Downey: The recycled water expansion in the City of Downey includes constructing an 8-inch recycled water main and associated facilities from the Rio Hondo Golf Course east to Furman Park and the adjacent Rio Hondo Elementary School for landscape irrigation purposes. The total length of the new pipeline will be approximately 1,900 feet. This project is expected to deliver 65 AFY.

5.2.2.2 CUSTOMER CONVERSIONS FOR DISADVANTAGED COMMUNITIES PROJECT

The California Department of Water Resources (DWR) is administering an Integrated Regional Water Management Implementation Grant solicitation utilizing funds authorized by the Water Quality, Supply, and Infrastructure Improvement Act (Proposition 1). In response to this opportunity for funding, CBMWD staff has been developing a project titled the Customer Conversion for Disadvantaged Communities Project that is meant to help DAC within CBMWD's service area have access to and use recycled water. The project scope of work was developed to be all encompassing and any work related to connecting a participating site to recycled water is meant to be eligible for funding. The Los Angeles County Flood Control District will be facilitating the grant and managing grant funding from DWR.

The project will supply recycled water to seven sites in DACs: Bellflower City Hall in Bellflower, Tanner Elementary School in Paramount, Tweedy Elementary School in South Gate, San Antonio Elementary School and Maywood Academy High School in Huntington Park and Pan American Park and Bancroft Middle School in Lakewood. These sites were selected because they are located within DACs, are relatively close to existing CBMWD infrastructure, have substantial landscape irrigation needs and the recycled water will be sourced from the Los Coyotes WRP. This project requires approximately 4,000 feet of additional recycled water pipeline and will supply an estimated 110 AFY. Planning for these connections will take place in 2022, with construction occurring in 2023.

5.2.2.3 PUMP STATION FOR THE MONTEBELLO HILLS RESIDENTIAL DEVELOPMENT

The Montebello Hills Residential Development is a new development of over 1,200 planned residential dwelling units of varying sizes to be constructed on 488 acres of vacant land previously known as the Montebello Oil Field that contained oil and gas production facilities. The Montebello Hills Specific Plan for converting this property to a residential development was approved by the City of Montebello in June 2015. In addition to the residential units (on approximately 173.6 acres), this project will also consist of 314.5 acres dedicated for open space with a series of pedestrian walkways and trails, a 5.5 acre city park that is open to the general public, a 1.5 acre private community center, and five quarter-acre pocket parks, one for each planning area. This project is located in the northeast portion of the City of Montebello and grading operations started in early 2020. Currently the project is receiving recycled water for dust control via a temporary pump station (**Section 2.5.6**). It is anticipated that the Montebello Pump Station will begin construction in late 2022 and be completed in approximately 9 months. Once construction of the development is complete, the anticipated recycled water demand for landscape irrigation will 206 AFY that will replace the usage for construction.

5.2.2.4 WORLD ENERGY (ALT-AIR) PARAMOUNT

World Energy is retrofitting the former Paramount Petroleum site in the City of Paramount to be a renewable fuel (e.g., diesel, gasoline, aviation fuel) production facility. The project sponsor is designing the use of recycled water into its process with a connection to the CBMWD Century System and is expecting to use approximately 2 MGD (2,250 AFY) by late 2023 to summer 2024.

5.3 POMONA WRP

5.3.1 WALNUT VALLEY WATER DISTRICT

WVWD contracts directly with the Sanitation Districts for the purchase of recycled water, instead of receiving recycled water through the City of Pomona as it had originally. In conjunction with the Sanitation Districts, WVWD has essentially completed repairing/replacing the gravity line that serves both it and the

Sanitation Districts' Spadra Landfill site. All but a very short portion of the gravity line between the Pomona WRP and the Spadra site has already been replaced with 24-inch cement-lined and coated steel pipe. WVWD and the Sanitation Districts continue to investigate the construction of a storage reservoir of up to 3 MG at the Spadra site to serve both agencies and make use of Pomona WRP recycled water that is currently discharged to the river. According to staff of WVWD, both capital improvement projects are necessary to increase WVWD's use of recycled water from the Pomona WRP. In mid-2013, WVWD had its soil consultant begin evaluating the suitability of a 7-acre parcel along Valley Boulevard at the Spadra site as the location for the proposed storage tank. The "Intermediate Pad" was found to be the most suitable and is located completely within Sanitation Districts' property. Once an agreement is in place between WVWD and the Sanitation Districts for an easement, joint use, etc., WVWD can release an RFP for design and construction.

In December 2011, WVWD finalized an updated master plan for the future orderly expansion of its recycled water distribution system by up to an estimated 1,975 AFY through build-out in the year 2020, although this schedule is no longer viable. This Master Plan detailed the potential for expansion, which would consist of adding 167,000 feet of 6- to 20-inch pipeline, nine pump stations and three reservoirs (a fourth one in the Master Plan has already been constructed) to the recycled water distribution system. Completion of this $33 million system expansion would be conducted in phases corresponding to the six pressure zones being served. This plan is contingent upon WVWD Board approval and the construction of the aforementioned storage reservoir at the Spadra site, as there are insufficient flows in the gravity distribution system as currently configured. In addition to its continued use of recycled water from the Pomona WRP, WVWD is expected to connect to the East San Gabriel Regional Recycled Water System detailed in **Section 2.5.9**.

5.3.2 CITY OF POMONA MASTER PLAN

The City's consultant, Carollo Engineers, completed a master plan for expanding their recycled water distribution system in November 2009. The additional demand for their entire potential customer base was estimated at 6,150 AFY. However, the estimated maximum daily demand would be 11.6 MGD, which is not available to the City from the Pomona WRP. Therefore, additional sources of water would be required if all the potential reuse sites were connected. These water sources include potable water, non-potable groundwater from existing or rehabilitated wells, increased wastewater flow to the Pomona WRP (i.e., process optimization/flow equalization) and recycled water from the Inland Empire Utilities Agency (although this agency has stated that it will not be delivering recycled water to the City within the Master Plan's time horizon of 2030).

The proposed expansion of the City's recycled water distribution system was divided into 10 segments serving an ultimate demand of 2,981 AFY. Because of the high, anticipated cost of implementing the entire proposed expansion (in addition to new distribution lines, eight new pump stations, five new storage reservoirs and four additional pumps were needed), the Master Plan recommended that only three segments be built, as they were the most cost effective and could be served by the existing recycled water supply from the Pomona WRP. This recommended project would be built in four phases through 2030 yielding an additional 1,500 AFY at an estimated capital cost of $20.7 million. The Master Plan also recommended replacing the existing pumps at the Pomona WRP with variable frequency drives prior to construction of the third segment so that more of the WRP's production could be beneficially reused with less discharge to the San Jose Creek channel. The seven remaining segments, if built, would be constructed in two phases after 2030, serving an additional 1,484 AFY of demand at an estimated capital cost of $52 million.

5.4 SAN JOSE CREEK WRP

5.4.1 GROUNDWATER RECHARGE PROGRAM

USGVMWD, along with the San Gabriel Valley Municipal Water District (SGVMWD), had been developing a plan to replace imported State Project water (purchased either through MWD or directly) with a similar amount of recycled water from the Sanitation Districts' San Jose Creek WRP West to prevent long-term groundwater overdraft of the basin. The initial proposal in the early 1990s was for transmission line running north along the San Gabriel River to the Santa Fe Spreading Grounds to deliver a long-term average of 16,000 AFY (maximum of 25,000 AFY) of tertiary treated recycled water.

Because of opposition from a nearby brewery and a California Environmental Quality Act (CEQA) lawsuit, a compromise "demonstration" recharge project was proposed that would use a maximum of 10,000 AFY of recycled water for recharge downstream of the Santa Fe Dam at five concrete drop structures in the San Gabriel River, which had been identified as discharge points in the June 2009 National Pollutant Discharge Elimination System (NPDES) permit for the San Jose Creek WRP. Contracts for the sale of recycled water from the Sanitation Districts to USGVMWD and SGVMWD were executed in August and September 1998, respectively. However, permit action was delayed when LARWQCB staff proposed that this groundwater recharge project immediately comply with surface water human health-based criteria (California Toxics Rule, or CTR) for water bodies (i.e., the unlined San Gabriel River) that are existing or potential drinking water sources. CTR criteria for some constituents are significantly lower than Title 22 drinking water standards and were not attainable with current conventional tertiary treatment. Since that time, the designation as an existing or potential drinking water source has been removed from a number of water bodies in the Los Angeles Basin, including this portion of the San Gabriel River. CTR human health criteria for non-drinking water sources and criteria for aquatic life and all other applicable Basin Plan Objectives would be applied to the recycled water at the point of discharge to the San Gabriel River. Subsequently raised concerns about the disinfection by-product, NDMA, in recycled water had continued to prevent this project from moving forward. As such, the only way to obtain compliance with these requirements would have been by the addition of advanced treatment to that portion of the recycled water to be recharged. Because of the substantial additional cost that would be incurred, the project was shelved at that time.

Interest in this project was rekindled following MWD's May 2007 cessation of all deliveries of imported water for spreading. USGVMWD, WRD, and the Sanitation Districts entered into a Memorandum of Understanding (MOU) on September 24, 2008, to develop the Groundwater Reliability Improvement Program (GRIP). As envisioned, Phase I of GRIP would consist of an advanced treatment plant (MF/RO/AO) located at or adjacent to San Jose Creek WRP West that would produce 18,000 AFY for recharge in both the Main San Gabriel and Central groundwater basins. Phase II would increase production capacity to 46,000 AFY. In November 2010, a Joint Powers Authority (JPA) was formed by the three agencies to proceed with the project.

However, despite initial progress, the USGVMWD Board of Directors voted in March 2011 to remove their agency from the JPA due to shifting replenishment needs and cost concerns. Instead, USGVMWD has received a $150,000 grant from USBR to conduct a feasibility study to offset current interruptible imported State Water Project supplies with locally supplied recycled water. USGVMWD's Indirect Reuse Replenishment Project (IRRP) was expected to deliver up to 15,000 AFY of highly treated recycled water for recharge of the underlying groundwater basin. USGVMWD had been working on final design and a permit for spreading of this water for recharge at the Santa Fe Dam spreading grounds operated by the LACDPW in conjunction with the Army Corps of Engineers. This project would have included a pump station located at the Sanitation Districts' San Jose Creek WRP as well as a 9-mile transmission pipeline adjacent to the San Gabriel River. The 2015 revised NPDES permit for the San Jose Creek WRP has two future discharge points identified for recharge, one upstream and one downstream of the Santa Fe Dam.

However, this project has been placed on indefinite hold, at least with the use of recycled water from the San Jose Creek WRP and is, therefore, not included in **Table 23**. It may proceed at some point in the future using advanced treated water from the MWD project described in **Section 5.9.1** below.

WRD went ahead with its portion of GRIP (now known as ARCAWTF), beginning operation in February 2019 (see **Section 2.5.1** above).

5.4.2 La Puente Valley County Water District Master Plan

The La Puente Valley County Water District's (LPVCWD's) potable water source is groundwater, and it currently pumps over its annual allotment by approximately 40%, thereby requiring them to pay replenishment fees to the basin Watermaster. In May 2011, MWH produced a recycled water master plan for LPVCWD. Environmental documentation has been completed and LPVCWD has been approved for funding from Proposition 84, while still pursuing both SRF and Proposition 1 funding. The project is proposed to be constructed in three phases, with a total demand of approximately 400 AFY. This project will connect to the City of Industry's main transmission system and will supply recycled water from the City of Industry's contractual allotment. Phase 1 construction has been completed and reuse sites are expected to be connected starting in early 2023 with a total anticipated demand of 70 AFY. There is no schedule for the remaining phases.

5.4.3 Rose Hills Memorial Park Expansion

Rose Hills Memorial Park, adjacent to the Sanitation Districts' now closed Puente Hills Landfill site, began using recycled water in 1998. Rose Hills is in the process of developing a major expansion of cemetery area, known as their Zone 12. This project will encompass 107.5 irrigated acres, require a 1 MG concrete storage reservoir and will use an estimated 350 AFY. Construction is expected to be completed and recycled water usage begin in 2024.

5.5 Whittier Narrows WRP

5.5.1 City of Arcadia (USGVMWD Phase III Extension)

The City of Arcadia, along with USGVMWD, commissioned Stetson Engineers to examine the feasibility of supplying recycled water to various sites within the city. A draft report was completed in December 2006 identifying an extension of USGVMWD's distribution system from the Whittier Narrows WRP as the most feasible alternative compared with obtaining recycled water from the San Jose Creek WRP or LADWP's LA-Glendale WRP. The proposed project consists of approximately 64,100 feet of 14- and 16-inch distribution lines, a 900 HP booster pump station and an existing 1.5 MG storage reservoir at an estimated cost of $7.6 million. The pipeline route is proposed to run east on Rush Street, north on Santa Anita Avenue, north along the Rio Hondo, west on Live Oak Avenue, then north again on Santa Anita to Foothill Blvd. Within the main part of Arcadia, the pipeline would form a loop going west on Foothill/Colorado Blvd., then south on Michillinda Avenue, then east on Huntington Drive back to Santa Anita. This system would provide recycled water to 23 potential customers with a total annual recycled water demand of approximately 644 AFY and a peak demand of 4.3 MGD. Another 23 sites with a total annual demand of 96 AFY were identified in the vicinity, although not adjacent to the proposed pipeline route, and would require investment in additional service laterals. The four largest sites, Santa Anita Racetrack, the Los Angeles County Arboretum, Arcadia County Park, and Santa Anita Golf Course, make up 56% of the total identified demand for water. This study did not include any potential reuse sites that might be located along the pipeline route outside of the City of Arcadia. This project, designated Phase III by USGVMWD, has no specific timetable for implementation.

5.5.2 SAN GABRIEL VALLEY WATER COMPANY – SOUTH EL MONTE EXTENSION

The existing recycled water distribution system originating from the Whittier Narrows WRP was built by USGVMWD, but the South El Monte extension is being developed by the local retail purveyor, SGVWC, which has received Proposition 84 and Proposition1 grant funds. Construction of Phase 1 has been completed with 14 sites (72 AFY) being connected between March and November 2019 (**Section 2.6.2** above). The additional proposed construction phases are projected to use a cumulative 550 AFY (including Phase 1) but may only get to 150 AFY. The conceptual overview of the various phases also indicates a Phase 2 connection at the San Jose Creek WRP West, although the Sanitation Districts have not been approached with this proposal. Further development of this project will be subject to Water Code §1211 restrictions on the diversion of recycled water from receiving surface waters.

5.6 JOINT WATER POLLUTION CONTROL PLANT

5.6.1 WEST BASIN MUNICIPAL WATER DISTRICT

The West Basin Municipal Water District's (WBMWD) June 2009 Master Plan outlined the expansion of its recycled water system deliveries to a potential of 70,000 AFY by 2020 and to 83,000 AFY by 2030, including expansion of their Juanita Millender-McDonald Carson Regional Water Recycling Facility (JMMCRWRF) from 6 to 20 MGD. One option was to supply 20% of WBMWD's future needs, or up to approximately 16,600 AFY, from the Sanitation Districts' JWPCP. However, in their updated 2022 Recycled Water Master Plan it was decided to not pursue this option due to the higher TDS levels at JWPCP resulting from the industrial contribution to sewers. This project is expected to be superseded by the MWD Pure Water project (**Section 5.6.2**).

5.6.2 MWD PURE WATER SOUTHERN CALIFORNIA

In FY21-22, JWPCP provided primary and secondary treatment to approximately 239.88 MGD (268,233 AFY) of wastewater prior to discharge through outfall tunnels to the Pacific Ocean, with water recycling at the facility being limited to in-plant uses. MWD and the Sanitation Districts have partnered to study the potential for a regional, indirect potable reuse program to advance treat as much as 150 MGD (168,100 AFY) of treated wastewater that is currently discharged to the ocean. Implementation of such a large-scale regional reuse program could provide MWD with a significant supply of reliable, drought-resistant water to supplement imported raw water supplies and would be consistent with the enhanced regional approach currently being considered in their Integrated Resources Plan (IRP). Such a project would involve complex interagency agreements, extensive regulatory approvals, public outreach, and considerable capital costs.

From a technical standpoint, this project would require new advanced treatment facilities (i.e., MBR, RO, UV, and advanced oxidation), a regional distribution system to groundwater basins (e.g., Montebello Forebay, Main San Gabriel Basin, Orange County) and injection and extraction wells, modeled somewhat after the Groundwater Replenishment System in Orange County. Pilot scale testing of treatment systems was performed, funded with a $330,000 grant from the USBR to demonstrate the technology. Pilot scale testing concluded in June 2012 and a final report was submitted to the USBR in September 2012. MWD and the Sanitation Districts entered into an agreement for the construction of a $17 million, 0.5 MGD demonstration plant at JWPCP that went on-line in October 2019. Over the ensuing 15 months of operation, this treatment process was put through rigorous testing to ensure the process effectively removes impurities and the resulting water meets the highest quality standards. The testing and other analyses will help the agencies determine whether to expand to a full-scale plant, at an estimated cost of $3.4 billion, that could potentially produce enough water by 2035 to serve more than 500,000 homes and industrial facilities. The full-scale project was formerly known as the Regional Recycled Water Advanced Purification Center.

