32ND Annual Status Report on

Recycled Water Use

FY 2020–21

LOS ANGELES COUNTY
SANITATION DISTRICTS
Converting Waste Into Resources

Thirty-Second

ANNUAL STATUS REPORT

on

RECYCLED WATER USE

Fiscal Year 2020-2021

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

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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 "local" water supply to supplement the area's limited groundwater and imported water supplies.

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-second 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 users 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, Upper San Gabriel Valley Municipal Water District's Whittier Narrows system and the Sanitation Districts' Eastern Agricultural Site in Lancaster), 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 regarding 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 the Sanitation Districts' website at: *https://www.lacsd.org/services/wastewater-programs-permits/water-reuse-program*. If you would like additional copies of this report (hardcopy or electronic), or would like to comment on its contents, please contact Earle Hartling, Water Recycling Coordinator at (562) 908-4288, extension 2806, or by email at *ehartling@lacsd.org*.

Main Cover Photos: Construction began in 2020 on the 488-acre Montebello Hills residential development. Central Basin Municipal Water District extended its distribution pipelines to serve recycled water to this site for construction applications, such as dust control. Once construction of the homes is completed, recycled water will be used for landscape irrigation of 315 acres dedicated to open space consisting of a series of pedestrian walkways and trails, a city park, a private community center, and five, quarter-acre pocket parks.

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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
AWWARF	American Water Works Association Research Foundation
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
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
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
RWQCB	Regional Water Quality Control Board
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

FY20-21 FACTS-AT-A-GLANCE

SANITATION DISTRICTS

Total Effluent Produced (including JWPCP): 385.00 MGD (431,416 AFY[1]), 0.6% decrease

Total Recycled Water Produced (at WRPs): 136.67 MGD (153,150 AFY), 54.5% of capacity, 35.5% of the total effluent produced, 0.8% increase

Total Recycled Water Used: 92.97 MGD (104,162 AFY), 68.0% of recycled water produced, 6.8% increase, 830 permanent sites (14 added), 27 active temporary construction sites (20 added)

Groundwater replenishment (3) -	51.25 MGD (57,246 AFY)	55.1% of total reuse	1.7% increase
Landscape irrigation (792) -	18.126 MGD (20,311 AFY)	19.5% of total reuse	17.0% increase
Agriculture (7) -	16.12 MGD (18,065 AFY)	17.3% of total reuse	5.9% increase
Industrial (54) -	3.84 MGD (4,306 AFY)	4.1% of total reuse	60.6% increase
Environmental (1) -	3.63 MGD (4,070 AFY)	3.9% of total reuse	0.5% decrease

Total Reuse Since Inception (1962): 3,490,665 AF (1.14 trillion gallons)

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

Acreage Served: 16,753.7 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]: 234,365 tons of carbon dioxide

Capacity of Future Planned Reuse Projects: 49,060 AFY (43.78 MGD)

JOINT OUTFALL SYSTEM

Total Effluent Produced: 344.72 MGD (386,271 AFY), 0.7% decrease
Total Recycled Water Produced: 96.39 MGD (108,005 AFY), 28.0% of the total produced, 0.9% increase
Total Recycled Water Used: 72.71 MGD (81,475 AFY), 75.5% of recycled water produced, 7.2% increase

SANTA CLARITA

Total Recycled Water Produced: 18.17 MGD (20,364 AFY), 0.9% decrease
Total Recycled Water Used: 0.44 MGD (492 AFY), 2.4% of recycled water produced, 1.6% decrease

ANTELOPE VALLEY

Total Recycled Water Produced: 22.12 MGD (24,782 AFY), 1.6% increase
Total Recycled Water Used: 19.81 MGD (22,195 AFY), 89.6% of recycled water produced, 5.6% increase

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 2020-21 (FY20-21), Sanitation Districts' facilities produced an average of 385.00 million gallons per day (MGD), or 431,416 acre-feet per year (AFY) of effluent, which is a decrease of 0.6% from the preceding fiscal year and a 28.2% 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 (25.6% 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.