5.7 VALENCIA AND SAUGUS WRPS

5.7.1 SANTA CLARITA VALLEY WATER AGENCY

In 2002, SCVWA (formerly CLWA), the regional importer and wholesaler of State Water Project water in the Santa Clarita Valley, developed an updated Recycled Water Master Plan for the use of 17,400 AFY of recycled water produced at both the Sanitation Districts' Valencia and Saugus WRPs by the year 2030. SCVWA requires an updated plan in order to compile the latest information with regard to potential recycled water users, design of infrastructure and the availability of recycled water to serve them. Before updating the plan, in 2014, LARWQCB approved an expansion of SCVWA's recycled water system at the Entrada Development for landscape irrigation and construction of a recycled water fill station near SCVWA's recycled water tank site for non-irrigation use. Recently, in 2020, LARWQCB issued a Notice of Applicability (NOA) for SCVWA to supply recycled water for non-irrigation use and SCVWA began construction of the fill station which will now be located adjacent to the Valencia WRP.

In 2016, SCVWA issued the Administrative Draft Recycled Water Management Plan and in 2021 issued the Urban Water Management Plan. These plans outline four projects to expand recycled water use beyond the initial Phase 1 project, which provides recycled water to the Tournament Players Club golf course, the Entrada development and surrounding street medians for landscape irrigation. The Phase 2 projects are in various stages of planning, design and construction where the Valencia WRP will supply Phase 2A, 2C, and 2D projects and the Valencia Canyon Water Factory will supply the Phase 2B with recycled water. The Sanitation Districts anticipates SCVWA to enter into a new contract for the purchase and sale of recycled water to support the Phase 2A, 2C, and 2D projects. The Phase 2A South End project consists of a booster pump station, several thousand feet of pipelines and a storage reservoir. This system would deliver an estimated 560 AFY of recycled water to the 80-acre Central Park and surrounding area east of the Valencia WRP. In June 2011, the Mitigated Negative Declaration/Environmental Assessment (MND/EA) was completed and USEPA issued a Finding of No Significant Impact for this project. In July 2011, the former CLWA approved the resolution adopting the MND/EA and approving the Mitigation Monitoring and Reporting Program, with a Notice of Determination being filed with the Los Angeles County Office of Clerk/Recorder and with the California State Clearinghouse. Since then, this phase has been placed on hold.

SCVWA is moving forward with the other three recycled water projects. Construction of the $8.8 million Phase 2B Vista Canyon project is underway and will deliver up to 137 AFY to the Vista Canyon development and up to 278 AFY to SCVWA customers. Construction completion is anticipated in 2022. Design is nearly complete for the $15 million Phase 2C South End project, which is expected to use up to 1,359 AFY. Construction is expected to start in 2023 with completion by 2025. And finally, construction of the $4 million Phase 2D West Ranch project was completed; however, DDW and LARWQCB continue to review this project for approval. Once approved, this extension will provide up to 221 AFY of recycled water.

5.7.2 NEWHALL RANCH DEVELOPMENT

The Newhall Land and Farming Company, a major landowner in the Santa Clarita Valley, is developing a 15,000-acre residential/commercial development known as Newhall Ranch. A new sanitation district, the Newhall Ranch Sanitation District, has been formed to serve the wastewater needs of Newhall Ranch and is now a part of the Sanitation Districts. The Newhall Ranch WRP is expected to produce up to 3,750 AFY of recycled water to be reused for landscape irrigation and other approved uses within Newhall Ranch. Wastewater from the initial phases of development (i.e., the first 6,000 capacity units) will be temporarily conveyed to the Valencia WRP until the Newhall Ranch WRP is operational. However, as a result of the topography and shared border of the Newhall Ranch Sanitation District and Santa Clarita Valley Sanitation District, portions of each District's service area can be served in a more economical and environmentally

friendly way by the other District through a potentially interconnected sewage system. The earliest predicted occupation of Newhall Ranch homes is now 2023.

5.8 LANCASTER AND PALMDALE WRPS

5.8.1 ANTELOPE VALLEY REGIONAL RECYCLED WATER DISTRIBUTION PROJECT

Sanitation Districts' staff continues to work with the cities of Lancaster and Palmdale and Los Angeles County Waterworks District 40, Antelope Valley, (Waterworks) to develop a regional "backbone" recycled water distribution system for municipal and industrial users. The proposed North Los Angeles/Kern County Regional Recycled Water Project (AV Backbone) includes facilities for the primary distribution system to provide disinfected tertiary recycled water produced from the Sanitation Districts' Palmdale and Lancaster WRPs and from Rosamond Community Services District's Rosamond WRP to end users in the Antelope Valley. The Project is being built in phases and portions, with the Division Street Corridor and its extensions to Columbia Way and to City Park already constructed and partially implemented in the City of Lancaster using tertiary treated recycled water produced by the Lancaster WRP (detailed in **Section 4.1.4**).

The City of Palmdale and Waterworks have entered an agreement to design, construct, and implement a southern segment of the AV Backbone. The main backbone pipeline will originate at the Palmdale WRP, travel west down Rancho Vista Boulevard, then north on 10th Street East, west on Avenue O-8, and north along Sierra Highway, terminating at Columbia Way and connecting to the extension of the Division Street Corridor (described above). The Columbia Way lateral would serve a proposed power plant project, a 645-megawatt (recently revised from 570 megawatts) electric generating facility, currently projected to begin operation in FY22-23. Another portion of the main backbone pipeline will head west from Sierra Highway, along Avenue O, to the Amargosa Creek and roughly parallel the creek to reach the Waterworks' tank site next to the Antelope Valley Freeway, at 10th Street West and Avenue O-12. Facilities will also include the pump station and forebay tank to be located at the Palmdale WRP, as well as a storage tank at the Waterworks' tank site. This segment of the backbone system has been designed and is planned for completion at nearly the same time as the completion of the power plant, whose funding will also finance the recycled water pipeline. The Palmdale Hybrid Power Plant project was approved by the California Energy Commission (CEC) in August 2011, purchased by Palmdale Energy, LLC and in August 2017, the CEC approved a petition to amend the technology and design of the power plant, as well as change the name of the project to the Palmdale Energy Project (PEP). Once initiated, construction of the PEP is estimated to take about 25 months. The PEP is projected to use up to 400 AFY of recycled water, which may be distributed by either the above-mentioned City of Palmdale/Waterworks pipeline or the Division Street Corridor.

5.8.2 PALMDALE RECYCLED WATER AUTHORITY

The Palmdale Recycled Water Authority (PRWA) was created in 2012 through an agreement between the City of Palmdale and Palmdale Water District (PWD) to jointly study, promote, develop, distribute, construct, install, finance, use and manage recycled water resources created by the Sanitation Districts' Palmdale and Lancaster WRPs for any and all reasonable and beneficial uses, including irrigation and recharge, and to finance the acquisition and construction or installation of recycled water facilities, recharge facilities and irrigation systems. The City of Palmdale allocated all its contractual recycled water rights to the PRWA.

The City of Palmdale has a contract with the Sanitation Districts for the purchase of up to 2,000 AFY of recycled water from the Palmdale and Lancaster WRPs. The PRWA installed a temporary pump station that began delivering recycled water to McAdam Park in October 2012. The PRWA also implemented a truck filling station for hauled use of recycled water including dust control, solar panel cleaning, and

irrigation. The PRWA is planning Phase 2 of its recycled water distribution project, which would extend the existing recycled water distribution line along 30th Street East from the Palmdale WRP to Mc Adam Park, south to Avenue R-8 then east until 55th Street East with laterals to three parks: Dry Towne, Sam Yellen, and Domenic Massari. These parks are expected to use approximately 1,000 to 1,200 AFY. The PRWA also plans on using recycled water on the numerous (150 to 200) Landscape Maintenance Districts (LMDs) and five elementary schools along the route of the recycled water line. In addition, any schools or businesses that are easily accessible to this water will also be connected. The construction of Phase 2 is expected to begin in 2020. The PRWA and Los Angeles County Waterworks are currently planning for the portion of the Backbone project that will connect the Palmdale WRP to the proposed PEP (discussed in **Section 5.8.1**).

5.8.3 Palmdale Regional Groundwater Recharge and Recovery Project

The PWD is planning a groundwater banking, storage, and extraction program, the Palmdale Regional Groundwater Recharge and Recovery Project (PRGRRP), which intends to recharge the groundwater by surface spreading a blend of recycled water produced at the Palmdale WRP and State Water Project imported water at a site in northeast City of Palmdale. PWD completed its feasibility study in February 2015, a Preliminary Design Report in November 2015, a draft Title 22 Engineering Report in March 2016, and its CEQA analysis in June 2016. A contract for the sale of recycled water was executed in October 2016 that allots 2,000 AFY for the first three years the project is in operation, 3,000 AFY for the next two years and 4,000 AFY for the next five years. An additional 1,325 AFY are allotted in this contract for "purple pipe" distribution system usage. There is no current schedule of implementation for this project.

5.9 Conceptual Water Recycling Projects

The statewide water crisis that first began in 2006 and started up again in 2012 spurred numerous entities into giving more serious consideration to water recycling in their service areas. This sense of urgency was further stimulated by the passage of SB 7 in 2009 that requires urban water agencies to reduce per capita water consumption by 20 percent by the year 2020 (commonly referred to as the "20 x 2020 Plan"). The list of conceptual projects below is not meant to be exhaustive. Rather it is a listing of the more ambitious projects that have been suggested.

5.9.1 CBMWD Distribution System Storage Project

The existing CBMWD recycled water system is divided into three pressure zones. Zone 1 in the north is supplied from the Rio Hondo Pump Station. To the south is Zone 2, which can receive water from Zone 1 through a pressure-reducing valve or from the Cerritos Pump Station through variable frequency drives currently set to maintain system pressures. Zone 3 lies in the western portion of the service area and is supplied through the Hollydale Pump Station from Zone 2. All three pressure zones make a hydraulically closed system with no storage to buffer customer demands. Since water can be fed from Zone 1 into Zone 2, but not completely in the opposite manner, Rio Hondo Pump Station needs to be operational whenever there are demands in Zone 1 downstream of the pump station in the Pico Rivera and Montebello areas.

Operation of the recycled water system cannot be evaluated with an isolated view of only new customers due to the movement of water from one pressure zone to another and because there are two water sources. Hydraulic analysis encompasses all aspects of the recycled water system from pressure-reducing valve settings to pumping station operations. System expansion, customer changes in operations and demands can significantly alter system conditions experienced without storage.

Prospective expansion projects and demands are emerging due to water conservation measures mandated

by the State of California and implemented locally within CBMWD's service area. To ensure a reliable regional recycled water supply to offset potable water demands, CBMWD is looking to implement storage in the form of storage tanks. The number, type, size and locations for storage tanks, as well as piping and pumping needs, have yet to be determined. CBMWD is looking to complete an in-depth storage study that will include the additional demands currently being developed under related expansion projects described above. There is no timetable for this project.

5.9.2 Downey/Cerritos Advanced Treatment Plant for Recharge

In 2009, the cities of Downey and Cerritos began a joint investigation of a potential project to take 7.1 MGD (8,000 AFY) of Los Coyotes WRP effluent, treat it to an advanced level (MF/RO/UV) and pipe approximately 6,000 AFY (after brine losses) north to the Montebello Forebay where it would be stored underground for the exclusive use by those cities. While this project is briefly mentioned in the Downey 2020 UWMP as the "Downey Regional Water Reclamation and Groundwater Augmentation Project", it was absent from the Cerritos 2020 UWMP. Because of technical, financial and permitting obstacles, and a required revision of the existing Basin Adjudication, it is unlikely that this project will ever proceed.

5.9.3 Scalping Plants

The Sanitation Districts have been contacted regarding scalping plants in both the JOS and SCVJSS. Evaluation of these proposals continues. In general, there are several obstacles to overcome, including technical, financial, permitting and siting. In addition, construction of scalping plants will decrease the amount of water available at the already constructed downstream WRPs. This poses a problem because recycled water produced at these downstream WRPs has already been fully allocated contractually.

APPENDIX A

CHRONOLOGY OF SANITATION DISTRICTS' REUSE ACTIVITIES

1923	The County Sanitation District Act of 1923 allows the formation of the Los Angeles County Sanitation Districts, beginning with the formation of the South Bay Cities District in this year.
July 1927	The Tri-City Plant serving the cities of Pomona, Claremont and La Verne is placed into service and the effluent is used for irrigation of crop and pastureland by the Diamond Bar Ranch Company and the Northside Water Company.
December 1941	The 0.36 MGD Lancaster WRP is placed into operation.
April 1949	Sanitation Districts' Report upon the Reclamation of Water from Sewage and Industrial Wastes in Los Angeles County, California is published which demonstrated the feasibility of water reclamation and eventual reuse.
January 1952	The Lancaster WRP is expanded from 0.36 to 1.35 MGD.
September 1953	The 0.75 MGD Palmdale WRP is placed into operation.
September 1954	Sanitation Districts assumes operations of Tri-City Plant.
November 1958	The Palmdale WRP is expanded from 0.75 to 2.5 MGD.
November 1958	Sanitation Districts' A Report Upon the Potential Reclamation of Sewage Now Wasting to the Ocean in Los Angeles County outlining the financing and construction of the Whittier Narrows WRP is published.
May 1959	The first direct deliveries of effluent from the Palmdale WRP for alfalfa irrigation begin.
October 1959	The new 6.5 MGD Lancaster WRP is constructed and placed into operation. The original plant ceased operation two months later.
1960	Edwards Air Force Base constructs "C" dike on Rosamond Dry Lake to impound effluent from the Lancaster WRP, forming Piute Pond.
July 1962	The 15 MGD Whittier Narrows WRP is placed into operation, becoming first of the "upstream" treatment plants in the Sanitation Districts' JOS.
July 1962	The 0.25 MGD Saugus WRP is placed into operation, with effluent being discharged into the Santa Clarita River.
August 1962	The first deliveries of recycled water from the Whittier Narrows WRP begin for groundwater replenishment in the Montebello Forebay of the Central Basin.
November 1962	The Angeles Crest Development Company completes the 0.1 MGD La Cañada WRP on the site of the La Cañada-Flintridge Country Club to treat wastewater produced by the homes surrounding the golf course. Recycled water produced by this facility is still used as a source of supply for the lakes and the golf course irrigation system.

July 1963	The Sanitation Districts produce A Plan for Water Re-use that studied the reclamation potential for the entire JOS and proposed the construction of 11 water reclamation facilities. However, this plan was only partially implemented.
August 1964	The Saugus WRP is expanded from 0.25 to 0.75 MGD.
October 1965	The Saugus WRP is expanded from 0.75 to 1.5 MGD.
June 1966	The 4 MGD Pomona WRP is constructed to replace Tri-City Plant.
September 1966	The La Cañada WRP is purchased by the Sanitation Districts.
July 1967	The 1.5 MGD Valencia WRP is placed into operation, with effluent begin discharged into the Santa Clarita River.
February 1968	The Saugus WRP is expanded from 1.5 to 5 MGD.
May 1968	The Central and West Basin Water Replenishment District (now the Water Replenishment District of Southern California, or WRD) contracts for the purchase of recycled water from the proposed San Jose Creek WRP.
June 1969	The County of Los Angeles constructs the 0.6 MGD Antelope Valley Tertiary Treatment Plant (AVTTP) to further treat Lancaster WRP effluent for use at Apollo Lakes Regional County Park, which opened in November 1972.
March 1970	The Pomona WRP is expanded from 4 to 10 MGD.
October 1970	The 12.5 MGD Los Coyotes WRP is placed into operation.
May 1971	The La Cañada WRP is expanded from 0.1 to 0.2 MGD.
June 1971	The 37.5 MGD San Jose Creek WRP is placed into operation.
September 1972	The Palmdale WRP is expanded from 2.5 to 3.1 MGD.
May 1973	The 12.5 MGD Long Beach WRP is placed into operation.
December 1973	The first direct deliveries of recycled water from the Pomona WRP begin through the Pomona Water Department (PWD) to Cal Poly Pomona.
June 1975	The Los Coyotes WRP is expanded from 12.5 to 37.5 MGD.
April 1976	The Valencia WRP is expanded from 1.5 to 4.5 MGD.
February 1977	The Sanitation Districts' Pomona Virus Study final report is published, demonstrating that direct filtration (adding coagulant just prior to inert media filters) was as effective at removing virus from secondary effluent as coagulation followed by a separate flocculation basin and then filtration. This led to the construction of effluent filters at the upstream WRPs in the late 1970s. The WRPs were then classified as tertiary treatment facilities.
June 1978	The first direct deliveries of recycled water from the San Jose Creek WRP begin with the adjacent California Country Club.