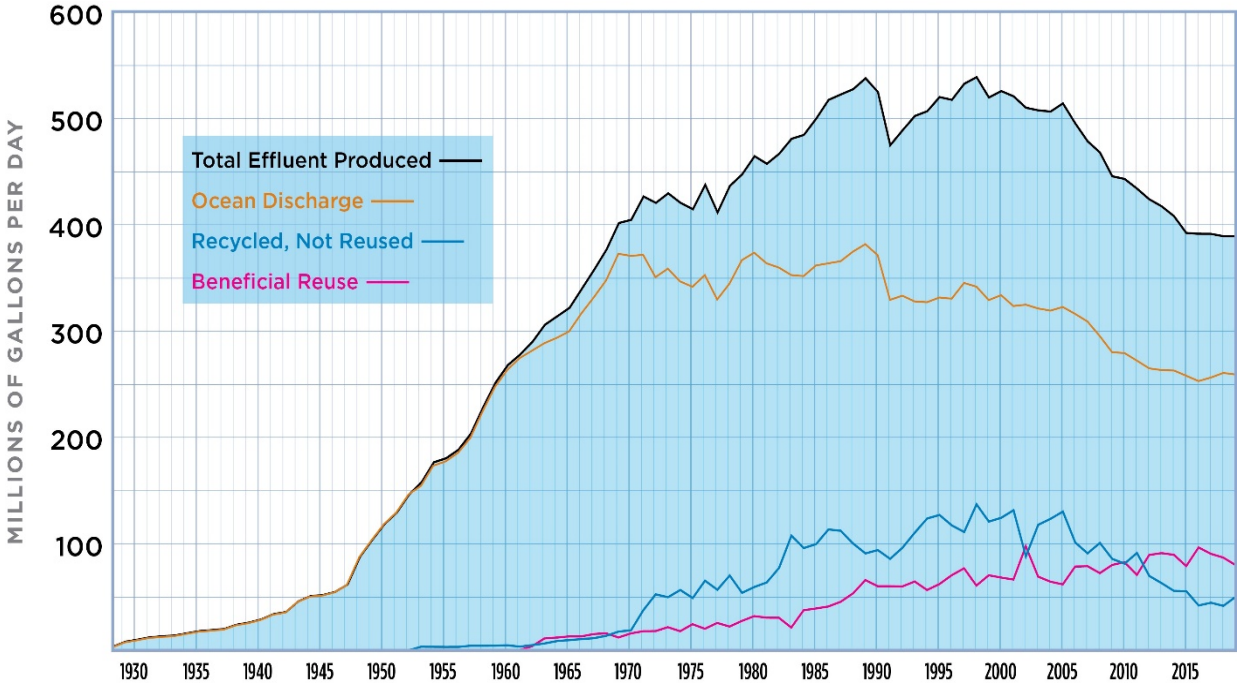
FIGURE 1
LOCATION OF SANITATION DISTRICTS' WASTEWATER TREATMENT FACILITIES

Nominal treatment capacity at the 10 Sanitation Districts' WRPs is 250.8 MGD (281,040 AFY) as of the end of FY20-21. However, of the total effluent produced, only 136.67 MGD (153,150 AFY) consisted of recycled water available for reuse from these 10 facilities (54.5% of capacity). This amount is 35.5% of the total amount of effluent produced at the 11 wastewater treatment facilities and an increase of 0.8% over the preceding fiscal year. The remaining 248.33 MGD (278,266 AFY) was effluent discharged to the ocean from the Sanitation Districts' Joint Water Pollution Control Plant (JWPCP) in the City of Carson, a 1.3% decrease from the preceding fiscal year. This represents a shift in wastewater treatment from JWPCP to the WRPs resulting in an additional 1,148 AF in recycled water available for reuse as compared to the preceding fiscal year.

For over a half century, the Sanitation Districts have diverted high quality wastewater flows away from direct ocean disposal to its upstream WRPs in order to provide recycled water supplies for eventual reuse, as illustrated in **Figure 2** (data through the end of calendar year 2020). 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 to 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 a drought emergency declaration by the Governor 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 FY20-21, 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
1928-2020



Of the total amount of recycled water produced in FY20-21, 92.97 MGD (104,162 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 6.8% over the preceding fiscal year, with the percentage of recycled water produced that was reused (68.0%) increasing over the prior year (64.1%). 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 was the third highest amount ever recorded. 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.

2) The weather in FY20-21 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.

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.

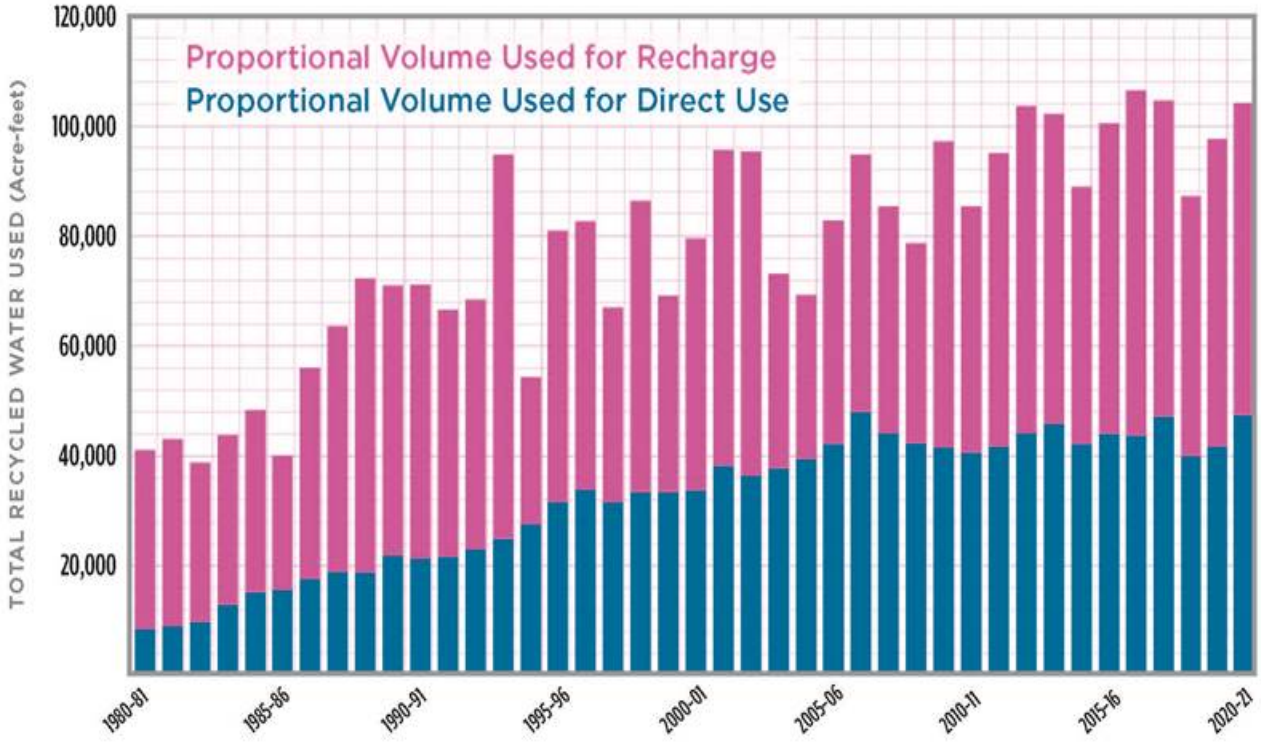
The amount of recycled water produced and reused at each of the WRPs and the percent change from the preceding fiscal year is summarized in **Table 1**. During FY20-21, 14 new permanent use sites and 20 temporary construction sites began receiving Sanitation Districts' recycled water.

TABLE 1
RECYCLED WATER PRODUCED AND REUSED AT WATER RECLAMATION PLANTS
FISCAL YEAR 2020-21

Water Reclamation Plant	Nominal Treatment Capacity (AFY)	Quantity Recycled (AFY)	Percent Change from FY19-20 (+/-)	Quantity Reused (AFY)	Percent Change from FY19-20 (+/-)	Percent of Recycled Water Used
La Cañada	225	74	-6.3	74	-6.3	100
Long Beach	28,015	13,256	+24.1	9,149	+123.7	69.0
Los Coyotes	42,020	20,942	-2.3	6,948	+12.4	33.2
Pomona	16,810	5,656	-13.0	5,685	-11.5	100
San Jose Creek	112,055	58,734	+0.3	50,373	+1.6	85.8
Whittier Narrows	16,810	9,343	-4.6	9,246	-3.9	99.0
Valencia	24,205	15,111	-1.8	492	-1.6	3.3
Saugus	7,285	5,253	+1.7	0	0	0
Lancaster	20,170	15,452	+1.4	13,165	+3.3	100
Palmdale	13,445	9,329	+1.8	9,030	+9.2	100
TOTAL	281,040	153,150	+0.8	104,162	+6.8	68.0

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.