October 1978	Revised wastewater reclamation regulations are adopted by the Drinking Water Program of the California Department of Health Services (the agency was renamed as the California Department of Public Health and the program was transferred in 2014 to the State Water Resources Control Board as the Division of Drinking Water, or DDW) as Title 22 of the California Code of Regulations. The effluent from the Sanitation Districts' tertiary treatment plants can be used for all the approved applications contained in these regulations.
November 1978	The first direct deliveries of recycled water from the Los Coyotes WRP begin through the cities of Cerritos and Bellflower with the Ironwood 9 Golf Course and Caruthers Park, respectively.
October 1979	The first industrial use of recycled water occurs as Garden State Paper (later Blue Heron Paper Company) begins to use more than 3 MGD of Pomona WRP effluent for recycling old newspapers.
August 1980	The first direct deliveries of recycled water from the Long Beach WRP begin through the City of Long Beach Water Department (LBWD) with El Dorado Park West and El Dorado Golf Course.
January 1981	Contract signed with City of Los Angeles Department of Airports (now Los Angeles World Airports, or LAWA) for the use of recycled water from the Palmdale WRP for tree irrigation and effluent disposal.
May 1981	Agreement is signed requiring the maintenance of 200 acres of wetlands at Piute Pond for use by waterfowl migrating along the Pacific Flyway migratory route.
April 1982	The Orange and Los Angeles Counties (OLAC) Water Reuse Study is published, which detailed numerous potential recycled water distribution system projects, many of which were subsequently constructed in the Sanitation Districts' service area and elsewhere.
October 1982	The San Jose Creek WRP is expanded from 37.5 to 62.5 MGD.
August 1983	The City of Industry completes its 7,100 gpm recycled water pump station at the San Jose Creek WRP and begins deliveries of recycled water to the Industry Hills Recreation Area.
January 1984	LBWD's North Long Beach recycled water distribution system is completed.
March 1984	The Sanitation Districts publish the Health Effects Study. This study determined that the recharge of recycled water into the groundwater drinking supply of the Central Basin did not adversely affect in a statistically significant way the health of people ingesting up to 15% recycled water in regard to gastrointestinal disease and cancers or birth defects. It also determined that recharge with recycled water was not adversely affecting the groundwater quality of the Central Basin.
May 1984	Daily average reuse flows in the Sanitation Districts' service area exceed 70 MGD for the first time.
June 1984	The Long Beach WRP is expanded from 12.5 to 25 MGD.
March 1986	LBWD's South Long Beach recycled water distribution system is completed.

May 1986	Deliveries of recycled water from the Pomona WRP begin to Walnut Valley Water District (WVWD) (purchased from PWD).
January 1987	The Saugus WRP's treatment process is upgraded to tertiary with the addition of dual-media pressure filters.
March 1987	LARWQCB adopts Board Order No. 87-40, which permits the increase in the use of recycled water for groundwater recharge in the Montebello Forebay from 32,700 to 50,000 AFY.
December 1987	The City of Cerritos completes its 14,800 gpm pump station at the Los Coyotes WRP and expands delivery of recycled water throughout the city.
May 1988	Daily average reuse flows in the Sanitation Districts' service area exceed 80 MGD for the first time.
June 1988	Deliveries of recycled water from the Lancaster WRP begin to Nebeker Ranch for alfalfa irrigation.
September 1988	The Valencia WRP is expanded from 4.5 to 7.5 MGD.
December 1988	Norman's Nursery moves from the site of the Stage III expansion of the San Jose Creek WRP to a site next to the Whittier Narrows WRP, using recycled water from the latter facility.
February 1989	The Palmdale WRP is expanded from 3.1 to 6.5 MGD.
June 1989	Daily average reuse flows in the Sanitation Districts' service area exceed 90 MGD for the first time.
August 1989	Deliveries of recycled water from the Los Coyotes WRP begin to the City of Lakewood through the City of Cerritos' recycled water distribution system.
November 1989	The Lancaster WRP is expanded from 6.5 to 8 MGD.
June 1991	The Pomona WRP is expanded from 10 to 15 MGD.
September 1991	LARWQCB adopts Board Order No. 91-100, which increases the amount of recycled water for groundwater recharge in the Montebello Forebay up to 60,000 AFY in any one year (150,000 AF in any three-year period).
October 1991	The Saugus WRP is expanded from 5 to 6.5 MGD with the completion of flow equalization facilities.
February 1992	Central Basin Municipal Water District (CBMWD) constructs its Century (E. Thornton Ibbetson) recycled water distribution system (Century System) and begins delivery of recycled water from the Los Coyotes WRP through the City of Cerritos pump station.
December 1992	The Lancaster WRP is expanded from 8 to 10 MGD.
January 1993	The San Jose Creek WRP is expanded from 62.5 to 100 MGD with the completion of the Stage III expansion.
July 1993	The Palmdale WRP is expanded from 6.5 to 8 MGD.

August 1993	Daily average reuse flows in the Sanitation Districts' service area exceed 100 MGD for the first time, setting a record at 113 MGD.
July 1994	CBMWD constructs the Rio Hondo (Esteban Torres) recycled water pump station and distribution system (Rio Hondo System), which was interconnected to the CBMWD Century System. For the first time, two different WRPs (Los Coyotes and San Jose Creek) are used to supply recycled water to the same regional distribution system.
November 1994	Deliveries of recycled water from the Valencia WRP begin to the City of Santa Clarita via water trucks for irrigation of city-owned trees and parkways. This activity is extended to the Saugus WRP in March 1995; however, this practice ends in September 1995.
December 1994	The Valencia WRP is expanded from 7.5 to 11 MGD
June 1995	LBWD restores recycled water service to the THUMS project on Island White for oil field repressurization.
December 1995	Sanitation Districts complete the Plan for Beneficial Use of Recycled Water, which identifies impediments to expanding water reuse, along with solutions and potential new users.
December 1995	Deliveries of recycled water from the Pomona WRP begin to the Spadra Landfill and the adjacent Gas-to-Energy Facility (SPERG).
February 1996	An outfall trunk sewer for waste activated sludge disposal and excess storm flows was completed that connected the La Cañada WRP with the main sewer system in the Los Angeles Basin, officially making this plant a JOS facility.
June 1996	The Valencia WRP is expanded from 11 to 13.5 MGD
July 1996	The Palmdale WRP is expanded from 8 to 15 MGD.
December 1996	RAND Corporation publishes its first epidemiological study, commissioned by WRD, of the health effects associated with the consumption of recycled water that had been used to augment the surface recharge of the Central Basin aquifer. There was no statistical evidence that indicated that recycled water consumed in this manner adversely impacted human health in regard to certain cancers and gastrointestinal diseases.
May 1997	The Lancaster WRP is expanded from 10 to 16 MGD.
May 1997	LARWQCB readopts all the Sanitation Districts' reuse permits that had been previously issued in the 1980s.
November 1997	Following years of delays, recycled water deliveries finally begin from the San Jose Creek WRP to the Puente Hills Landfill and the adjacent Gas-to-Energy Facility (PERG).
June 1998	Rose Hills Memorial Park begins receiving recycled water from the San Jose Creek WRP through the Puente Hills distribution system.

October 1999	RAND Corporation publishes its second epidemiological study, commissioned by the WRD, of the health effects associated with the consumption of Central Basin groundwater that had been augmented by the surface recharge of recycled water. There was no statistical evidence indicating that recycled water consumed in this manner adversely impacted human health in regard to certain birth outcomes.
December 2000	CDPH (now DDW) adopts revised Title 22 Water Recycling Criteria that contains an expanded list of approved uses of recycled water.
June 2001	The San Jose Creek WRP produces over 100,000 AF of recycled water during a fiscal year for the first time.
March 2002	Antelope Valley Farms begins installing center pivot irrigation systems to make commercial use of Palmdale WRP effluent on land leased from LAWA by Sanitation Districts.
January 2003	Rowland Water District (RWD) takes over that portion of WVWD's recycled water distribution system that lies within the RWD service area.
February 2003	WRD completes construction of the Leo J. Vander Lans Treatment Facility and begins using Long Beach WRP effluent for process testing.
May 2003	The Valencia WRP is expanded from 13.5 to 17 MGD with the completion of additional aeration tanks.
June 2003	The Upper San Gabriel Valley Municipal Water District (USGVMWD) begins delivery of recycled water from the San Jose Creek WRP through the CBMWD Rio Hondo System.
August 2003	The first direct deliveries of recycled water from the Valencia WRP begin through the Castaic Lake Water Agency (CLWA) with the Tournament Players Club golf course. This is the first permanently plumbed reuse site in the Santa Clarita Valley.
February 2005	Deliveries of recycled water begin from the San Jose Creek WRP to the Puente Hills Materials Recovery Facility (MRF).
May 2005	The Valencia WRP is expanded from 17 to 21.6 MGD with the completion of the Stage V expansion.
October 2005	Recycled water deliveries through the CBMWD's Century System are extended to the City of Vernon with the start-up of the Malburg Generation Station power plant.
October 2005	Deliveries of recycled water begin from the Leo J. Vander Lans Treatment Facility to the Alamitos Seawater Intrusion Barrier for injection.
March 2006	LRWQCB adopts a master reuse permit allowing recycled water produced at the Lancaster WRP to be used at the City of Lancaster's Division Street Corridor.
August 2006	After extensive retrofitting, a large section of the lower portion of Rose Hills Memorial Park is connected to the USGVMWD recycled water distribution system, making this site one of the largest direct users of the Sanitation Districts' recycled water.
September 2006	USGVMWD begins deliveries of recycled water from the Whittier Narrows WRP to the Whittier Narrows Recreation Area.

December 2006	The Lancaster WRP begins deliveries of recycled water from to the Lancaster Eastern Agricultural Site for agricultural-related reuse.
February 2007	A 1 MGD pilot MBR plant begins operation at the Lancaster WRP, supplying tertiary treated effluent to the Sanitation Districts' Eastern Agricultural Site.
February 2007	The Sanitation Districts adopt the last of its Water Recycling Ordinances for its various service areas that allow it to govern the use of its recycled water supplies.
March 2007	One of the Sanitation Districts' largest non-potable users, Blue Heron Newsprint, ceases operations and stops receiving its usual 3 MGD of recycled water from the Pomona WRP.
May 2007	MWD ceases all deliveries of imported water for groundwater replenishment, increasing the demand for recycled water.
November 2007	The Sanitation Districts and the WVWD sign an agreement for the direct sale of recycled water from the Pomona WRP.
January 2008	The Sanitation Districts and Los Angeles County Waterworks District No. 40 sign an agreement for the sale of 13,500 AFY of recycled water from the Lancaster and Palmdale WRPs.
March 2008	The Sanitation Districts and the City of Lancaster sign an agreement for the sale of 950 AFY of recycled water from the Lancaster and Palmdale WRPs.
July 2008	The Sanitation Districts adopt "Rules and Regulations" to regulate the use of its recycled water supplies.
August 2008	The Sanitation Districts initiate the Reuse Site Supervisor Training Program.
September 2008	The Sanitation Districts, USGVMWD and WRD sign a Memorandum of Understanding to contract with MWH to study the feasibility of advanced treatment at the San Jose Creek WRP for increased groundwater recharge in both the Central and Main San Gabriel basins.
January 2009	Deliveries of tertiary treated recycled water from the Lancaster WRP begin to the City of Lancaster.
April 2009	LARWQCB adopts a general reuse permit allowing for the use of recycled water for non-irrigation purposes.
April 2009	A 24-inch valve was installed between chlorine contact tanks nos. 2 and 3 at the Long Beach WRP to increase recycled water supply to LBWD.
April 2009	LARWQCB revises the 1991 Montebello Forebay recharge permit to eliminate the existing annual and three-year total quantity limits (60,000 and 150,000 AF, respectively) and rely on a running 5-year average recycled water contribution of 35%. This change is expected to allow for approximately 5,000 AFY more of recycled water to be recharged.
January 2009	The City of Lancaster begins its recycled water truck hauling program.

June 2009	LRWQCB replaces the Lancaster master reuse permit with a new master permit that allows for an expanded area of reuse and additional types of reuse.
July 2009	Deliveries of recycled water from the San Jose Creek WRP begin to RWD through the City of Industry distribution system.
July 2009	The Sanitation Districts and the City of Palmdale sign an agreement for the sale of 2,000 AFY of recycled water from the Lancaster and Palmdale WRPs.
December 2009	LRWQCB again replaces the Lancaster WRP master reuse permit with a new master permit that allows for an expanded list of permitted reuse types.
June 2010	The Sanitation Districts and California County Club sign a new agreement for the sale of 525 AFY of recycled water from the San Jose Creek WRP.
August 2010	The City of Long Beach Department of Public Works began using recycled water for street sweeping and sewer flushing under LARWQCB's new, region-wide non-irrigation reuse permit.
December 2011	The Palmdale WRP conversion to tertiary treatment is completed.
January 2012	LRWQCB adopts a master reuse permit allowing recycled water produced at the Palmdale WRP.
May 2012	The landscaping around the Parker Canyon Storage Reservoir was connected to the WVWD distribution system, becoming the Sanitation Districts' 700th recycled water customer.
July 2012	The Lancaster WRP conversion to tertiary treatment is completed.
July 2012	USGVMWD completes it Phase II-B recycled water distribution system in the Suburban Water Systems service area and begins serving reuse sites in the City of West Covina.
October 2012	The City of Palmdale completes the first portion of its planned recycled water distribution system and begins deliveries to McAdam Park.
May 2013	LARWQCB revises the 1991 Montebello Forebay recharge permit to allow for compliance with the recycled water contribution of 35% on a running 10-year average.
June 2013	For the first time, the Sanitation Districts' recycled water program exceeds 100,000 AFY in beneficial reuse in any fiscal year period.
July 2013	The new contract for the sale of recycled water to WRD went into effect. This contract includes recycled water produced at the San Jose Creek, Whittier Narrows and Pomona WRPs delivered for groundwater recharge.
August 2013	The CDPH conditional accepts the use of sequential chlorination at San Jose Creek WRP East as an alternative to meeting the 450 CT requirement in Title 22.
March 2014	The City of Lancaster connects the first of its large (>100 AFY) planned recycled water users and begins deliveries to City Park.

April 2014	LARWQCB increases the allowable recycled water contribution in the Montebello Forebay to 45% based on a running 10-year average.
June 2014	CDPH regulations for groundwater replenishment using recycled water become effective.
July 2015	Forest Lawn, Covina Hills extends the recycled water system from Cal Poly Pomona to serve its adjacent cemetery property.
September 2015	The City of Palmdale begins its recycled water truck hauling program for local construction projects.
March 2016	The City of Downey extends its recycled water systems from CBMWD into its newly developed "Downey Promenade" which includes several dual-plumbed businesses.
August 2016	Forest Lawn, Cypress extends a recycled water line from the City of Cerritos distribution system to serve its cemetery property in that city.
June 2017	For the fourth time in five years, the Sanitation Districts' recycled water program exceeds 100,000 AFY in beneficial reuse during the fiscal year. In addition, recycled usage for this year sets an all-time high with the total amount of recycled water used since inception of the program in 1962 exceeding one trillion gallons.
July 2017	The Whittier Narrows WRP becomes the first Sanitation Districts' facility to be covered under the SWRCB's Statewide Water Recycling General Order No. WQ 2016-0068-DDW.
January 2018	Castaic Lake Water Agency and Newhall County Water District are reorganized into the Santa Clarita Valley Water Agency.
October 2018	SWRCB officially adopts Surface Water Augmentation regulations into the Title 22 Water Recycling Criteria, allowing for an additional method of indirect potable reuse.
February 2019	WRD's Albert Robles Center begins producing advanced treated water by applying ultrafiltration, reverse osmosis and UV to recycled water supplied by the Sanitation Districts' San Jose Creek WRP for groundwater recharge in the Montebello Forebay.
March 2019	SGVWC becomes the first investor-owned utility in the Sanitation District's service area to construct its own recycled water distribution system, as its South El Monte extension to USGVMWD's Phase II-A system coming from the Whittier Narrows WRP begins connecting reuse sites.
October 2019	A jointly developed MWD/Sanitation Districts 0.5 MGD Demonstration Plant is placed in operation treating secondary effluent from the JWPCP using MBR, RO and UV/advanced oxidation, with the goal of scaling up to 150 MGD (168,100 AFY) for use in regional groundwater replenishment.
February 2020	Construction was completed on two, 4 MG flow equalization tanks at the San Jose Creek WRP West that would increase recycled water production at this facility. Operation of these tanks began in July 2020.
April 2020	The Long Beach WRP receives coverage under the SWRCB's Statewide Water Recycling General Order No. WQ 2016-0068-DDW for the non-irrigation applications of sewer flushing and street sweeping.