FIGURE 3
DIRECT NON-POTABLE REUSE VS. GROUNDWATER RECHARGE
1980-81 TO 2020-21



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 irrigable acres and recharge basins). By the end of the subject fiscal year, there were a total of 830 permanent reuse sites (plus 27 temporary construction sites) consisting of approximately 17,400 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-2021. For this fiscal year, about 40 of the non-usage sites were removed from the list of users, 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. This culling of reuse sites was applied historically, and the recalculations are reflected in **Figure 4.**

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

FIGURE 4
INCREASE IN NUMBER OF REUSE SITES, 1970-2021

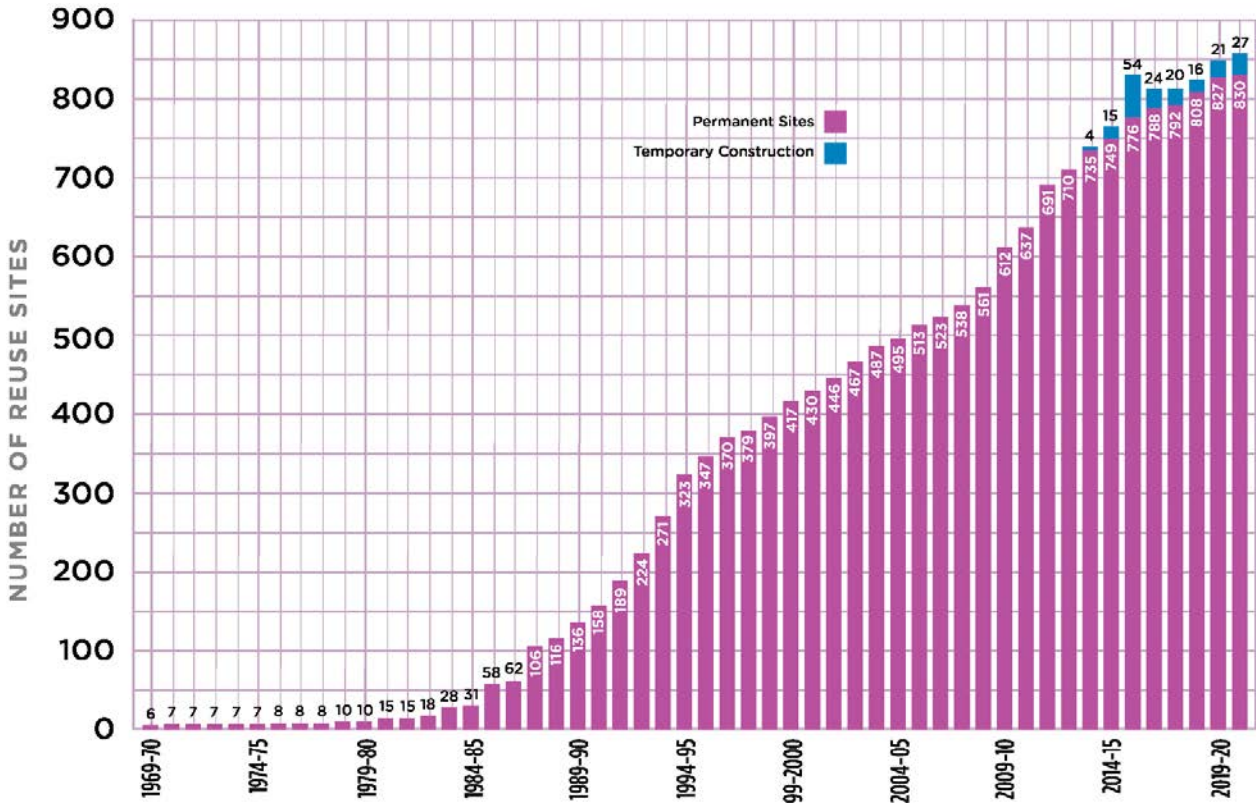


Table 2 summarizes the approximate length of distribution system pipelines (where applicable), the amount of recycled water used by each of the water recycling projects (detailed in later sections), the percent change from the preceding fiscal year and the number of new reuse sites added to that recycling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

TABLE 2
RECYCLED WATER USED BY WATER RECYCLING PROJECT
FISCAL YEAR 2020-21

Project Name	Pipeline Length (linear feet)	Recycled Water Used (AFY)	Percent Change from FY19-20 (+/-)	No. of New Reuse Sites
La Cañada-Flintridge Country Club		74	-6.3	
Long Beach Water Department	179,680	5,419	+59.2	
Alamitos Seawater Barrier		3,730	+443.7	
City of Bellflower	1,900	51	+70.0	
City of Cerritos	142,600	1,656	+8.3	1
City of Lakewood	28,300	495	+13.0	
Cities of Cypress and La Palma		0	-100.0	
Forest Lawn Memorial Park, Cypress	9,060	252	+0.4	
Central Basin MWD (Century)	108,820	4,494	+13.9	
Pomona Water Department	37,000	1,986	+18.1	
Spadra Landfill		95	+43.9	
Walnut Valley Water District	174,200	1,364	+7.6	9
Water Replenishment District		53,696	-3.4	
California Country Club		404	-3.1	
City of Industry	44,350	1,008	+12.0	
Rowland Water District	85,540	591	-30.7	1
San Gabriel Valley Water Company		15	+14.2	
Central Basin MWD (Rio Hondo)	290,400	869	+50.1	3
Puente Hills/Rose Hills	8,900	2,871	+24.2	
USGVMWD Phase I Extension (SJC)	11,020	52	+23.8	
USGVMWD Phase II-B Extension (SJC)	71,360	795	+22.8	
USGVMWD Phase II-A Extension (WN)	49,770	1,559	+25.8	
Santa Clarita Valley Water Agency	16,490	492	-1.6	
Piute Pond		4,070	-0.5	
Apollo Community Regional Park	23,800	256	+23.1	
Eastern Agricultural Site	96,600	8,528	+3.0	
City of Lancaster	29,800	310	+86.7	7
Palmdale Agricultural Site (LAWA lease)	13,200	8,823	+8.7	
City of Palmdale	9,300	207	+219.4	13
TOTALS	1,432,090	104,162	+6.8	34

During FY20-21, 38.238 MGD (42,843 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 9.685 MGD (10,852 AFY) of ARCAWTF product water being produced in FY20-21 for groundwater replenishment via surface spreading in the Montebello Forebay, a 22.0% increase over the preceding fiscal year. From the commissioning of the Whittier Narrows WRP in August 1962 through the end of FY20-21, a total of approximately 2,229,678 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 FY20-21, 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 3.328 MGD (3,730 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 FY20-21, the total of 51.248 MGD (57,246 AFY) that went to groundwater replenishment was a 1.7% increase over the preceding fiscal year. Of the total amount of water reused during FY20-21, 55.1% was used for some form of groundwater replenishment, which is the eleventh 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 792 individual reuse sites used recycled water for some form of urban landscape irrigation, with approximately 18.126 MGD (20,311 AFY), or 19.5% of the total water reused, going toward this particular application. These sites include 129 parks, 129 schools, 282 commercial and office buildings (e.g., offices, warehouses, retail, car dealerships, hotels, restaurants, etc.), 130 roadway greenbelts, 36 public facilities (e.g., police station, post office, libraries, landfills, etc.), 25 golf courses, 13 nurseries, 24 residential developments, 14 churches, and 10 cemeteries.