May 2020	The Los Coyotes WRP receives coverage under the SWRCB's Statewide Water Recycling General Order No. WQ 2016-0068-DDW.
October 2020	The SWRCB's Division of Water Rights approved the Sanitation Districts' 1211 Wastewater Change Petitions to reduce river discharge from several of the JOS WRPs to support future expansions of the recycled water program.
January 2021	CBMWD extends its Rio Hondo System to serve recycled water for construction applications at the 488-acre Montebello Hills residential development. Following construction, recycled water will be used for landscape irrigation.
June 2022	The Sanitation Districts sets a fiscal year record with over 115,000 AFY of its recycled water being beneficially used.

APPENDIX B

RECYCLED WATER QUALITY FROM SANITATION DISTRICTS' TERTIARY WRPS

TABLE B-1
LONG BEACH WATER RECLAMATION PLANT
RECYCLED WATER QUALITY, FY 2021-22

Constituent	Units	Mean	Maximum	Minimum
pH		7.41	7.9	6.8
Turbidity	NTU	0.72	1.9	0.45
Total Coliform	org./100 ml	<1	1	<1
Fecal Coliform	org./100 ml	<1	<1	<1
Temperature	deg. F	78.6	91.4	69.8
Suspended Solids	mg/L	<2.5	5.5	<2.5
Settleable Solids	ml/L	<0.1	<0.1	<0.1
Total Dissolved Solids	mg/L	690	860	600
Total BOD	mg/L	<3.4	19.9	<3.0
Total Organic Carbon	mg/L	5.8	5.8	5.7
Ammonia Nitrogen	mg/L	3.254	7.08	1.53
Organic Nitrogen	mg/L	1.12	154	0.36
Nitrate Nitrogen	mg/L	6.90	11.30	3.89
Nitrite Nitrogen	mg/L	0.601	1.34	0.093
Fluoride	mg/L	0.551	0.581	0.514
Boron	mg/L	0.37	0.39	0.34
Cyanide	µg/L	3.13	3.76	2.29
Chloride	mg/L	163	194	143
Sulfate	mg/L	100.8	165	83.5
Total Hardness	mg/L	189	210	169
Total Alkalinity	mg/L	178	183	172
Antimony	µg/L	0.56	0.60	0.50
Arsenic	µg/L	2.18	3.62	0.94
Barium	µg/L	68.3	87.9	42.0
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.20	<0.20	<0.20
Total Chromium	µg/L	<0.51	0.95	0.30
Hexavalent Chromium	µg/L	0.05	0.07	0.04
Copper	µg/L	1.18	1.55	0.86
Iron	µg/L	94.0	98.0	90.1
Lead	µg/L	0.04	0.07	0.03
Mercury	µg/L	0.0061	0.0082	0.0025
Nickel	µg/L	1.60	2.12	1.09
Total Phosphate	mg/L	0.230	0.408	0.091
Selenium	µg/L	0.25	0.44	0.16
Silver	µg/L	<0.20	<0.20	<0.20
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	25.5	28.6	20.2
Detergents (MBAS)	mg/L	0.06	0.10	0.04
Oil and Grease	mg/L	<3.4	<5.9	1.1

TABLE B-2
LOS COYOTES WATER RECLAMATION PLANT
RECYCLED WATER QUALITY, FY 2021-22

Constituent	Units	Mean	Maximum	Minimum
pH		7.57	7.9	7.2
Turbidity	NTU	0.67	1.3	0.40
Total Coliform	org./100 ml	<1	2	<1
Fecal Coliform	org./100 ml	<1	<1	<1
Temperature	deg. F	80.2	87.0	71.1
Suspended Solids	mg/L	<2.5	<2.5	<2.5
Settleable Solids	ml/L	<0.1	<0.1	<0.1
Total Dissolved Solids	mg/L	1042	1270	820
Total BOD	mg/L	<3.1	11.0	<3.0
Ammonia Nitrogen	mg/L	1.38	2.34	1.00
Organic Nitrogen	mg/L	1.65	1.94	1.25
Nitrate Nitrogen	mg/L	5.15	7.42	2.75
Nitrite Nitrogen	mg/L	0.135	0.270	0.048
Fluoride	mg/L	0.457	0.510	0.381
Boron	mg/L	0.58	0.71	0.43
Cyanide	µg/L	<4.11	<5.0	2.92
Chloride	mg/L	232	303	189
Sulfate	mg/L	230	321	148
Total Hardness	mg/L	269	285	256
Antimony	µg/L	5.32	7.22	4.49
Arsenic	µg/L	1.24	1.94	0.63
Barium	µg/L	59.6	66.3	52.9
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.14	<0.20	0.082
Total Chromium	µg/L	0.79	1.15	0.46
Hexavalent Chromium	µg/L	0.07	0.09	0.05
Copper	µg/L	4.82	8.44	1.53
Lead	µg/L	0.35	0.61	0.11
Mercury	µg/L	0.0048	0.0069	0.0037
Nickel	µg/L	2.99	3.41	2.66
Total Phosphate	mg/L	0.216	0.574	0.113
Potassium	mg/L	18.2	18.9	16.7
Selenium	µg/L	2.55	4.16	0.49
Silver	µg/L	<0.20	<0.20	<0.20
Sodium	mg/L	292	301	284
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	58.9	77.7	41.7
Detergents (MBAS)	mg/L	0.09	0.14	0.06
Oil and Grease	mg/L	<4.3	<6.0	1.2

TABLE B-3
POMONA WATER RECLAMATION PLANT
RECYCLED WATER QUALITY, FY 2021-22

Constituent	Units	Mean	Maximum	Minimum
pH		7.37	7.7	7.0
Turbidity	NTU	0.46	1.00	0.20
Total Coliform	org./100 ml	<1	4	<1
Fecal Coliform	org./100 ml	<1	<1	<1
Temperature	deg. F	77.9	85.6	68.0
Suspended Solids	mg/L	<2.5	<2.5	<2.5
Settleable Solids	ml/L	<0.1	<0.1	<0.1
Total Dissolved Solids	mg/L	612	758	557
Total COD	mg/L	25.8	31.9	14.8
Total BOD	mg/L	<3.0	4.4	<3.0
Total Organic Carbon	mg/L	6.64	7.49	6.12
Ammonia Nitrogen	mg/L	1.67	3.08	1.25
Organic Nitrogen	mg/L	1.70	2.12	1.32
Nitrate Nitrogen	mg/L	6.33	8.00	4.98
Nitrite Nitrogen	mg/L	0.098	0.205	0.052
Fluoride	mg/L	0.249	0.281	0.213
Boron	mg/L	0.32	0.35	0.29
Cyanide	µg/L	2.94	3.49	2.60
Chloride	mg/L	141	151	130
Sulfate	mg/L	83.1	105	67.6
Total Alkalinity	mg/L	155	162	150
Total Hardness	mg/L	216	236	195
Calcium	mg/L	65.0	73.0	58.1
Magnesium	mg/L	13.0	13.3	12.1
Antimony	µg/L	0.56	0.62	0.50
Arsenic	µg/L	1.00	1.10	0.80
Barium	µg/L	45.9	49.5	44.4
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.08	<0.20	0.033
Total Chromium	µg/L	1.29	3.01	0.65
Hexavalent Chromium	µg/L	0.13	0.17	0.08
Copper	µg/L	4.06	4.47	3.71
Iron	µg/L	23.8	25.9	20.5
Lead	µg/L	0.30	0.35	0.23
Manganese	µg/L	5.94	10.8	4.38
Mercury	µg/L	0.0070	0.0110	0.0025
Nickel	µg/L	1.30	1.51	1.06
Total Phosphate	mg/L	0.165	0.217	0.122
Potassium	mg/L	14.8	15.1	14.3
Selenium	µg/L	0.38	0.51	0.24
Silver	µg/L	<0.120	<0.20	0.02
Sodium	mg/L	119	128	109
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	66.8	68.9	62.0
Detergents (MBAS)	mg/L	0.07	0.08	0.05
Oil and Grease	mg/L	<3.4	<5.4	1.1

TABLE B-4
SAN JOSE CREEK WATER RECLAMATION PLANT EAST
RECYCLED WATER QUALITY, FY 2021-22

Constituent	Units	Mean	Maximum	Minimum
pH		7.34	7.9	6.9
Turbidity	NTU	0.67	1.0	0.40
Total Coliform	org./100 ml	<1	2	<1
Fecal Coliform	org./100 ml	<1	<1	<1
Temperature	deg. F	78.9	87.1	70.5
Suspended Solids	mg/L	<2.5	<2.5	<2.5
Settleable Solids	ml/L	<0.1	<0.1	<0.1
Total Dissolved Solids	mg/L	691	736	622
Total COD	mg/L	23.4	32.2	17.3
Total BOD	mg/L	<3.0	<3.0	<3.0
Total Organic Carbon	mg/L	6.23	7.41	5.86
Ammonia Nitrogen	mg/L	0.787	0.921	0.590
Organic Nitrogen	mg/L	1.18	1.41	0.836
Nitrate Nitrogen	mg/L	5.59	9.43	3.90
Nitrite Nitrogen	mg/L	<0.029	<0.030	.015
Fluoride	mg/L	0.381	0.414	0.358
Boron	mg/L	0.35	0.39	0.30
Cyanide	µg/L	<4.09	6.34	2.10
Chloride	mg/L	155	163	146
Sulfate	mg/L	127	141	115
Total Alkalinity	mg/L	177	194	169
Total Hardness	mg/L	230	251	206
Calcium	mg/L	62.9	70.0	59.8
Magnesium	mg/L	18.1	21.5	16.2
Antimony	µg/L	0.62	0.67	0.57
Arsenic	µg/L	1.18	1.39	1.02
Barium	µg/L	75.8	83.1	74.7
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.12	<0.20	0.041
Total Chromium	µg/L	0.84	1.24	0.68
Hexavalent Chromium	µg/L	0.20	0.27	0.11
Copper	µg/L	3.59	4.70	2.89
Iron	mg/L	0.034	0.052	0.026
Lead	µg/L	0.23	0.35	0.15
Manganese	µg/L	10.6	19.9	1.3
Mercury	µg/L	0.0077	0.0180	0.0026
Nickel	µg/L	6.07	7.28	4.49
Total Phosphate	mg/L	0.300	4.83	0.170
Potassium	mg/L	17.8	18.9	16.8
Selenium	µg/L	0.44	0.60	0.30
Silver	µg/L	<0.20	<0.20	<0.20
Sodium	mg/L	148	157	139
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	56.2	63.9	44.5
Detergents (MBAS)	mg/L	0.05	0.07	0.03
Oil and Grease	mg/L	<3.0	<5.9	1.3

TABLE B-5
SAN JOSE CREEK WATER RECLAMATION PLANT WEST
RECYCLED WATER QUALITY, FY 2021-22

Constituent	Units	Mean	Maximum	Minimum
pH		7.27	7.6	7.0
Turbidity	NTU	0.60	1.20	0.35
Total Coliform	org./100 ml	<1	3	<1
Fecal Coliform	org./100 ml	<1	<1	<1
Temperature	deg. F	79.0	85.6	70.0
Suspended Solids	mg/L	<2.5	<2.5	<2.5
Settleable Solids	ml/L	<0.1	<0.1	<0.1
Total Dissolved Solids	mg/L	616	687	530
Total COD	mg/L	23.3	32.2	19.7
Total BOD	mg/L	<3.0	<3.0	<3.0
Total Organic Carbon	mg/L	5.99	6.44	5.54
Ammonia Nitrogen	mg/L	1.33	1.69	0.98
Organic Nitrogen	mg/L	1.103	2.04	0.550
Nitrate Nitrogen	mg/L	5.55	8.36	2.36
Nitrite Nitrogen	mg/L	0.087	0.243	0.042
Fluoride	mg/L	0.522	0.558	0.455
Boron	mg/L	0.36	0.39	0.33
Cyanide	mg/L	<4.22	<5.0	2.07
Chloride	mg/L	129	137	119
Sulfate	mg/L	109	116	104
Total Alkalinity	mg/L	179	198	168
Total Hardness	mg/L	221	242	206
Calcium	mg/L	60.3	63.0	58.1
Magnesium	mg/L	17.4	20.4	16.6
Antimony	µg/L	0.56	0.63	0.52
Arsenic	µg/L	0.90	0.92	0.82
Barium	µg/L	54.5	55.7	51.4
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.20	<0.20	<0.20
Total Chromium	µg/L	1.01	1.23	0.82
Hexavalent Chromium	µg/L	0.16	0.20	0.11
Copper	µg/L	4.33	5.17	2.86
Iron	mg/L	0.034	0.055	0.024
Lead	µg/L	0.21	0.29	0.15
Manganese	µg/L	3.94	5.76	1.32
Mercury	µg/L	0.0082	0.0140	0.0038
Nickel	µg/L	2.80	3.08	2.49
Total Phosphate	mg/L	0.372	0.587	0.208
Potassium	mg/L	16.0	16.2	15.8
Selenium	µg/L	0.34	0.42	0.24
Silver	µg/L	<0.20	<0.20	<0.20
Sodium	mg/L	124	130	120
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	52.5	62.1	47.4
Detergents (MBAS)	mg/L	0.05	0.08	0.03
Oil and Grease	mg/L	<4.0	<5.9	1.4

TABLE B-6
WHITTIER NARROWS WATER RECLAMATION PLANT
RECYCLED WATER QUALITY, FY 2021-22

Constituent	Units	Mean	Maximum	Minimum
pH		7.37	7.6	7.2
Turbidity	NTU	0.38	1.3	0.20
Total Coliform	org./100 ml	<1	1	<1
Fecal Coliform	org./100 ml	<1	<1	<1
Temperature	deg. F	78.1	85.9	66.7
Suspended Solids	mg/L	<2.5	<2.5	<2.5
Settleable Solids	ml/L	<0.1	<0.1	<0.1
Total Dissolved Solids	mg/L	621	660	502
Total COD	mg/L	21.3	27.3	12.0
Total BOD	mg/L	<3.0	<3.0	<3.0
Total Organic Carbon	mg/L	5.60	6.61	5.04
Ammonia Nitrogen	mg/L	0.419	0.652	0.341
Organic Nitrogen	mg/L	0.792	1.24	<0.200
Nitrate Nitrogen	mg/L	6.60	7.83	5.70
Nitrite Nitrogen	mg/L	0.114	0.253	0.039
Fluoride	mg/L	0.570	0.740	0.417
Boron	mg/L	0.29	0.33	0.26
Cyanide	µg/L	<4.07	<5.0	2.23
Chloride	mg/L	118	125	113
Sulfate	mg/L	130	150	113
Total Alkalinity	mg/L	165	177	157
Total Hardness	mg/L	225	242	213
Calcium	mg/L	60.8	66.5	57.7
Magnesium	mg/L	18.0	20.6	16.7
Antimony	µg/L	0.51	0.56	0.43
Arsenic	µg/L	0.80	0.96	0.71
Barium	µg/L	34.8	49.2	25.4
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.15	<0.20	0.040
Total Chromium	µg/L	0.90	1.02	0.77
Hexavalent Chromium	µg/L	0.10	0.14	0.05
Copper	µg/L	3.50	4.12	2.77
Iron	µg/L	35.2	44.1	28.5
Lead	µg/L	0.25	0.33	0.17
Manganese	µg/L	2.83	5.38	1.15
Mercury	µg/L	0.0020	0.0032	0.0014
Nickel	µg/L	2.41	3.27	1.84
Total Phosphate	mg/L	0.117	0.177	0.083
Potassium	mg/L	15.4	16.5	14.0
Selenium	µg/L	0.45	0.55	0.28
Silver	µg/L	<0.20	<0.20	<0.20
Sodium	mg/L	126	135	115
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	61.4	79.2	50.3
Detergents (MBAS)	mg/L	0.07	0.09	0.05
Oil and Grease	mg/L	<3.7	<5.6	1.2

TABLE B-7
VALENCIA WATER RECLAMATION PLANT
RECYCLED WATER QUALITY, FY 2021-22

Constituent	Units	Mean	Maximum	Minimum
pH		7.34	7.7	7.0
Turbidity	NTU	0.65	1.60	0.35
Total Coliform	org./100 ml	<1	2	<1
Fecal Coliform	org./100 ml	<1	<1	<1
Temperature	deg. F	77.16	84.0	69.0
Suspended Solids	mg/L	<2.5	<2.5	<2.5
Settleable Solids	ml/L	<0.1	<0.1	<0.1
Total Dissolved Solids	mg/L	702	808	666
Total COD	mg/L	<21.7	40.5	12.5
Total BOD	mg/L	<3.4	10.1	<3.0
Total Organic Carbon	mg/L	5.76	5.90	5.61
Ammonia Nitrogen	mg/L	0.977	1.53	0.444
Organic Nitrogen	mg/L	1.21	1.71	0.576
Nitrate Nitrogen	mg/L	3.90	4.87	2.69
Nitrite Nitrogen	mg/L	<0.066	0.119	<0.030
Fluoride	mg/L	0.300	0.352	0.247
Boron	mg/L	0.50	0.56	0.46
Cyanide	µg/L	<3.60	<5.0	1.16
Chloride	mg/L	125	131	118
Sulfate	mg/L	171	180	163
Total Alkalinity	mg/L	170	176	163
Total Hardness	mg/L	231	239	223
Antimony	µg/L	0.52	0.53	0.52
Arsenic	µg/L	0.67	1.02	0.36
Barium	µg/L	7.80	10.8	4.76
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.20	<0.20	<0.20
Total Chromium	µg/L	<0.38	<0.50	0.29
Hexavalent Chromium	µg/L	0.03	0.045	0.02
Copper	µg/L	1.62	1.89	1.20
Iron	µg/L	85.9	127	68.4
Lead	µg/L	0.04	0.06	0.03
Mercury	µg/L	0.0057	0.0087	0.0016
Nickel	µg/L	2.30	2.43	2.19
Total Phosphate	mg/L	1.05	2.88	0.323
Selenium	µg/L	0.39	0.47	0.31
Silver	µg/L	<0.20	<0.20	<0.20
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	24.3	25.5	21.9
Detergents (MBAS)	mg/L	0.06	0.12	0.03
Oil and Grease	mg/L	<2.8	<5.0	1.5