- Agricultural usage at 7 reuse sites accounted for approximately 16.122 MGD (18,065 AFY), or 17.3% of the total reused, with most of the demand in the Antelope Valley.

- There were 27 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 27 temporary construction applications (such as dust control and concrete mixing), that totaled 3.842 MGD (4,306 AFY), or 4.1% of the total reused.

- Approximately 3.632 MGD (4,070 AFY), or 3.9% 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 2020-21

Reuse Application	No. of Sites	Area Applied (acres)	Usage (MGD)
Parks	129	3,698.8	4.959
Golf Courses	25	2,900.8	4.888
Schools	129	1,380.7	2.259
Roadway Greenbelts	130	786.2	1.093
Public Facilities[1]	36	503.1	0.644
Commercial Buildings[2]	282	576.9	1.293
Nurseries	13	100.9	0.160
Cemeteries	10	1,083.2	2.478
Residential Developments	24	185.9	0.286
Churches	14	23.7	0.065
Industrial[3,4]	27	247.5	3.842
Agriculture[5]	7	4,866.0	16.122
Environmental Enhancement	1	400	3.632
SUBTOTAL	827	16,753.7	41.721
Groundwater Recharge[6]	3	646	51.248
TOTAL	830	17,399.7	92.969

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, 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 27 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 2020-21

Table 4 shows the distribution of reuse sites based on volume of annual usage, excluding groundwater recharge projects using tertiary-treated recycled water. The eight largest users (greater than 1,000 AFY) are the two agricultural sites and Piute Ponds in the Antelope Valley, Rose Hills Memorial Park, Industry Hills Recreation Area, THUMS Island, the ARCAWTF, and LVLAWTF that use just over 66% of the recycled water, while making up only about 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. The 285 moderately large reuse sites using between 10-1,000 AFY make up about 33% of the total number of sites. The largest number of sites (355, or 41%) use between 1-10 AFY. About 24% of the total number of reuse sites are very small, using under 1 AFY or none. Of this latter category, 26, or about 3%, did not use any recycled water during FY20-21. 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 2020-21

Reuse Site Usage (AFY)	Reuse Sites per Volume Category		Total Amount Reused in FY20-21 per Volume Category	
	Number	%	(AFY)	%
>1000	8	0.93	40,574.0	66.17
>500-1000	5	0.58	3,610.1	5.89
>100-500	34	3.97	8,591.4	14.01
>50-100	33	3.86	2,264.8	3.69
>10-50	213	24.88	4,725.08	7.71
1-10	355	41.47	1,473.5	2.40
<1	183	21.38	78.8	0.13
No usage	26	3.04	0	

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

TOP TEN – LARGEST DIRECT REUSE SITES OF FY 2020-21*

1. **ARCAWTF** **10,852 AFY**
   San Jose Creek WRP *(groundwater replenishment)*
2. **Antelope Valley Farms** **8,768 AFY**
   Palmdale WRP *(agricultural irrigation)*
3. **Eastern Agricultural Site** **8,528 AFY**
   Lancaster WRP *(agricultural irrigation)*
4. **LVLAWTF/Alamitos Barrier** **3,730 AFY**
   Long Beach WRP *(seawater intrusion barrier)*
5. **THUMS** **1,891 AFY**
   Long Beach WRP (*oil zone repressurization)*
6. **Rose Hills Memorial Park** **1,727 AFY**
   San Jose Creek WRP *(landscape irrigation)*
7. **Industry Hills Recreation Area** **1,008 AFY**
   San Jose Creek WRP *(landscape irrigation)*
8. **Bonelli Regional Park** **788 AFY**
   Pomona WRP *(landscape irrigation)*
9. **Whittier Narrows Recreation Area** **769 AFY**
   Whittier Narrows WRP *(landscape irrigation)*
10. **Malburg Generation Station** **741 AFY**
    Los Coyotes WRP *(cooling towers)*

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

1.3 ECONOMIC AND ENVIRONMENTAL IMPACTS

At the end of FY20-21, 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 FY20-21), 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 2020-21

Purveyor	Potable Water ($/AF)	Recycled Water ($/AF)	Discount (%)
Long Beach Water Department	1,578.18	871.20 – 1,026.27	35 – 45
City of Cerritos	1,197.90	326.70	73
City of Lakewood	1,581.23	1,054.15	33
Central Basin MWD	1,302.00	790.00	39
Pomona Water Department	1,402.63	546.92	61
Walnut Valley Water District	1,598.65	858.13	46
Rowland Water District	1,511.53	1,014.95	33
San Gabriel Valley Water Co.	1,521.11	1,292.75	15
Suburban Water Systems	1,440.96 – 1,545.07	1,244.47 – 1,313.33	15
Valencia Heights Water Co.	1,287.20 – 1,716.26	1,019.30	20 – 40
Valencia Water District	801.07	686.94	14

To put things into perspective, the 104,162 AF of recycled water beneficially used in FY20-21 is equivalent to the water supply for a population of 624,972,[3] nearly the size of the city of Louisville, KY, the 29th 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 312 million kWh of electricity were conserved in FY20-21, equivalent to the annual output of a 35.7-megawatt power plant with the energy equivalent of 169,338 barrels of oil. At $0.15/kWh (based on Southern California Edison residential billing rate), this equates to an annual savings of nearly $46.9 million in electricity. At $73.47/barrel,[6] this equates to an annual savings of approximately $12.4 million in oil.

The conservation of fossil fuels and energy also resulted in significant reductions in potential air pollutants. During FY20-21, 179.7 tons of nitrogen oxide, 31.2 tons of carbon monoxide, 18.7 tons of sulfur oxides, 6.2 tons of particulates and 1.6 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 234,365 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, 2021, 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.

TABLE 6
RECYCLED WATER PURVEYORS

City of Long Beach
1800 East Wardlow Road
Long Beach CA 90807-4994
(562) 570-2300

City of Cerritos
Bloomfield Avenue at 183rd Street
Cerritos CA 90701
(562) 860-0311

City of Lakewood
5050 North Clark Avenue
Lakewood CA 90714
(562) 866-9771

City of Bellflower
16600 Civic Center Drive
Bellflower CA 90706
(562) 804-1424

City of Industry
P.O. Box 3366
Industry CA 91744
(626) 333-2211

City of Pomona
505 South Garey Avenue
Pomona CA 91766
(909) 620-2253

City of Cudahy
5220 Santa Ana Street
Cudahy CA 90201
(323) 773-5143

Walnut Valley Water District
271 South Brea Canyon Road
Walnut CA 91789
(909) 595-1268

City of Pico Rivera
6615 Passons Boulevard
Pico Rivera CA 90660-1016
(562) 801-4462

City of Vernon
4305 Santa Fe Avenue
Vernon CA 90058
(323) 583-8811

Montebello Land & Water
344 E. Madison Ave.
Montebello CA 90640
(323) 722-8654

City of Montebello
1600 W Beverly Blvd
Montebello, CA. 90640
(323) 887-1200

City of Paramount
16400 Colorado Avenue
Paramount CA 90723
(562) 220-2020

City of Santa Fe Springs
11710 Telegraph Road
Santa Fe Springs CA 90670
(562) 868-0511

City of Downey
9252 Stewart & Gray Road
Downey CA 90242
(562) 904-7202

City of Whittier
13250 East Penn Street
Whittier CA 90602
(562) 945-8215

City of South Gate
4244 Santa Ana Street
South Gate CA 90280
(323) 563-5795

City of Lynwood
11330 Bullis Road
Lynwood CA 90262
(562) 603-0220

City of Norwalk
12700 Norwalk Boulevard
Norwalk CA 90650
(562) 929-2677

Rowland Water District
3021 S. Fullerton Road
Rowland Heights CA 91748
(562) 697-1726

Santa Clarita Valley Water Agency
27234 Bouquet Canyon Road
Santa Clarita CA 91350
(661) 297-1600

Suburban Water Systems
2235 E. Garvey Avenue N
West Covina CA, 91791
(626) 261-2218

City of Lancaster
615 West Avenue H
Lancaster CA 93534
(661) 945-6863

Los Angeles Co. Waterworks No. 40
900 S. Fremont Avenue
Alhambra CA 91803
(626) 458-5100

Central Basin Municipal Water District
6252 Telegraph Road
Commerce CA 90040-2512
(323) 201-5555

Liberty Utilities (formerly Park Water)
9750 Washburn Road
Downey CA 90241
(562) 923-0711

Bellflower Municipal Water Systems
16913 Lakewood Boulevard
Bellflower CA 90706
(562) 531-1500

Bellflower-Somerset Mutual Water Co.
10016 Flower Street
Bellflower CA 90706
(562) 866-9980

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

San Gabriel Valley Water Company
11142 Garvey Avenue
El Monte CA 91733
(626) 448-6183

City of Huntington Park
6900 Bissell Street
Huntington Park CA 90255
(323) 584-6323

Upper San Gabriel Valley MWD
11310 East Valley Boulevard
El Monte CA 91731
(626) 423-2297

Valencia Water Company
24631 Avenue Rockefeller
Valencia CA 91355
(661) 294-0828

Valencia Heights Water Company
3009 East Virginia Avenue
West Covina CA 91791
626-332-8935

City of Palmdale/
Palmdale Recycled Water Authority
38250 N. Sierra Highway
Palmdale CA 93550
(661) 267-5310/(661) 267-5100

California Water Service
3316 W. Beverly Blvd.
Montebello, CA 90640
(323)722-8601

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 2020-21

Category	Units	Savings
Water Supply	acre-feet	104,162
Water Supply	No. of People	624,972
Energy	kilowatt-hours	312,486,000
Energy	megawatts	35.7
Energy	barrels of oil	169,338
Electricity	dollars	46,872,900
Petroleum	dollars	12,441,263
Nitrogen oxide	tons	179.7
Carbon monoxide	tons	31.2
Sulfur oxides	tons	18.7
Particulates	tons	6.2
Reactive organic gases	tons	1.6
Carbon dioxide	tons	234,365

1.4 SUMMARY

Of the 385.00 MGD of treated effluent produced by the Sanitation Districts, 136.67 MGD (35.5%) was treated to a suitable level for reuse, with 92.97 MGD (24.1%) actually reused at 830 permanent sites and 27 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. Overall effluent production continued to 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 (1.2% of all sites, excluding tertiary groundwater recharge and environmental) used 37.3% of the recycled water delivered during the fiscal year. Thirty-four new reuse sites were added during FY20-21 and the amount of recycled water used increased by 6.8% 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 104,162 AF of locally produced recycled water essentially resulted in the conservation of the water supply needs of nearly 625,000 people and brought about significant reductions in water rates for end users, energy consumption and air pollution.

Since the official beginning of the Sanitation Districts' water recycling program with the start-up of the Whittier Narrows WRP in August 1962, approximately 3,490,665 AF (1.14 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 7.8 million tons of carbon dioxide and nearly 8,000 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 FY20-21 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 20-21 RECYCLED WATER USAGE
(PAGE 1 OF 16)