TABLE B-8
SAUGUS WATER RECLAMATION PLANT
RECYCLED WATER QUALITY, FY 2021-22

Constituent	Units	Mean	Maximum	Minimum
pH		7.31	7.78	6.8
Turbidity	NTU	1.30	1.80	0.75
Total Coliform	org./100 ml	<1	1	<1
Fecal Coliform	org./100 ml	<1	<1	<1
Temperature	deg. F	78.7	83.8	69.8
Suspended Solids	mg/L	<2.5	<2.5	<2.5
Settleable Solids	ml/L	<0.1	<0.1	<0.1
Total Dissolved Solids	mg/L	542	603	477
Total COD	mg/L	<22.7	35.1	12.5
Total BOD	mg/L	<4.0	20.6	<3.0
Ammonia Nitrogen	mg/L	0.693	0.823	0.512
Organic Nitrogen	mg/L	1.198	1.88	0.698
Nitrate Nitrogen	mg/L	4.99	6.55	3.58
Nitrite Nitrogen	mg/L	0.073	0.117	0.048
Fluoride	mg/L	0.196	0.215	0.176
Boron	mg/L	0.53	0.64	0.46
Cyanide	µg/L	<3.68	<5.0	1.17
Chloride	mg/L	119	126	116
Sulfate	mg/L	107	127	88.2
Total Hardness	mg/L	170	199	149
Antimony	µg/L	0.64	0.72	0.53
Arsenic	µg/L	1.05	1.25	0.83
Barium	µg/L	31.5	36.2	28.9
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	0.13	0.20	0.049
Total Chromium	µg/L	0.39	0.46	0.37
Hexavalent Chromium	µg/L	<0.05	<0.05	0.05
Copper	µg/L	3.57	4.53	2.58
Iron	µg/L	19.6	30.7	13.3
Lead	µg/L	0.17	0.21	0.14
Mercury	µg/L	0.0044	0.0086	0.0019
Nickel	µg/L	1.41	3.66	1.047
Total Phosphate	mg/L	0.302	0.365	0.265
Selenium	µg/L	0.37	0.54	0.21
Silver	µg/L	<0.20	<0.20	<0.20
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	75.9	100.0	63.7
Detergents (MBAS)	mg/L	0.06	0.07	0.04
Oil and Grease	mg/L	<3.0	<5.7	1.3

TABLE B-9
LANCASTER WATER RECLAMATION PLANT
RECYCLED WATER QUALITY, FY 2021-22

Constituent	Units	Mean	Maximum	Minimum
pH		7.54	7.9	7.1
Turbidity	NTU	0.61	1.40	0.35
Total Coliform	org./100 ml	<1	15	<1
Temperature	deg. F	73.8	84.0	65.8
Suspended Solids	mg/L	<2.6	3.8	<2.5
Total Dissolved Solids	mg/L	535	576	487
Total COD	mg/L	19.8	30.0	12.5
Total BOD	mg/L	<3.1	3.6	<3.0
Total Organic Carbon	mg/L	5.21	5.59	4.92
Ammonia Nitrogen	mg/L	2.41	4.94	0.983
Nitrate Nitrogen	mg/L	5.12	7.57	2.08
Nitrite Nitrogen	mg/L	<0.094	0.181	<0.030
Cyanide	µg/L	<5.0	<5.0	<5.0
Chloride	mg/L	119	121	116
Sulfate	mg/L	69.96	70.9	67.8
Calcium	mg/L	50.2	54.5	46.1
Magnesium	mg/L	7.8	11.6	6.3
Antimony	µg/L	0.61	0.61	0.61
Arsenic	µg/L	1.98	1.99	1.98
Barium	µg/L	32.8	38.7	26.8
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.20	<0.20	<0.20
Total Chromium	µg/L	1.17	1.24	1.10
Hexavalent Chromium	µg/L	0.16	0.21	0.11
Copper	µg/L	1.16	1.31	1.02
Iron	mg/L	0.08	0.11	0.06
Lead	µg/L	0.05	0.07	0.03
Manganese	µg/L	15.2	16.0	14.3
Mercury	µg/L	0.001	0.001	0.001
Nickel	µg/L	0.84	0.88	0.80
Potassium	mg/L	13.8	14.1	13.5
Selenium	µg/L	0.53	0.69	0.37
Silver	µg/L	<0.20	<0.20	<0.20
Sodium	mg/L	110	114	104
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	50.6	57.9	43.4
Detergents (MBAS)	mg/L	0.05	0.06	0.04

TABLE B-10
PALMDALE WATER RECLAMATION PLANT
RECYCLED WATER QUALITY, FY 2021-22

Constituent	Units	Mean	Maximum	Minimum
pH		7.14	7.8	6.6
Turbidity	NTU	0.81	1.50	0.55
Total Coliform	org./100 ml	<1	6	<1
Temperature	deg. F	74.2	83.3	66.4
Suspended Solids	mg/L	<2.5	<2.5	<2.5
Total Dissolved Solids	mg/L	506	536	473
Total COD	mg/L	<21.0	<25.0	12.5
Total BOD	mg/L	<3.2	4.9	<3.0
Total Organic Carbon	mg/L	6.32	7.09	5.72
Ammonia Nitrogen	mg/L	1.85	3.62	0.976
Nitrate Nitrogen	mg/L	2.25	3.56	1.35
Nitrite Nitrogen	mg/L	0.218	0.419	0.031
Cyanide	mg/L	<5.0	<5.0	<5.0
Chloride	mg/L	140	160	127
Sulfate	mg/L	78.2	88.0	73.8
Fluoride	mg/L	0.225	0.239	0.211
Total Alkalinity	mg/L	106	119	94
Calcium	mg/L	37.1	39.2	36.1
Magnesium	mg/L	6.2	7.2	5.0
Antimony	µg/L	0.55	0.56	0.54
Arsenic	µg/L	0.74	0.91	0.58
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.20	<0.20	<0.20
Total Chromium	µg/L	1.30	1.74	0.86
Hexavalent Chromium	µg/L	0.14	0.17	0.12
Copper	µg/L	1.74	1.96	1.51
Lead	µg/L	0.09	0.13	0.05
Mercury	µg/L	0.0018	0.0023	0.0008
Nickel	µg/L	1.04	1.15	0.93
Selenium	µg/L	0.35	0.45	0.35
Silver	µg/L	<0.20	<0.20	<0.20
Sodium	mg/L	126	134	121
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	85.8	92.2	79.4
Detergents (MBAS)	mg/L	0.08	0.10	0.03
Oil & Grease	mg/L	<5.3	<5.4	<5.2

APPENDIX C

LONG BEACH WATER DEPARTMENT

Phase 1 was completed in 1980 at a cost of $280,000. It consisted of a 200 HP, 2,500 gpm pump station, and 1,500 feet of 12-inch line that served El Dorado Park West and Golf Course.

Phase 2 made use of a previously constructed, but never used, 21-inch transmission line between the Long Beach WRP and the Island White oil pumping facility in Long Beach Harbor. Recycled water travels through the 21-inch steel concrete-cylinder transmission line that runs south along Studebaker Road, west on Atherton Street, south on Clark Avenue, west on Anaheim Street and then south on Park Avenue. At the intersection of Park Avenue and 11th Street, the 21-inch line turns west again, then south on Obispo Lane on its way to Island White. The line was capped at Obispo Lane and 2nd Street. This line was built in 1970 by the THUMS group (Texaco, Humboldt, Union, Mobil and Shell) in the hope of using recycled water from the then under-construction Long Beach WRP to repressurize the oil-bearing zones that were being depleted. This project did not proceed at that time and the THUMS group deeded ownership of the pipeline to the city. In 1982, 520 feet of 12-inch line was installed to deliver recycled water to the Recreation Park and Golf Course, at a cost of $50,000.

Phase 3 was completed in 1983 at a total cost of $2,560,000. It consisted of a 750 HP, 8,500 gpm pump station (five variable speed, vertical turbine pumps producing 95 psi, with capacity for a sixth pump) connected to the adjacent Long Beach WRP effluent forebay through a 36-inch line, 25,685 feet of 20-inch pipe, and 4,130 feet of 12-inch pipe. The 20-inch main line runs north along the east bank of the San Gabriel River. Just south of Carson Street, the pipeline turns west and runs through a siphon under the river, then along Parkcrest Street. At Clark Avenue, the pipeline reduces to 12-inches, turns south and terminates at Wardlow Road. In 1983, the 200 HP 2,100 gpm pump located in El Dorado Park West was relocated to a spot next to the lake in El Dorado Park East where it serves to supply lake water to the recycled water system when recycled water may be unavailable.

Phase 4 was completed in 1986 and consisted of 3,760 feet of 8-inch pipe and 2,350 feet of 6-inch pipe at a cost of $410,000. At Park Avenue and 11th Street, an 8-inch steel line was connected to the 21-inch transmission line that had been built to serve the THUMS project. The 8-inch line runs south along Park Avenue, through Woodlands Park, then east along 6th Street, reducing to a 6-inches after serving the Recreation 9-Hole Golf Course. The 6-inch line turns south on Monrovia Avenue and terminates at the northern boundary of Marina Vista Park.

Phase 5 was completed in the first half of 1989 at a cost of $3,980,000. It consisted of 4,820 feet of 20-inch pipe, 5,917 feet of 14-inch pipe, 12,364 feet of 12-inch pipe, and 1,857 feet of 8-inch pipe. Also included in this project was a four pump, 500 HP, 105 psi, 3,000 gpm pump station at the south lake of the Lakewood Golf Course that had supplied recycled water, stored in the lake during the day peak supply period, to the distribution system during the peak nighttime demand period. From the end of the 20-inch Stage 3 line in Long Beach City College, a 20-inch ductile iron pipe (DIP) runs 300 feet north, where it turns west on Carson Street and continues to the South Lake Pumping Plant. A 16-inch DIP continues westerly from the pumping plant along Carson Street, reducing to 14-inches. At Gardenia Avenue, the pipe turns north and runs to 45th Street where it reduces to 12-inches. The 12-inch line continues westerly along 45th Street, then north on Falcon Avenue, then southwest on San Antonio Drive, then northwest on East Goldfield Avenue, then southwest on 45th Way, then north on California Avenue, then west on 46th Street to its terminus at the Virginia Country Club.

The North Long Beach extension of Phase 5 was completed at the beginning of 1992 at a total cost of $627,000. This project connected to the 14-inch line at the intersection of Carson Street and Gardenia Avenue with a 14-inch tapping sleeve expanding to a 20-inch DIP. This 20-inch line runs south to Marshall Place where it turns west and runs along Marshall Place to a T-section at Gaviota Avenue. This line turns south again from the T-section and runs along Gaviota Avenue to Wardlow Road. The line turns west again and runs along Wardlow Road to Walnut Avenue where it terminates in a T-section. From this T-section, an 8-inch DIP line runs south along Walnut Avenue to the 405 Freeway where it terminates in a 3-inch service for use by the California Department of Transportation. Approximately midway along this final stretch of pipe, at 33rd Street, a 2-inch service runs to the LBWD Service Center. In addition, several smaller lines branch off the main distribution line:

- At the intersection of Marshall Place and Gaviota Avenue, a 6-inch DIP line branches off the T-section and runs west to Walnut Avenue where it terminates in a T-section. From this point, the 6-inch line continues north another where it terminates at a 4-inch service to Somerset Park.

- At the intersection of Gaviota Avenue and Bixby Road there is a T-section, from where an 8-inch DIP runs west to a point just beyond Cerritos Avenue where it supplies a 4-inch service to Hughes Junior High School. The 8-inch line continues west to Myrtle Avenue where it terminates in a 2-inch service to Longfellow Elementary School.

- At the intersection of Gaviota Avenue and Wardlow Road, a 6-inch DIP branches off a T-section and runs east to a point just past Rose Avenue where it terminates in a two more 2-inch services to the LBWD Service Center.

- At the intersection of Walnut Avenue and 33rd Street, a 6-inch DIP branches off and runs west into the City of Signal Hill and to a 3-inch service to Burroughs Elementary School, where it terminates. In addition, the 6-inch lateral has a 6-inch T-section at Brayton Avenue that extends north and terminates in a 4-inch service to Reservoir Park.

Recycled water service was extended to the common areas of the El Dorado Lakes Condominiums in August 1998. From the 20-inch main line running north along the San Gabriel River, an 8-inch DIP branches off and runs east along Spring Street. This line reduces to a 4-inch DIP which runs to the condominiums located on the east side of the 605 Freeway.

The recycled water system was extended again as LBWD began implementing its Master Plan with the completion of Phase 1A in June 1999 at a cost of $1.4 million. LBWD's potable water tanks nos. 21, 22 and 23 on Alamitos Hill were converted to recycled water storage. Each tank has its own new 20-inch discharge line connecting to a 36-inch DIP that runs north, then west along 20th Street to a T-section at Redondo Avenue. The north side of this T-section on Redondo Avenue serves a 24-inch line which was constructed in 2000 as Phase 1B. A 24-inch DIP continues westerly along 20th Street for 939 feet to a T-section at Obispo Lane. The line turns south on Obispo Lane, where it terminates in a new T-section installed in the existing 21-inch recycled water line on 11th Street. Along Obispo Lane, a 6-inch DIP branches off and runs east along 14th Street, allowing for future expansion and customer connections.

APPENDIX D

CITY OF CERRITOS

A 14,800 gpm pump station next to the north side of the Los Coyotes WRP effluent forebay delivers recycled water to reuse sites through 142,600 feet of pipe that loops through the city. Provisions were made so that neighboring cities could connect to this distribution system sometime in the future and make use of the ultimate system capacity of 4,000 AFY.

The pump station discharges into a 30-inch cement-lined and coated steel line which branches into two, 24-inch concrete cylinder pipelines. One of these lines runs east through the north part of the city, while the other turns south along the San Gabriel River. The two lines ultimately meet and form a loop in the distribution system. Pipes greater than 12-inches are cement-lined and coated steel, while the 4- to 10-inch pipes are PVC.

The 24-inch main line serving the northern part of the city runs east from the WRP past the Ironwood 9 Golf Course, then continues east under the 605 Freeway and along 166th Street. At Studebaker Road, a 6-inch line runs north to Cerritos College and an 8-inch line runs south to Gahr High School. At the school, the line branches into a 4-inch line running north to the 91 Freeway and a 6-inch line running to the Artesia Cemetery. The 24-inch northern line reduces to 20-inches at 166th Street and Studebaker Road, then continues east along 166th Street through the City of Norwalk. This line branches into two 16-inch lines at the intersection of 166th Street and Norwalk Boulevard:

- One 16-inch line runs south along Norwalk Boulevard to form the west side of a smaller loop in the distribution system. At Artesia Boulevard, a 6-inch line branches off and runs west to Juarez Elementary School and two sections of the 91 Freeway on Pioneer Boulevard. The 16-inch line turns east on Artesia and runs to Barnhill Avenue where a short 4-inch line branches off and runs south to Kennedy Elementary School and Loma Park. At this point, the 16-inch line reduces to 14-inches and continues east on Artesia Boulevard to Bloomfield Avenue before it continues south. At Bloomfield Avenue and 183rd Street, a 6-inch line branches off the 14-inch line and runs west to Cerritos High School. It reduces to a 4-inch line before continuing west to Elliot Elementary School where it terminates. At Bloomfield Avenue and 183rd Street, an 8-inch line runs east to Dina Place where it connects with a 10-inch line from the east half of the loop (described below). Also, at this point, a short 6-inch line branches off and runs south to Heritage Park.