Reuse Site (City)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Water Replenishment District (WNWRP)	Aug 62	--	R	6.860	7,687
La Cañada-Flintridge Country Club (La Cañada)	Oct 62	120	L,P	0.066	74
Apollo Lakes Community Regional Park (Lancaster)	Jun 69	56	L,P	0.229	256
Water Replenishment District (SJCWRP)	Jun 71	--	R	29.375	32,917
Cal Poly, Pomona-Kellogg (Pomona)	Dec 73	500	AG,L,O,P,AF	0.624	700
South Campus Drive Parkway (Pomona)	Dec 73	8	L	0.033	37
Route 57 and 10 Freeways (Pomona)	May 75	18	L	0.026	29
Bonelli Regional County Park (San Dimas)	Apr 77	789	L	0.703	788
California Country Club (Industry)	Jun 78	120	L,P	0.360	404
Ironwood 9 Golf Course (Cerritos)	Nov 78	25	L,P	0.010	12
Caruthers Park (Bellflower)	Nov 78	5	L	0.046	51
El Dorado Park West (Long Beach)	Aug 80	135	L	0.513	171
El Dorado Golf Course (Long Beach)	Aug 80	150	L	0.250	280
Suzanne Park (Walnut)	Oct 80	12	L	0.016	18
Route 71 and 10 Freeways (Pomona)	Apr 81	12	L	0.00001	0.01
Piute Ponds (Lancaster)	May 81	400	E	3.632	4,070
Recreation Park (Long Beach)	Oct 82	26	L	0.040	45
Recreation Golf Course (Long Beach)	Oct 82	149	L	0.276	309
Whaley Park (Long Beach)	Jun 83	9	L	0.024	27
Industry Hills Recreation Area (Industry)	Aug 83	600	L,P	0.899	1,008
El Dorado Park East (Long Beach)	Jan 84	300	L	0.295	330
Nature Center (Long Beach)	Jan 84	60	L	0.052	59
605 Freeway at Wardlow (Long Beach)	Feb 84	50	L	0.020	23
Heartwell Park (Long Beach)	Feb 84	120	L	0.212	237
Skylinks Golf Course (Long Beach)	Apr 84	155	L,P	0.247	277
Douglas Park (Long Beach)	Apr 84	3	L	0.006	7
405 Freeway at Atherton (Long Beach)	May 84	5	L	0.001	2
DeMille Junior High School (Long Beach)	Jun 84	5	AF,L	0.026	29
Heartwell Golf Park (Long Beach)	Jun 84	30	L	0.072	81
Spadra Landfill landscape (Walnut)	Jul 84	53	L	0.079	89
Veterans Memorial Stadium (Long Beach)	Jan 85	6	AF	0.021	24
Harrington Farms Pistachio Orchard (Palmdale)	Apr 85	23	AG	0.027	31
Recreation Park Bowling Green (Long Beach)	Aug 85	3	L	0.008	9
California State University, Long Beach (Long Beach)	Dec 85	52	AF,L	0.163	183
Long Beach City College (Long Beach)	Feb 86	15	AF,L	0.041	46
Recreation 9-Hole Golf Course (Long Beach)	Mar 86	37	L	0.088	89
Blair Field (Long Beach)	Apr 86	5	AF	0.013	15
Woodlands Park (Long Beach)	Apr 86	7	L	0.013	15
Colorado Lagoon Park (Long Beach)	Apr 86	4	L	0.004	4
Marina Vista Park (Long Beach)	Apr 86	30	L	0.035	39
Suzanne Middle School (Walnut)	May 86	4	AF,L	0.009	11
Walnut High School (Walnut)	May 86	15	AF,L	0.018	20
Vejar School (Walnut)	May 86	3	AF,L	0.008	9
Morris School (Walnut)	May 86	9	AF,L	0.006	7
Snow Creek Park (Walnut)	May 86	7	L	0.011	12
Snow Creek Landscape Maintenance District (Walnut)	May 86	13.5	L	0.031	35
Lemon Creek Park (Walnut)	May 86	5	L	0.004	5
Friendship Park (West Covina)	May 86	6	L	0.008	8
Hollingworth School (West Covina)	May 86	3	AF,L	0.006	7
Lanesboro Park (West Covina)	May 86	2	L	0.006	7
Rincon Middle School (West Covina)	May 86	3	AF,L	0.009	10
Route 57 and 60 Freeways (Rowland Heights)	May 86	19.7	L	0.003	3
Rowland Heights Reg. Co. Park (Rowland Heights)	May 86	11	L	0.014	15
Rowland High School (Rowland Heights)	May 86	9	AF,L	0.018	21
Killian Elementary School (Rowland Heights)	May 86	3	AF,L	0.006	7

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

TABLE 8
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
(PAGE 2 OF 16)

Reuse Site (City)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Walnut Elementary School (Walnut)	May 86	4	AF,L	0.009	10
WUSD Administrative Service Center (Walnut)	May 86	4	L	0.003	3
Walnut Ranch Park (Walnut)	Jun 86	26	L	0.015	17
Amar Road greenbelt (Walnut)	Jun 86	16	L	0.073	82
Diamond Bar Golf Course (Diamond Bar)	Jul 86	174	L,P	0.126	141
Walnut Ridge Landscape Maintenance District (Walnut)	Mar 87	25.5	L	0.028	32
Morningside Park (Walnut)	Mar 87	4	L	0.005	5
Gateway Corporate Center (Diamond Bar)	Jun 87	45	L	0.045	51
Library/Civic Center (Cerritos)	Dec 87	4	L	0.014	15
Olympic Natatorium (Cerritos)	Dec 87	6	L	0.016	18
Whitney Learning Center (Cerritos)	Dec 87	10	AF,L	0.019	21
Gonsalves Elementary School (Cerritos)	Dec 87	5	AF,L	0.009	10
Wittman Elementary School (Cerritos)	Dec 87	5	AF,L	0.007	8
Gahr High School (Cerritos)	Dec 87	28	AF,L	0.053	60
Area Development Project No. 2 (Cerritos)	Jan 88	11.5	L,P	0.071	79
Medians/Parkways (Cerritos)	Jan 88	42.8	L	0.150	168
605 Freeway (Cerritos)	Jan 88	58.6	L	0.046	52
91 Freeway (Cerritos)	Jan 88	70	L	0.007	8
Frontier Park (Cerritos)	Jan 88	2.5	L	0.011	12
Carmenita Junior High School (Cerritos)	Jan 88	5	AF,L	0.020	23
Cerritos Elementary School (Cerritos)	Jan 88	6	AF,L	0.015	16
Stowers Elementary School (Cerritos)	Jan 88	6	AF,L	0.015	16
Kennedy Elementary School (Cerritos)	Jan 88	7	AF,L	0.012	14
City Park East (Cerritos)	Jan 88	18	L	0.036	41
Satellite Park (Cerritos)	Jan 88	2	L	0.006	7
Leal Elementary School (Cerritos)	Jan 88	6	AF,L	0.008	8
Cerritos High School (Cerritos)	Jan 88	20	AF,L	0.039	44
Elliott Elementary School (Cerritos)	Jan 88	7	AF,L	0.010	11
Carmenita Park (Cerritos)	Jan 88	4.5	L	0.016	17
Juarez Elementary School (Cerritos)	Jan 88	7	AF,L	0.016	17
ABC Adult School & Office (Cerritos)	Jan 88	3	L	0.011	12
Tracy Education Center (Cerritos)	Jan 88	6	AF,L	0.002	3
Liberty Park (Cerritos)	Jan 88	20	L	0.079	89
Gridley Park (Cerritos)	Jan 88	9	L	0.019	21
Jacob Park (Cerritos)	Jan 88	4.5	L	0.008	9
Heritage Park (Cerritos)	Feb 88	12	L	0.037	41
Bragg Elementary School (Cerritos)	Feb 88	7	AF,L	0.014	16
Haskell Junior High School (Cerritos)	Feb 88	18	AF,L	0.040	45
Pat Nixon Elementary School (Cerritos)	Feb 88	5	AF,L	0.010	11
Cabrillo Lane Elementary School (Cerritos)	Feb 88	9	AF,L	0.011	13
Sunshine Park (Cerritos)	Feb 88	3.5	L	0.012	14
Friendship Park (Cerritos)	Feb 88	4	L	0.010	11
Bettencourt Park (Cerritos)	Feb 88	2	L	0.007	8
Brookhaven Park (Cerritos)	Feb 88	2	L	0.007	8
Saddleback Park (Cerritos)	Feb 88	2	L	0.005	5
Westgate Park (Cerritos)	Feb 88	4	L	0.010	11
Rainbow Park (Cerritos)	Mar 88	2.5	L	0.005	6
Bellflower Christian School (Cerritos)	Mar 88	31.4	AF,L	0.042	47
Cerritos Community College (Cerritos)	Mar 88	55	AF,L	0.076	85
Cerritos Regional County Park (Cerritos)	Apr 88	59	L	0.103	115
Artesia Cemetery District (Cerritos)	Apr 88	10.9	L	0.037	42
Rosewood Park (Cerritos)	Apr 88	2.7	L	0.011	13
Lakewood 1st Presbyterian Church (Long Beach)	Sep 88	1	L	0.002	2
Westhoff Elementary School (Walnut)	Sep 88	8	AF,L	0.007	7
Tree Farm (Palmdale)	Feb 89	28	O	0	0