- The second 16-inch line at Norwalk Boulevard and 166th Street continues east. At Elm Park Drive, a 4-inch line runs north to Satellite Park and the 16-inch line reduces to 14-inches before continuing east. At Bloomfield Avenue, a 6-inch line runs south to serve Frontier Park, Wittman Elementary School and a section of the 91 Freeway. The 14-inch line continues east to Carmenita Road, where a 6-inch line continues east along 166th Street into Carmenita Junior High School and then to Carmenita Park. A 4-inch line branches off the 6-inch line south on Stowers Avenue to Park Street, then east to Gonsalves Elementary School where it terminates. The 14-inch line on 166th reduces to 10-inches and turns south on Carmenita Road, forming the east side of the smaller loop. An 8-inch line branches off at Red Plum Street to City Park East at Ironbark Drive where it terminates. The 10-inch line also reduces to 8-inches at this point and it continues south toward Artesia Boulevard, at which point two 4-inch lines branch to the west and east to Saddleback Park and Friendship Park, respectively. When the 8-inch line on Carmenita Road reaches 183rd, a 6-inch line branches off and runs east then south on Stowers Avenue to Cerritos Elementary School, Rainbow Park and Bettencort Park. From the 8-inch line at

Carmenita and 183rd, a 10-inch line runs west on 183rd Street, then runs south under the freeway to Brookhaven Street. At this point, a 4-inch line branches off southeast to serve another section of the 91 Freeway and a second 4-inch line branches off to Brookhaven Park. At the intersection of Shoemaker Avenue and 183rd Street, the southern branch of the main loop (the second 24-inch line leaving the WRP) connects with the northern branch to complete the system.

From the WRP, the second 24-inch transmission line runs south along the San Gabriel River. At 183rd Street, a 6-inch line branches east through an Edison easement to serve the Bellflower Christian School and a section of the 605 Freeway. At South Street, a short 12-inch line branches off west past Westgate Park, providing a connection point for the City of Lakewood.

Approximately 1,000 feet south of 195th Street, the 24-inch line branches off into a 10-inch line to the south to provide a connection point for the City of Lakewood and a 20-inch line to the east that follows a Southern California Edison (SCE) right-of-way. The 20-inch line passes the Orange County nursery and the SCE-operated nursery and at Gridley Road, a 4-inch line branches off north to Bragg Elementary School. At Pioneer Boulevard, a 6-inch line branches off south to Cabrillo Lane Elementary School. At Jacob Street, a 6-inch line branches off north to Pat Nixon Elementary School. At Norwalk Boulevard, a 6-inch line branches off south to provide the third connection point for the City of Lakewood.

At Norwalk Boulevard, the 20-inch line reduces to 16-inches and continues east to Bloomfield Avenue, where it enters Cerritos Regional County Park. The 16-inch line reduces to 8-inches (with a 16-inch stub out for future connections to other municipalities) and curves north onto Shoemaker Avenue. A 4-inch line at Espinheira Drive branches off to Sunshine Park and a 4-inch line at Droxford Street branches off to Leal Elementary School. The 8-inch line connects with the rest of the transmission system loop at the intersection of Shoemaker Avenue and 183rd Street.

APPENDIX E

CITY OF LAKEWOOD

The City of Cerritos provided three stub-out locations on one of its 24-inch concrete mortar lined and coated steel distribution lines for connections to the City of Lakewood. Each of these stub-out locations is within the City of Lakewood. A 12-inch stub-out connection is located on South Street, on the west side of the San Gabriel River, and consists of two, 6-inch meters in a manifold structure with isolation valves. A 10-inch stub-out connection is located across Del Amo Boulevard into River Park, approximately 40 feet west of Studebaker Avenue and consists of a single, 6-inch meter. A 6-inch stub-out is located on Norwalk Boulevard, just south of Del Amo Boulevard and approximately 70 feet south of the City of Lakewood boundary. This last stub-out is not in use and currently there are no plans for it to be used in the future.

From the first stub-out location on South Street, a 12-inch PVC line runs west to a T-section at Woodruff Avenue. From this T-section, a 10-inch PVC line continues west along South Street, ending in a T-section at the Los Cerritos Drainage Channel. There are smaller connections branching off the 10- and 12-inch transmission lines on South Street:

- Approximately 550 feet east of Woodruff Avenue, the 12-inch PVC line along South Street branches at a T-section to a 6-inch PVC line. This line follows Spahn Avenue north, turning west at Edgefield Street and continuing until it reaches Woodruff Avenue. At Woodruff Avenue, the 6-inch line heads north along Woodruff Avenue. There are two, 2-inch connections to parkway irrigation systems along this 6-inch line. A 4-inch connection approximately 600 feet north of Edgefield Street runs approximately 100 feet west to serve St. Joseph's Parish School. Approximately 120 feet north of Arabella Street, the 6-inch line connects to a 4-inch line serving Mayfair High School and Lindstrom Elementary School.

- Along the 12-inch PVC line on South Street there are five, 2-inch connections to parkway irrigation systems east of Woodruff Avenue. Approximately 1,700 feet east of Woodruff, 12-inch PVC line is flanged underground to 12-inch ductile iron pipe on either side of the Palos Verdes storm drain. The iron pipe then runs above ground to be suspended over the 14-foot wide channel, with air release valves on either side of the channel.

- A 10-inch PVC line branches off the T-section on South Street at Woodruff Avenue and runs south along Woodruff Avenue, terminating in a T-section at Centralia Street. A 6-inch PVC line branches from the T-section at Centralia Street and runs west along Centralia Street to just past Eastbrook Avenue, where it turns south and feeds a 4-inch connection serving Lakewood High School. There is a 4-inch connection approximately 800 feet south of Arbor Road, to service Jose Del Valle Park. From this 4-inch line there is also a 2-inch connection to service parkway irrigation systems. A 4-inch PVC line branches off a T-section at Arbor Road. The 4-inch line runs west along Arbor Road, ending just before Radnor Avenue with a 4-inch service connection to the City of Lakewood Water Yard. Another 4-inch PVC line branches off a T-section at Dashwood Street. The line runs west along Dashwood, ending in a 4-inch connection on the west side of Ocana Avenue to service Jose San Martin Park. There are six, 2-inch connections to parkway irrigation systems from the 10-inch PVC line along Woodruff Avenue.

- Along the 10-inch PVC line on South Street (west of Woodruff Avenue), there are five 2-inch connections to parkway irrigation systems and one 4-inch PVC line approximately 570 feet east of the Los Cerritos Channel serving Foster Elementary School.

- A 6-inch PVC line branches off the T-section on South Street at Fidler Avenue at a 45-degree angle. The 6-inch line crosses Fidler Avenue at an angle until it reaches the edge of Mayfair Park. From there, the line turns directly south and follows the park's eastern boundary until it reaches Bigelow Street. A 4-inch line branches from a T-section at Bigelow Street and crosses over the Los Cerritos Channel. This 4-inch line serves the west side of Mayfair Park. From the T-section at Bigelow Street, a 6-inch line branches off at a 45-degree angle. The line heads southwest until it reaches the south end of Mayfair Park where it then heads directly south along the east side of the channel. At Candlewood Street, the 6-inch line ends with a T-section. From here, a 2-inch PVC line runs south to the Civic Center and a 6-inch line runs west crossing the channel. The line is flanged underground on either side of the channel to 6-inch ductile iron that runs aboveground to be suspended under a footbridge over the channel. After crossing the channel, the 6-inch line terminates in a T-section, from which a second 2-inch PVC line runs south to serve the Civic Center.

From the second stub-out location on Del Amo Boulevard, a 6-inch PVC line branches from a T-section and runs approximately 640 feet west terminating in a T-section at Mae Boyer Park. Another 10-inch PVC line branches from the T-section at the connection point, running south along the east side of the San Gabriel River channel for approximately 2,000 feet and ending with a 4-inch service connection to the River Park pump station. There are several smaller connections branching off the 6-inch and 10-inch transmission lines from the second connection point to the system:

- Approximately 1,200 feet south of Del Amo Boulevard, a 4-inch PVC line branches from the 10-inch line on the east side of the San Gabriel River. The line runs east, terminating at a T-section with a 2-inch service connection to Rynerson Park.

- A 4-inch PVC line branches from the 6-inch line at a T-section located on the west side of the San Gabriel River. The 4-inch line south, then turns west through the city yard, then south to Monte Verde Park.

- From the T-section at Mae Boyer Park, 4-inch lines run 85 feet under Del Amo Boulevard to either side of the road. These 4-inch lines feed service connections to Mae Boyer Park that is on both the north and south sides of Del Amo Boulevard.

APPENDIX F

CENTRAL BASIN MWD – CENTURY SYSTEM

Construction of Phase I of the Century Reclamation Program began in March 1991 and was completed in February 1992. The facilities in this phase consist of the 30-inch cement-lined and coated steel "backbone" pipeline from the Los Coyotes WRP that crosses over the San Gabriel River and runs 18,900 feet north along the western bank to a point north of Firestone Boulevard, where the outfall from the San Jose Creek WRP discharges into the San Gabriel River. At this point, the line reduces to a 24-inch cement-lined and coated steel line that continues northerly to Florence Avenue, then easterly to Fairview Avenue, where it runs to Dollison Drive. The line then follows Dollison Drive southeasterly to Buell Street, where it crosses under the Santa Ana (5) Freeway to Orr & Day Road. The line runs north on Orr & Day back to Florence Avenue, then easterly to Jersey Avenue where it terminates. Several 6- and 8-inch PVC lines branch off the large diameter transmission lines at various points:

- At a point just south of Compton Boulevard, an 8-inch PVC line branches off the 30-inch line and runs northwesterly to Compton Boulevard, where it continues westerly to its terminus at Bellflower High School. A 6-inch PVC line branches off this line at McNab Avenue and runs northerly.

- At a point just north of Columbus High School, another 8-inch PVC line branches off the 30-inch line and runs westerly through an easement to Woodruff Avenue, where it turns south and runs to Everest Street. This line runs westerly to Benedict Avenue, then through Gauldin School to its terminus on Dunrobin Avenue at Independence Park.

- At a point north of Firestone Boulevard, a 6-inch PVC line branches off the 30-inch line and runs westerly through the Rio San Gabriel Park parking lot to Newville Avenue, where it turns north and runs northerly to La Villa Street. The line then runs westerly to Pangborn Avenue, where it turns north and runs to Buell Street. The line runs westerly to its terminus at Casanes Avenue.

- From the 24-inch line on Florence Avenue, a 6-inch PVC line branches off at Little Lake Road and runs southerly to its terminus at Little Lake Park and School.

- At the end of the 24-inch line at Florence Avenue and Jersey Avenue, an 8-inch PVC line runs north on along an easement to Jersey Avenue, then to Joslin Avenue. This line then runs westerly along Joslin Avenue and easterly to its terminus at Fallon Avenue.

In 2007, the City of Downey constructed additional pipelines connecting to the existing CBMWD distribution system at two points: on the 8-inch line on Dunrobin Avenue at Independence Park and on another 8-inch line on Lakewood Boulevard at Donovan Street (see Construction Schedule 2 of Phase II below).

From the connection point on Lakewood Boulevard, a 12-inch line runs northeasterly along Lakewood Boulevard to its termination point at 5th Avenue. Three smaller lines branch off of this 12-inch line:

- At Firestone Boulevard, a 4-inch line runs west to its termination at Nash Avenue.

- At Stewart & Gray Road, an 8-inch line runs east to a T-section at Bellflower Boulevard, then easterly to its termination at a point just east of Coldbrook Avenue.

- At Clark Avenue, an 8-inch line runs south along Clark to a newly constructed portion of Congressman Steve Horn Way, where it turns east and continues to Bellflower Boulevard. There is a T-section at Steve Horn Way and Bellflower Boulevard where two more 8-inch lines branch off. The first line runs north along Bellflower Boulevard to Stewart & Gray Road where it connects to the T-section on the previously described 8-inch line in this street. The second line continues east along Steve Horn Way and through Independence Park where it connects to the existing CBMWD distribution system on Dunrobin Avenue.

Construction of Phase II began in March 1992 and was completed in June 1993. Four construction "schedules" provided for several pipelines to branch off the main 30-inch and 24-inch Phase I line:

Schedule 1: From the end of the 24-inch Phase I line in the City of Santa Fe Springs at Florence Avenue and Jersey Avenue, the Phase II 24-inch line continues east to Bloomfield Avenue, where it terminates in a 4-way X-section. From this point, the 24-inch line runs southerly to Lakeland Road, then easterly to Greenstone Avenue, where it terminates in a T-section. At this point, a 16-inch PVC pipe branches off and runs southerly to Sunshine Avenue, then easterly to Shoemaker Avenue, then southerly to Leffingwell Avenue where the line jogs to the west into an easement parallel to Shoemaker Avenue. The 16-inch line then continues southerly to a point just south of the AT&SF railroad right-of-way where Shoemaker Avenue begins again. The line continues southerly along Shoemaker Avenue until it reaches Firestone Boulevard where the line turns southeasterly and runs to Excelsior Drive. At this point, the line continues east along Excelsior Drive until the dead-end at Marquardt Avenue. The 16-inch line then follows a storm drain easement easterly, where it was jacked under the Coyote Creek channel. On the east side of the channel, the line turns south and runs along the channel levee, then runs easterly to its terminus at Bona Vista Avenue. At this point, an 8-inch PVC line branches off south along Bona Vista Avenue to the end of the cul-de-sac. There are several other lines that branch off the 24- and 16-inch main line in this schedule:

- From the 24-inch line on Florence Avenue, a 6-inch PVC line branches off at Fulton Wells Avenue (between Pioneer and Norwalk) and runs southerly to Lakeland Road, where it turns west and runs to its terminus at Zeus Avenue.

- As the 16-inch line proceeds southwesterly along Firestone Boulevard, a 6-inch PVC line branches off at Dinard Avenue and runs north to Mapledale Street, where it turns easterly and runs to its terminus just east of Cabrillo Avenue.

- At the intersection of Excelsior Drive and Marquardt Avenue, a 6-inch PVC line branches off the 16-inch line and runs south along Marquardt Avenue to its terminus.

- At the four-way cross-section at Florence Avenue and Bloomfield Avenue, an 8-inch PVC line branches off the 24-inch line and runs south along Bloomfield Avenue to its terminus at Lakeland Avenue. This line was constructed by the City of Santa Fe Springs in 2008.

Schedule 2: This portion of the recycled water system branches off to the east and west from the 30-inch line at Foster Road. The east section begins as a 12-inch cement-lined and coated steel pipe connected to the 30-inch line on the west side of the San Gabriel River, just north of Foster Road. This line crosses the river along the Foster Road Bikeway, then runs southerly back to Foster Road where it turns east again into the City of Norwalk. At Dalwood Avenue, a 6-inch PVC line branches off and runs south to Leffingwell Road where it terminates. The 12-inch line on Foster Road continues east to a T-section at McRae Avenue. From this point, one branch of the Tee, a 6-inch PVC line, runs northerly along McRae Avenue until it terminates at Ratliffe Street. From the T-section at Foster Road and McRae Avenue, a 12-inch steel line runs southerly to Leffingwell Road, then east to Gard Avenue where a T-section was installed. The 6-inch line on Leffingwell Road continues east until it terminates just east of Maidstone Avenue. From the T-

section at Leffingwell Road and Gard Avenue, a 6-inch PVC line runs southerly along Gard Avenue to Taddy Street where it turns west and runs to Harvest Avenue where it turns south. The 6-inch line runs along Harvest Avenue to Mapledale Street where a T-section branches to the east and west. From this point, a 6-inch PVC line runs westerly along Mapledale Street to Graystone Avenue where it turns south and runs to its terminus at Sibley Street. Also, from the Tee at Harvest Avenue and Mapledale Street, another 6-inch line runs easterly to Jersey Avenue. This line turns south and runs until it ends at Excelsior Drive.

The west section also begins as a 12-inch cement-lined and coated steel pipe connected to the 30-inch line on the west side of the San Gabriel River, just south of Foster Road. This line jogs back onto Foster Road and runs westerly along this road, which forms the boundary between the cities of Downey and Bellflower. This line runs to Lakewood Boulevard where it turns north and reduces to 8 inches. The 8-inch line runs along Lakewood Boulevard until it terminates at Meadow Road, just north of Imperial Highway. Two other lines branch off the 12-inch line along Foster at Bellflower Boulevard:

- A 6-inch PVC line comes off a T-section in the middle of the intersection of Foster Road and Bellflower Boulevard and runs southerly until it terminates just south of Arthurdale Street.

- A second 6-inch PVC line comes off a T-section just to the west of the first T-section on Bellflower Boulevard and Foster Road and runs northerly until it terminates near Angell Street.

Schedule 3: In the City of Bellflower, a 24-inch line connects to the 30-inch main line just after it crosses the San Gabriel River from the Los Coyotes WRP. This line runs westerly along Flora Vista Street to an existing Metropolitan Transportation Authority (MTA) right-of-way. At this point the line runs northwesterly toward the Los Angeles River. At this point, an 8-inch branch runs southerly along an SCE right-of-way (just west of Texaco Avenue) to Alondra Boulevard. The 24-inch line turns north and follows the SCE right-of-way to Cortland Avenue, where it runs west to Orange Avenue. The line then runs north on Orange Avenue to Century Boulevard where a T-section was installed. From this point, the 24-inch line runs westerly along Century Boulevard to the Los Angeles River, where it was jacked under the river and the Long Beach (710) Freeway. This line terminates just to the west of the freeway for connection to Construction Schedule 4 (detailed below) at Martin Luther King Jr. Boulevard. From the T-section on Century Boulevard, the line reduces to a 16-inch pipe that runs northeasterly back to the SCE right-of-way, where the line runs northerly then northeasterly to Rio Hondo Drive. The 16-inch line continues northeast along this street to the end of the cul-de-sac. At this point, the line crosses over to the Rio Hondo channel and continues northeast along the flood channel's east side levee. The line reduces to 8-inches and uses an existing footbridge to cross the Rio Hondo channel where it terminates at John Anson Ford Park in the City of Bell Gardens. There are several other lines that branch off the 24- and 16-inch main line in this schedule:

- A 16-inch cement-lined and coated pipe branches off the 24-inch line running along the MTA right-of-way (located just west of the intersection of Somerset Boulevard and Hayter Avenue) and runs southerly along Los Angeles Department of Water and Power (LADWP) right-of-way to a point just north of Flower Street.

- At the point where the 24-inch line ends within the MTA right-of-way and moves into the SCE right-of-way, the 8-inch line (previously mentioned) runs southerly along the east side of the SCE right-of-way by Texaco Avenue where a T-section was installed at San Luis Street. At this point a 6-inch line continues to Somerset Boulevard where it turns west to the west side of the SCE right-of-way. The 6-inch line continues southerly to the south side of Alondra Boulevard where it terminates in a T-section.

- From the 8-inch line, another 6-inch PVC line branches off just north of Exeter Street and runs westerly to Gundry Avenue, where it turns north and runs to its terminus at San Rafael Street.

- At the T-section at San Luis Street, an 8-inch line crosses the SCE right-of-way westerly, continuing along San Luis Street to San Antonio Avenue where another T-section was installed. The 8-inch line continues southerly along San Antonio Avenue to Somerset Boulevard, where the line turns westerly and runs to its terminus at the Los Angeles River.

- From the T-section at San Luis Street and San Antonio Avenue, a 4-inch PVC line runs westerly along San Luis Street to its terminus at Banana Park. A 6-inch PVC line branches off the 8-inch line on San Luis Street at San Jose Avenue (east of San Antonio Avenue) and runs southerly to Mark Keppel Street where it terminates in a T-section. From this point, a 6-inch line runs the west and to the east.

- Farther north along the 16-inch line in the SCE right-of-way, a 6-inch PVC line branches off at Southern Avenue, which becomes Stewart & Gray Road, and runs easterly to Pernell Avenue. The 6-inch line turns south and runs to Cole Street, where it turns east back to Pernell Avenue. The line turns south and runs to the Los Amigos Country Club, where the line runs easterly to its terminus.

- Another 6-inch PVC line branches off the 16-inch line in the SCE right-of-way at Garfield Avenue and runs southerly to its terminus in a public alley south of Burntwood Street.

- The Bell Gardens Extension was completed in July 1995 and was connected to the 8-inch line that terminated in John Anson Ford Park. A di-eccentric reducer was installed to allow for a 16-inch line to be connected. The 16-inch line then runs north through the park to Scout Avenue, where it turns east. The line continues along Scout, which changes to Park Lane, to its terminus at Garfield Avenue.

Schedule 4: A 24-inch cement-lined and coated steel pipe was connected to the 24-inch Schedule 3 line that terminated just west of the 710 Freeway. This line runs westerly along Martin Luther King Jr. Boulevard to a T-section at Wright Road, where two sections of pipeline run to the north and south. The north section begins with a 12-inch line that runs north along Wright Road to Duncan Avenue, where both Wright Road and the 12-inch line turn north. This line runs to Atlantic Avenue, where the line turns northeast and runs to a T-section at Tweedy Boulevard, then west to its terminus.

The south section begins with an 8-inch line from the T-section at Wright Road and Martin Luther King Jr. Boulevard and runs south along Wright Road to McMillan Street. At this point, the line turns west and runs to Gibson Avenue, where it turns south and runs for 1,039 feet to a T-section a San Rafael Street. From this point, the line reduces to a 6-inch pipe and runs easterly along San Rafael Street to its terminus at the 710 Freeway.

In 2008, the City of Lynwood connected an extension to the 8-inch line along the southerly section of the line on Wright Road. An 8-inch PVC line runs westerly along Josephine Street to its termination point at Virginia Avenue where it will serve the relocated Ham Park.

APPENDIX G

CITY OF POMONA WATER DEPARTMENT

The distribution system consists of a 490 HP, 9,000 gpm pump station that feeds two, 21-inch pipelines. One 21-inch line runs east along Pomona Boulevard and Vernon Avenue, while the other runs north along Ridgeway Street to a T-section at South Campus Drive and the 71 Freeway. From the second line, an 18-inch line continues north along Ridgeway Street, then east along Murchison Avenue for a short distance before it terminates at a 4.5 MG storage reservoir in Bonelli Park. At the T-section, a 16-inch line runs west along South Campus Drive, serving the parkway, Cal Poly and the 57 and 71 Freeways. Forest Lawn constructed a pump station and piping to lift recycled water from Cal Poly's on-site recycled water reservoir up to Forest Lawn's irrigation water tanks and has upgraded Cal Poly's irrigation water lift station to increase maximum flow rate from 3,000 to 4,000 gpm to accommodate the cemetery's demands.

APPENDIX H

WALNUT VALLEY WATER DISTRICT

A 3,500 gpm pump station and an 8,000 gallon wet well was constructed at the intersection of Valley Boulevard and Grand Avenue, at the end of the 21-inch concrete gravity line from the Pomona WRP. At the pump station, a smaller, 500 gpm booster pump and hydro-pneumatic system supplies a 12-inch PVC pipe which runs north along Grand Avenue to Snow Creek Drive where it reduces to an 8-inch PVC pipe. The 8-inch line continues north from Snow Creek Drive to Amar Road where it turns west and terminates just before Lemon Avenue. An 8-inch AC line branches off the 12-inch PVC line at Snow Creek Drive and Grand Avenue and runs east, reducing to a 6-inch PVC line at La Puente Road and terminating east of Rodeo Way. A 6-inch AC line branches off from the 8-inch AC line at La Puente Road where it runs north before terminating just south of Bridgewater Lane.

From the pump station, a 20-inch cement-lined and coated steel pipe runs west along Valley Boulevard to Fairway Avenue, where it turns south. This line continues to Colima Road, then south again along Brea Canyon Cutoff Road, where it terminates at the storage reservoirs located at Oakleaf Canyon Road. Several smaller transmission lines branch off the 20-inch main transmission line:

- A 6-inch PVC line branches off the main line on Valley Boulevard at Somerset Drive to serve the Walnut Ridge housing tract.

- An 8-inch PVC line branches off the main line on Valley Boulevard and Pierre Avenue. This line runs north on Pierre Avenue to Puente Avenue, where it reduces to a 6-inch PVC line. The 6-inch line continues east on Puente Avenue, then north on Suzanne Road where it terminates just south of Fuerte Drive.

- A 6-inch PVC line branches off the main line at Valley Boulevard and Lemon Avenue, running north to Vejar Road where it splits into 6-inch PVC lines running east and west. The line continues north on Lemon Avenue and terminates north of La Puente Road. The west line turns north through an easement, then continues west on Avenida Deseo, then south on Avenida Alipaz, where it terminates at Calle Baja. The east line continues along Vejar Road to its termination just east of Scherer Avenue.

- At the point where the 20-inch main line turns south off of Valley Boulevard and onto Fairway Drive, a 12-inch PVC line branches off and continues west along Valley Boulevard to Nogales Street, where it reduces to 8-inches. The line terminates at a T-section at Trafalgar Avenue, allowing for future expansion. Several smaller lines branch off this section of the distribution system. A 6-inch PVC line branches off at Valley Boulevard and Sentous Street, where it runs north to Hollingworth Street. From this point, three 6-inch lines branch off for short distances to serve users located to the east, west and north. A 12-inch PVC line branches off at Valley Boulevard and Nogales Street, where it runs north to its terminus just before La Puente Avenue. In addition to serving Nogales High School, this line allows for possible future service into the City of West Covina. A 6-inch PVC line continues north from the T-section at Valley Boulevard and Trafalgar Avenue, then east on Rorimer Street and north on Deepmead Avenue to its terminus at Sunshine Park.

- Another 12-inch PVC line branches off the line on Fairway Drive, running west along Colima Road to Otterbein Avenue, where it reduces to 8-inches and terminates at Shabarum Regional County Park, just before Azusa Avenue. Several smaller lines branch off this section of the distribution system. A 6-inch

PVC line branches off the 12-inch line, running north along Bandida Avenue to its terminus at Rowland Regional County Park. Two 6-inch PVC lines branch off the 12-inch line at the intersection of Colima Road and Otterbein Avenue. The first line runs north to Addis Street, while the second runs south along Otterbein Avenue, then west along Killian Street, then south on Lerona Avenue. An 8-inch PVC line branches off the 12-inch line, running south along Fullerton Road to a T-section at Galatina Street. One end of the T-section is blind-flanged, while a 6-inch PVC line runs east through an easement, then continuing along Galatina Street. This line then runs north on Cantaria Avenue, east on Farjardo Street to its terminus just before Los Padres Drive. Another 6-inch PVC line runs along Batson Avenue from Farjardo Street.

- A second 12-inch PVC line branches off the main transmission line along Fairway Drive, running east along Colima Road to Lemon Avenue, where a 6-inch PVC line branches off and runs north to serve several users. The 12-inch line continues east along Colima Road to Grand Avenue, where it turns north to a meter at the Diamond Bar Golf Course. The 12-inch line continues north along Grand Avenue, where it reconnects to the 20-inch main line on Valley Boulevard. Two 6-inch PVC lines branch off the 12-inch line to supply a looped-system serving Gateway Corporate Center. Another 6-inch PVC line branches off the 12-inch line at Brea Canyon Road, terminating just north of Golden Springs Drive.

- In a 1994-1995 extension of the recycled water system, a 12-inch PVC line was connected to the 20-inch main transmission line on Fairway Drive, running east along Business Parkway and Currier Road and terminating on Currier Road just before Brea Canyon Road. A 6-inch AC line branches off the 12-inch PVC line and runs north through an easement to join an 8-inch PVC line on Spanish Lane. The 8-inch PVC line runs west where it terminates just west of Brea Canyon Road. The 8-inch line also runs east on Spanish Lane, then north on Cheryl Lane and Brea Canyon Road to its terminus at the WVWD office. This section serves the landscaping around a number of commercial and light industrial buildings.

- In a 1998-1999 extension of the recycled water system, the 8-inch PVC line terminating at the WVWD office was extended north to Old Ranch Road. From this point, the line turns east and runs to a frontage road along the Union Pacific Railroad, where it turns and runs north to its terminus at Grand Avenue in the City of Industry. A 12-inch PVC was connected to an existing 12-inch PVC line on Golden Springs Drive, with the new line running south along Adel Avenue and Davan Street. Approximately 100 feet of DIP runs east along a right-of-way to Via Sorella, where the line changes back to PVC and continues south to Brea Canyon Road. The line continues southerly to its terminus at Diamond Lane. This line serves the Diamond Crest Homeowners Association.

APPENDIX I

CENTRAL BASIN MWD – RIO HONDO SYSTEM

Construction began in April 1993 on a 22,000 gpm pump station, located adjacent to the 66-inch San Jose Creek Outfall on the east side of San Gabriel River Parkway, approximately 900 feet north of Beverly Boulevard. The pump station was completed in March 1994 and went on-line delivering recycled water in July 1994. The first schedule of pipeline construction in the City of Whittier and the City of Santa Fe Springs began in April 1993 and was completed in February 1994, with the Whittier Connector Unit crossing of the 605 Freeway/San Gabriel River being completed in May 1994. Construction on the Vernon Phase 1 and 2A Unit began in June 1993 and was completed in September 1994, while construction on the Pico Rivera, Montebello/Vernon and Vernon 2B units has not yet begun.

Whittier Connector Unit: A 48-inch cement-lined and coated steel pipeline carries recycled water from the Rio Hondo Pump Station toward San Gabriel River Parkway. Just outside the pump station, a 36-inch cement-lined and coated steel pipeline tees off and runs back toward the San Gabriel River levee, where it turns and runs north. The line then turns east and invert siphons under the San Gabriel River channel, where it then crosses an SCE and a Yellow Freight Company railroad right-of-way. The line was then jacked under a Union Pacific Railroad line and the 605 Freeway to Pioneer Boulevard, just south of Strong Avenue. Between the railroad and the freeway, the pipeline was reduced to 24-inches. The 30-inch line is contained in a 42-inch steel casing and the 24-inch line is contained in a 36-inch steel casing. At Pioneer Boulevard, the 24-inch line expands back to 30-inches and runs southwest to a point where it is jacked under Beverly Boulevard in a 42-inch steel casing. This portion of the pipeline construction connects to the Whittier Unit on the south side of Beverly Boulevard.

Whittier Unit: The construction for this schedule began where the Whittier Connector Unit ended on Pioneer Boulevard just south of Beverly Boulevard. From this point, the 30-inch line continues southwest along Pioneer Boulevard to Orange Grove Avenue, where it turns southeast. The line continues along Orange Grove Avenue to Norwalk Boulevard, where it turns southwest and runs to El Rancho Drive. At this point, the line turns southeast and runs along El Rancho Drive to a T-section at Broadway Road. From this T-section, an 18-inch line runs east along Broadway Road to Western Avenue where it terminates in a temporary blow-off valve, plug and blind flange. Any future (although currently unplanned) extensions of the recycled water system into the City of Whittier will continue from the point.

From the T-section at El Rancho Drive and Broadway Road, a 16-inch cement-lined and coated steel pipeline continues southwesterly along Broadway Road to Norwalk Boulevard. Along the way, the line was jacked underneath Washington Boulevard. At Norwalk Boulevard, the 16-inch line turns south and runs to a point just south of Walnut Street, where the line connects to the Santa Fe Springs Unit. Along the way, the line was jacked underneath Slauson Avenue.

A second set of pipelines was constructed from the Rio Hondo Pump Station. From the pump station, a 48-inch cement-lined and coated steel pipeline runs to the property line on San Gabriel River Parkway, where it terminates in a T-section. A 12-inch line runs northeasterly from the T-section along the parkway to the intersection of Fairway Drive, where it terminates in a blind-flanged T-section. Also branching from the 48-inch line T-section is a 36-inch cement-lined and coated steel line that runs southwesterly to Beverly Boulevard. At this point, the line reduces to 30-inches and terminates in a T-section at Tobias Avenue, with the 30-inch branch blind-flanged. A 10-inch line runs along Tobias Avenue from the T-section before it also terminates in a blind-flange. Future construction will continue from the blind-flanged sections.

Santa Fe Springs Unit: The main portion of this construction schedule is a 16-inch cement-lined and coated steel that connects to the Whittier Unit on Norwalk Boulevard, between Walnut and Burke Streets. The 16-inch line continues south along Norwalk Boulevard to Florence Avenue, where it connects to a 24-inch line of the Century recycled water distribution system. This is the first of several links between the two distribution systems. Along the 16-inch line on Norwalk Boulevard, two T-sections were installed to allow for construction of other pipelines.

The first T-section on the 16-inch line is located at the intersection of Norwalk Boulevard and Burke Street, with a 12-inch line branching off and running east to its termination at a T-section at Dice Road. From this point, a looped-section of pipelines begins. The northern portion consists of a 12-inch line running north on Dice Road to a T-section, then east through an alley to a T-section on Sorenson Avenue, where the line reduces to 6-inches and continues south to a T-section at Santa Fe Springs Road, then southwest to a T-section at Los Nietos Road. The south portion also begins at the T-section at Burke Street and Dice Road and consists of a 12-inch line running south to Los Nietos Road, then southeast to Santa Fe Springs Road, where it connects to the northern portion at the T-section.

From the T-section at Los Nietos and Santa Fe Springs Roads (the street name changes to Bloomfield Avenue at Telegraph Road), the 12-inch line continues southwest to Florence Avenue, where it connects to a 12-inch line of the Century recycled water distribution system.

The second T-section on the 16-inch Norwalk line is located at Norwalk Boulevard and Los Nietos Road. From this point, an 8-inch line runs west to Pioneer Boulevard, where the line terminates in a temporary blow-off valve and plug.

Vernon Phase 1 and 2A Unit: This section of pipeline connects the west side of the Rio Hondo System to Schedule 4 of the Century System, detailed in **Appendix F**. The 12-inch line of Schedule 4 terminated at a T-section at the intersection of Atlantic Avenue and Tweedy Boulevard in the City of South Gate. From this point, an 18-inch line runs north along Atlantic Avenue to a T-section at Ardine Street, where a 10-inch line runs west to Quartz Avenue, then south to its terminus at Independence Avenue.