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

TABLE 8
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
(PAGE 3 OF 16)

Reuse Site (City)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Virginia Country Club (Long Beach)	Mar 89	135	L,P	0.013	14
Lakewood Golf Course (Long Beach)	Mar 89	128	L,P	0.389	436
Scherer Park (Long Beach)	Mar 89	24	L	0.032	36
Sports Complex (Cerritos)	Mar 89	25	AF,L	0.055	62
Forest Lawn (Sunnyside) Memorial Park (Long Beach)	Apr 89	35	L	0.084	94
All Soul's Cemetery (Long Beach)	Apr 89	40	L	0.086	96
Cherry Avenue Park (Long Beach)	May 89	10	L	0.016	17
River (Rynerson) Park (Lakewood)	Aug 89	40	L	0.092	103
Monte Verde Park (Lakewood)	Aug 89	4	L	0.033	37
Mae Boyer Park (Lakewood)	Aug 89	8	L	0.058	65
Jose Del Valle Park (Lakewood)	Aug 89	12	L	0.037	41
Jose San Martin Park (Lakewood)	Aug 89	9.3	L	0.026	29
City Water Yard (Lakewood)	Aug 89	1	L	0.005	6
Woodruff Avenue greenbelt (Lakewood)	Aug 89	4.1	L	0.015	17
South Street greenbelt (Lakewood)	Aug 89	3.3	L	0.007	7
Mayfair Park (Lakewood)	Dec 89	18	L	0.028	31
Shoemaker on/off ramp - 91 Freeway (Cerritos)	Dec 89	4.6	L	0.011	12
Temple Avenue greenbelt (Walnut)	Jan 90	1	L	0.0003	0.3
Transpacific Development Co. (Cerritos)	Feb 90	6.9	L	0.014	15
Automated Data Processing (Cerritos)	Feb 90	0.7	L	0.004	4
Walnut Tech Business Center (Walnut)	Apr 90	1	L	0.001	1
Sheraton Hotel (Cerritos)	Mar 90	0.6	L	0.002	3
Cerritos Pontiac/GMC Truck (Cerritos)	May 90	0.5	L	0.001	1
Moothart Chrysler (Cerritos)	May 90	0.4	L	0.004	5
St. Joseph Parish School (Lakewood)	Aug 90	3.5	AF,L	0.012	13
Foster Elementary School (Lakewood)	Sep 90	6	AF,L	0.015	17
Windjammer off-ramp - 91 Freeway (Cerritos)	Sep 90	0.8	L	0	0
Browning Oldsmobile (Cerritos)	Sep 90	0.1	L	0.001	1
Civic Center Way and City Hall (Lakewood)	Nov 90	2.8	L	0.013	15
Los Coyotes Diagonal (Long Beach)	Mar 91	1	L	0	0
Parkside Condominiums (Cerritos)	May 91	1.8	L	0.003	4
Mayfair High School (Lakewood)	May 91	36.5	AF,L	0.045	51
Concordia Church (Cerritos)	Jun 91	4	L	0.002	3
Church of the Nazarene (Cerritos)	Aug 91	1	L	0.005	5
B&B Stables (Cerritos)	Aug 91	18	I	0.004	4
Wilson High School (Long Beach)	Jun 91	5	AF,L	0.020	23
Lemon Avenue greenbelt (Walnut)	Sep 91	4.3	L	0.005	5
Lindstrom Elementary School (Lakewood)	Sep 91	12	AF,L	0.015	17
Lakewood High School (Lakewood)	Sep 91	25	AF,L	0.026	29
Shadow Park Homeowner's Association (Cerritos)	Nov 91	6	L	0.021	24
South Coast AQMD Headquarters (Diamond Bar)	Nov 91	2	L	0.005	6
Long Beach Water Department office (Long Beach)	Jan 92	2	L	0.0002	0.3
Reservoir Park (Signal Hill)	Feb 92	2	L	0.010	11
Burroughs Elementary School (Signal Hill)	Feb 92	4	AF,L	0.003	3
Andy's Nursery (Bellflower)	Feb 92	9	O	0.022	24
Lake Center Park (Santa Fe Springs)	Mar 92	8	L	0.029	32
Lake Center School (Santa Fe Springs)	Mar 92	8	AF,L	0.024	26
Hughes Middle School (Long Beach)	Apr 92	3	AF,L	0.012	13
405 Freeway at Walnut (Long Beach)	Apr 92	9	L	0.0004	0.4
Towne Center Walkway (Santa Fe Springs)	Apr 92	0.1	L	0.0003	0.3
Area Development Project No. 6 (Cerritos)	Apr 92	9	L	0.053	59
Somerset Park (Long Beach)	May 92	3	L	0.001	1
Longfellow Elementary School (Long Beach)	May 92	1	AF,L	0.00003	0.04
Granada Park Homeowners Association (Cerritos)	May 92	3.8	L	0.009	10
WVWD Brea Canyon reservoir (Diamond Bar)	May 92	1	L	0.001	1