From the T-section at Atlantic Avenue and Ardine Street, the 18-inch line continues north to a T-section at Elizabeth Street. At this intersection, the line turns west and runs to Otis Avenue. The 18-inch line turns north again and runs along Otis Avenue to a T-section at Randolph Street.

From the T-section at Otis Avenue and Randolph Street, a short section of 6-inch line runs east where a blind-flange was installed to allow for future construction. The 18-inch line continues west along Randolph Street to its terminus at Boyle Avenue. Along Randolph Street, an 8-inch line branches off at Newell Street and runs south to its terminus at Saturn Avenue.

APPENDIX J

PUENTE HILLS/ROSE HILLS

The distribution system consists of 2,956 feet of 36-inch reinforced concrete gravity line that runs east from the 66-inch San Jose Creek WRP Outfall on Workman Mill Road to the original landfill entrance. The first of three pump stations lifts 12,000 gpm of recycled water 500 feet through 2,200 feet of 36-inch force main to an existing 650,000 gallon reservoir located close to the PERG Facility. The second pump station, located at the 650,000 gallon reservoir, lifts the recycled water another 300 feet through 3,700 feet of 30-inch force main to a 1.2 MG reservoir constructed by Rose Hills on the border between the landfill and cemetery. The third pump station, located at the Rose Hills storage tank, lifts 2,200 gpm of recycled water through 4,700 feet of 18-inch buried DIP leading to an 800,000 gallon reservoir located at the former Nike site, with 2,000 feet of aboveground galvanized steel pipe serving the eastern landfill.

Construction of the gravity line was completed in June 1993, with construction of its connection to the San Jose Creek Outfall completed in March 1996. In 2001, construction of the expansion to serve the eastern portions of the landfill and the upper areas of the ever-expanding cemetery was completed.

APPENDIX K

ROWLAND WATER DISTRICT

From the discharge of the City of Industry's 3,400 gpm booster pump station at Anaheim-Puente Road, RWD constructed a 24-inch CML&C steel line easterly along Arenth Avenue on the northern edge of the San Jose Creek channel for 9,715 feet. The 24-inch line reduces to 20-inches between Fullerton Road and Epperson Drive, after which it continues easterly on Arenth Avenue for another 4,125 feet to its terminus at a T-section at Nogales Street, which is the eastern boundary of RWD's service area. This pipeline forms the main recycled water distribution line for RWD, from which a number of other distribution lines branch off to both the south and north.

Southern Lines: A 20-inch CML&C steel main transmission line branches off the line on Arenth Avenue and runs south on Fullerton Road for 1,096 feet to a four-way junction at Rowland Street where it continues south as a 24-inch CML&C steel line. The 24-inch line continues south on Fullerton Road for 7,563 feet to a T-section at Galatina Street where it reduces to a 16-inch DIP. From Colima Road to Galatina Street there is also the original 8-inch PVC line that parallels the 24-inch line. The 8-inch line was the original construction and serves the connections along this section; the 24-inch line was constructed later to provide additional capacity. The 16-inch line continues on Fullerton Road to its terminus in a 5 MG storage tank located at the RWD office at Pathfinder Road. This tank serves to pressurize the system when the Industry recycled water pumps are off. From this tank, a 20-inch CML&C steel runs back to Fullerton Road, then for 729 feet east on Pathfinder Road to its terminus at a 20-inch butterfly valve and blind flange (to allow for possible future expansion) and a 6-inch service to a pump station serving Pathfinder Park.

At the T-section at Galatina Street, a 6-inch PVC line runs east along Fajardo Street for 2,240 feet to its terminus at a service to Carolyn Rosas Park. Along this 6-inch line, there is a T-section at Batson Avenue, from which another 6-inch PVC runs north along Batson Avenue for 1,065 feet to its terminus at a connection to Rowland Elementary School.

The first line to branch off the 24-inch main downstream of the pump station is a 24-inch CML&C steel line that runs south for 1,325 feet from Arenth Avenue along Anaheim-Puente Road to a point just north of where this street splits from Azusa Avenue. Two smaller pipelines branch off of this 24-inch line:

- A 12-inch DIP runs east on Chestnut Street for 200 feet.

- A 12-inch DIP runs for 852 feet east from a point north of Railroad Street through a parking lot to a 12-inch T-section, then short branches extend to the north (754 feet) and south (413 feet) on Freedom Way.

The main branch off the 12-inch line on Anaheim-Puente Road forms a loop in this system. It starts with a 12-inch DIP that runs west for 3,875 feet on Chestnut Street to Bixby Drive. The main branch turns south on Bixby Drive from Chestnut Street and runs south for 2,153 feet to Johnson Drive, where it turns east. After 784 feet, the 12-inch line turns south, crosses under the 60 Freeway, then continues south along Countrywood Avenue for 4,073 feet to Colima Road. At Colima Road, the 12-inch line runs east for 3,902 feet to a 12-inch butterfly valve and T-section at the entrance Schabarum Park. An 8-inch service goes south into the park, while the main line reduces to an 8-inch PVC line and continues east. The 8-inch line continues east to Fullerton Road, where it joins the 20-inch CML&C steel transmission line coming south from Arenth Avenue to close the loop. From this looped section, several other lines branch off:

- Along the first stretch of pipeline along Chestnut Street, a 12-inch DIP (replacing the original 6-inch PVC line) runs south on the Kearn Creek Court cul-de-sac for 630 feet.

- From an 8-inch gate valve on the 12-inch line on Countrywood Avenue, an 8-inch DIP runs west along Wedgeworth Drive for 1,471 feet until it terminates at the power line right-of-way that forms the western boundary of RWD's service area. A second, 8-inch DIP runs east on Wedgeworth Drive for 2,430 feet until it terminates at Lark Tree Way.

- At the intersection of Countrywood Avenue and Colima Road, there is a T-section where the main 12-inch line turns east, and an 8-inch DIP continues south for 286 feet to Deer Trail Drive where it turns west and runs for another 184 feet to its terminus.

- At the intersection of Colima Road and Fullerton Road, an 8-inch PVC line continues east on Colima Road for 4,800 feet to just before Nogales Street, where it reduces to a 6-inch PVC that runs north for then west for another 756 feet, then north again for 389 feet to its terminus at Daisetta Street. Just north of the intersection of Fullerton Road and Railroad Street, an 8-inch line comes of a T-section on the 24-inch line then continues south on Fullerton Road to Railroad Street, where two 8-inch CML&C steel pipes branch off, one running west for 60 feet and one running east for 110 feet. The T-section is just upstream of where the 24-inch main line was jacked under Railroad Street and the Union Pacific railroad tracks.

- At the intersection of Rowland Street and Fullerton Road, an 8-inch DIP runs west on Rowland Street for 100 feet.

A second loop is formed with an 8-inch DIP branching off the 24-inch line on Fullerton Road and running east for 3,018 feet along San Jose Avenue to a T-section at Charlie Avenue. The 8-inch line continues east on San Jose Avenue for 2,038 feet to Nogales Avenue, where the line turns north for 391 feet to the south side of the San Jose Creek channel. A 211-foot 16-inch CML&C steel line crosses the San Jose Creek channel and connects to the main 20-inch line on Arenth Avenue. Along the line on San Jose Avenue, an 8-inch DIP branches off from a T-section at Charlie Avenue and runs south for 660 feet to a T-section at Railroad Street. From this point, the 8-inch line runs east for 1,828 feet to its terminus at Nogales Street. Another short, 8-inch DIP runs west from Charlie Avenue along Railroad Street for 112 feet.

Northern Lines: There are two separate branches that come off the main 20-inch transmission line on the north side of Arenth Avenue. The first is a 6-inch DIP that follows the Epperson Drive loop, first running north for 762 feet, then east for 590 feet then south for 687 feet where it reconnects with the 20-inch line. The second is a 12-inch DIP that extends north on Nogales Street from the end of the 20-inch line on Arenth Avenue. This line runs north for 637 feet to Valley Boulevard, where it splits into two branches:

- From Valley Boulevard, a 12-inch DIP continue north on Nogales Street for 2,690 feet to its terminus at a connection to Nogales High School.

- From Nogales Street, an 8-inch PVC runs west for 4,206 feet along Valley Boulevard to a T-section at Trafalgar Avenue. One outlet to the T-section is capped, allowing for a future extension of this line farther west on Valley Boulevard. The other outlet supplies a 6-inch PVC line that runs north along Trafalgar Avenue for 1,021 feet to Rorimer Street, then for 318 feet east along Rorimer Street to Deepmead Avenue, then for 530 feet north along Deepmead Avenue to its terminus at a connection to Sunshine Park.

APPENDIX L

USGVMWD – PHASE II-A EXTENSION (WHITTIER NARROWS AREA)

Recycled water is delivered from the USGVMWD pump station located adjacent to the chlorine contact tanks in the northwest section of the WNWRP. This pump station consists of one 200 HP, 2,000 gpm and three 350 HP, 4,000 gpm by Simflo Pumps Inc. vertical turbine pumps that can provide 10,000 gpm of recycled water. The third 4,000 gpm pump serves as a backup.

From the USGVMWD pump station the recycled water is transported through a 24-inch, Class 200 ductile iron pipeline (DIP) that runs northeasterly, suspended along the eastern side of the WRP's chlorine contact tank. All buried portions of the DIP have been double-bagged with 8 ml purple plastic to protect it against corrosion and to identify it as a recycled water pipeline. The 24-inch pipeline exits the pump station near the northeast corner of the WNWRP site and heads north for approximately 165 feet and turns northwest for 115 feet, tentatively following the property line. The pipeline then turns due west for 195 feet.

Approximately 50 feet south of the northwest corner of the WRP's property and a SCE easement, the 24-inch pipeline exits the WRP site and runs northwest to the southern edge of the SCE easement, then continues north through the easement. On the north side of the easement, the pipeline is jacked under Mission Creek and encased in an 82-foot long, 36-inch welded steel casing. The 24-inch pipeline continues northward through an archery range and a second SCE easement to a point approximately 33 feet north of the easement where it ends in a T-section (hereinafter identified as "Junction 1").

There is a 24-inch butterfly valve on the western branch of the Tee at Junction 1, after which the 24-inch pipeline continues due west, then northwesterly, then due west again, then northwesterly until it reaches the eastern bank of the Rio Hondo. The 24-inch pipeline then follows the bike path northward along the east river bank until it passes under the Pomona (60) Freeway right-of-way, after which it turns east and runs parallel to the freeway to Loma Avenue. The pipeline is encased in a 36-inch welded steel casing under the freeway.

Along Loma Avenue, the 24-inch pipeline runs north where it reduces to an 18-inch Class 250 DIP. Along this run, three T-sections with gate valves (two 6-inch and one 12-inch) were installed to serve the existing irrigation systems in what is known as Area "A" of the Whittier Narrows Recreation Area. The 18-inch pipeline continues north along Loma Avenue where it terminates with an 18-inch butterfly valve and a blind-flange for future extension. Three more T-sections with 6-inch gate valves for servicing Area "A" have been installed along the 18-inch pipeline.

In order to interconnect the irrigation systems serving Area "A" (located north of the 60 Freeway and bordered by Loma Avenue on the west and Rosemead Boulevard on the east) and Area "B" (located east of Rosemead Boulevard), a 12-inch Class 350 DIP was installed. On the south side of the Rosemead Boulevard entrance to Area "A", north of the 60 Freeway, a 12-inch tapping sleeve and gate valve was installed on an existing 12-inch AC irrigation pipeline. From this point, a 12-inch DIP runs northeast to the north side of the park entrance where it was jacked under Rosemead Boulevard and encased in 18-inch welded steel casing. From the west side of Rosemead Boulevard, the 12-inch pipeline runs due east to Area "B". At the end of this pipeline, an 8-inch reducer and tapping sleeve with a gate valve were installed on an existing 8-inch irrigation pipeline completing the interconnection of the two recreation areas.

Back at the T-section at Junction 1, the east branch reduces to a 16-inch Class 250 DIP through a butterfly valve, running due east to a T-section with a 6-inch stub-out and gate valve for a future extension. From

this Tee, the 16-inch pipeline jogs slightly to the north, then continues due east where a second T-section with a 6-inch stub-out and gate valve for a future extension was installed. From the second Tee, the 16-inch pipeline continues due east where a third T-section with a 6-inch stub-out and gate valve for a future extension was installed. From the third Tee, the 16-inch pipeline continues due east to the west side of Rosemead Boulevard at the southern entrance to the Whittier Narrows Recreation Area, south of the 60 Freeway. At this point, the 16-inch pipeline was jacked under the street and encased in 24-inch steel casing.

From the east side of Rosemead Boulevard, the 16-inch pipeline continues due east into Area "D" of the Whittier Narrows Recreation Area where a fourth T-section with a 6-inch stub-out and gate valve for a future extension was installed. From the fourth Tee, the 16-inch pipeline continues due east to the edge of Legg Lake. From this point, the 16-inch pipeline was jacked under the connecting channel between the middle lake and the south lake and encased in 24-inch welded steel casing. From this point, the 16-inch pipeline continues due east where it turns southeast and runs to a T-section at the intersection of Santa Anita Avenue and Lexington Gallatin Road (hereinafter identified as "Junction 2").

There is a 16-inch butterfly valve on the southeastern branch of the Tee at Junction 2, after which the 16-inch pipeline continues southeast, where it terminates in a fifth T-section with a 6-inch stub-out and gate valve for a future extension.

Back at Junction 2 at the Santa Anita Avenue/Lexington Gallatin Road intersection, an 8-inch reducer and gate valve are connected to the T-section and an 8-inch, Class 350 DIP pipeline runs. This pipeline then turns southeast. The pipeline then runs due east where it terminates at Andrews Street in a T-section with a 6-inch gate valve and an 8-inch lateral that serves a 4-inch stub out to South El Monte High School.

For the Rosemead Extension, 3,633 feet of 12-inch line runs west from the Golf Course along Garvey Avenue between River Avenue and Earle Avenue, with two, short 6-inch laterals running north on Willard Avenue and Earle Avenue (761 and 822 feet, respectively). A 6,393 foot, 8-inch line tees off of the 12-inch line on Garvey Avenue and runs south on Walnut Grove Avenue to a point just north of Cameta Drive. From this 8-inch line, a 180 foot, 4-inch lateral branches off to the west at Gravalia Avenue, a 1,440 foot, 6-inch lateral branches off to the east on Klingerman Street and a 1,258 foot, 6-inch line branches off to the west on Rush Street.

For the South El Monte Extension, an 18-inch Tee was installed in the existing 18-inch ductile iron recycled water line at the intersection of Loma Avenue and Rush Street, with 18-inch butterfly valves installed both upstream and downstream of the Tee. From this point, a 17-⅜-inch 10 gauge, cement lined and coated, electrically welded steel pipe (SGVWC's construction code for this type of pipe is "GWBR") pipe runs easterly for 6,325 feet along Rush Street to Central Avenue. At Central Avenue, the pipeline turns south and runs 3,590 feet to a four-way junction at Santa Anita Avenue. Prior to reaching Santa Anita Avenue, an 8-⅝-inch GWBR pipe branches off and runs southwest on Lerma Road for 701 feet to Millet Avenue where it terminates at Shively Park.

From the four-way junction on Santa Anita Avenue, a 17-⅜-inch GWBR pipe runs northeast on Santa Anita Avenue for 1,394 feet to a T-section at Vacco Avenue/Michael Hunt Drive. From this T-section, an 8-⅝-inch GWBR pipe runs northwest on Vacco Avenue for 455 feet to its terminus at a service to Greater South El Monte Hospital. From the same T-section, a 12-¾-inch GWBR pipe runs southeast on Vacco Avenue to its terminus at Epiphany Catholic School.

Also, an 8-⅝-inch GWBR pipe runs southwest on Santa Anita Avenue from the four-way junction on Santa Anita Avenue for 220 feet to its terminus at a service to Shively Middle School. The final connection at the four-way junction is an 8-⅝-inch GWBR pipe that runs south on Central Avenue for 885 feet to its terminus south of Cogswell Avenue at a service to New Temple Elementary School.

Along this final portion of the pipeline on Central Avenue is a T-section at Lidcombe Avenue. From this T-section, an 8-⅝-inch GWBR pipe runs northeast on Lidcombe Avenue for 570 feet to its terminus at a service to New Temple Park.

APPENDIX M

LANCASTER EASTERN AGRICULTURAL SITE

To deliver recycled water to this site, approximately 17.2 miles of transmission lines (terminating in a 2 MG storage tank) were designed and constructed to supply the proposed agricultural area of approximately 4,650 acres (3,800 acres actually cultivated). A 36-inch steel transmission line runs south from the Lancaster WRP along Sierra Highway, then east along East Avenue E. At 60th Street East, the transmission line transitions down to a 28-inch HDPE line and splits, with one line running down Avenue E then south on 90th Street East to Avenue G, then east again to its terminus halfway between 90th and 100th Streets. The second line runs south on 60th Street East then east on East Avenue F to 90th Street East where it reconnects with the first line.