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TABLE 8
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
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Reuse Site (City)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Lakeview Child Care (Santa Fe Springs)	May 92	0.2	L	0.001	1
Florence Avenue medians (Santa Fe Springs)	Jun 92	3	L	0.004	4
Gauldin Elementary School (Downey)	Jun 92	8.4	AF,L	0.009	10
Rio San Gabriel School (Downey)	Jun 92	14.8	AF,L	0.020	23
Bellflower High School (Bellflower)	Jul 92	28.4	AF,L	0.059	66
Ernie Pyle Elementary School (Bellflower)	Aug 92	4.9	AF,L	0.011	12
Telegraph Road medians (Santa Fe Springs)	Aug 92	0.5	L	0.003	4
Lakeview Park (Santa Fe Springs)	Aug 92	6.7	L	0.017	19
Clark Estate (Santa Fe Springs)	Aug 92	4.3	L	0.008	9
Towne Center Green (Santa Fe Springs)	Aug 92	2.3	L	0.009	10
Pioneer Road medians (Santa Fe Springs)	Sep 92	0.4	L	0.003	3
Police Station (Santa Fe Springs)	Sep 92	0.2	L	0.001	1
Aquatic Center (Santa Fe Springs)	Sep 92	0.5	L	0.004	5
Lewis School (Downey)	Nov 92	4.6	AF,L	0.009	10
Wilderness Park (Downey)	Nov 92	24	L	0.046	52
First Chinese Baptist Church (Walnut)	Dec 92	0.3	L	0.001	1
605 Freeway at Foster (Bellflower)	Jan 93	14	L	0.0002	0.02
Promenade Walkway (Santa Fe Springs)	Jan 93	0.3	L	0.002	2
Rio San Gabriel Park (Downey)	Jan 93	6.4	L	0.022	24
East Middle School (Downey)	Jan 93	26	AF,L	0.016	18
Zinn Park (Bellflower)	Jan 93	1.7	L	0.006	6
Cerritos Post Office (Cerritos)	Feb 93	0.7	L	0.005	6
605/105 Interchange (Bellflower)	Feb 93	22	L	0.002	2
Hollywood Sports Center (Bellflower)	Feb 93	22.5	L	0.001	2
Santa Fe Springs High School (Santa Fe Springs)	Feb 93	14.5	AF,L	0.040	44
605/5 Freeway at Florence (Santa Fe Springs)	Feb 93	17	L	0.007	8
Center for the Performing Arts (Cerritos)	Mar 93	1	L	0.005	6
Old Downey Cemetery (Downey)	Apr 93	7.5	L	0.023	26
Thompson Park (Bellflower)	Apr 93	15	L	0.022	25
My Hoa Farm (Lakewood)	May 93	5	AG	0.015	16
105 Freeway at Bellflower Blvd. (Downey)	May 93	17.9	L	0	0
Palms Park (Lakewood)	May 93	20	L	0.031	35
Crawford Park (Downey)	Jul 93	2.1	L	0.007	7
Humedo Nursery (Downey)	Aug 93	11	O	0.005	5
105 Freeway at Lakewood Blvd. (Downey)	Sep 93	25	L	0.001	1
Shaw Industries Carpet Mill (Santa Fe Springs)	Sep 93	--	I	0.155	174
Palms Elementary School (Lakewood)	Sep 93	3.5	AF,L	0.012	15
Artesia High School (Lakewood)	Sep 93	20.9	AF,L	0.044	50
West Middle School (Downey)	Oct 93	19.5	AF,L	0.021	24
Circle Park (South Gate)	Oct 93	4	L	0.016	18
Majestic Mgmt., 19850 E. Business Parkway (Walnut)	Nov 93	0.8	L	0.004	4
Haier US, 19705 E. Business Parkway (Walnut)	Nov 93	1.6	L	0.003	4
Hollydale Park (South Gate)	Nov 93	46	L	0.198	222
Delta Dental (Cerritos)	Nov 93	1.8	L	0.003	4
Cal Poly LandLab/CRS	Nov 93	2.5	AG,L	0.005	6
Rodeo Ridge Estates (Walnut)	Dec 93	6.3	L	0.005	5
Robertson's Ready-Mix (Santa Fe Springs)	Dec 93	--	I	0.008	9
710/105 Interchange (Paramount)	Dec 93	18.5	L	0	0
Downey/Contreras greenbelt (Paramount)	Dec 93	0.1	L	0.001	1
Compton Golf Course (Paramount)	Dec 93	13	L	0.041	46
Alondra Junior High School (Paramount)	Dec 93	14	AF,L	0.026	29
Mokler Elementary School (Paramount)	Dec 93	10	AF,L	0.007	8
Los Cerritos Elementary School (Paramount)	Dec 93	8	AF,L	0.008	9
Wirtz Elementary School (Paramount)	Dec 93	9	AF,L	0.008	9

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TABLE 8
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
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Reuse Site (City)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Keppel Elementary School (Paramount)	Dec 93	4	AF,L	0.005	6
Billy Lee Nursery (Paramount)	Dec 93	2.5	O	0.008	9
Golden Springs Drive medians (Diamond Bar)	Jan 94	1.3	L	0.004	5
105 Freeway at Wright Road (Lynwood)	Jan 94	19.6	L	0	0
710 Freeway at M.L. King Blvd. (Lynwood)	Jan 94	15.5	L	0.016	18
710 Freeway at Rosecrans Blvd. (Compton)	Jan 94	24.2	L	0	0
Independence Park (Downey)	Feb 94	10.4	L	0.016	18
Paramount Park (Paramount)	Feb 94	9	L	0.024	27
Paramount High School (Paramount)	Feb 94	19	AF,L	0.029	32
Walnut Hills Village Shopping Center (Walnut)	Mar 94	2.4	L	0.005	6
Rosecrans/Paramount medians (Paramount)	Mar 94	0.2	L	0.001	1
Somerset medians (Paramount)	Apr 94	0.9	L	0.006	6
Rio Hondo Golf Course (Downey)	Apr 94	92.4	L	0.284	318
Zimmerman Park (Norwalk)	Apr 94	9.5	L	0.027	30
Vista Verde Park (Norwalk)	Apr 94	6.5	L	0.015	17
Gerdes Park (Norwalk)	Apr 94	8.6	L	0.003	4
Clearwater Junior High School (Paramount)	Apr 94	4	AF,L	0.028	31
Vestar Development (Cerritos)	Jun 94	9.6	L	0.021	24
Steam Engine Park (Paramount)	Jun 94	0.6	L	0.001	1
5 Freeway at Shoemaker/Firestone (Norwalk)	Jul 94	0.8	L	0	0
Spane Park (Paramount)	Jul 94	5	L	0.011	12
Orange/Cortland Parkway (Paramount)	Jul 94	1.3	L	0.003	4
Carpenter School (Downey)	Aug 94	7.4	AF,L	0.009	10
Brookside Equestrian Center (Walnut)	Aug 94	13.6	L	0.002	2
Field, S/W corner Norwalk/Telegraph (Santa Fe Springs)	Aug 94	5.2	L	0.011	13
Washington Elementary School (Whittier)	Sep 94	5	AF,L	0.007	8
605 Freeway at Beverly (Whittier)	Sep 94	30	L	0.00005	0.1
John Anson Ford Park (Bell Gardens)	Sep 94	45	L	0.035	39
Ramona Park (Norwalk)	Oct 94	4.8	L	0.008	9
Alondra median (Paramount)	Oct 94	0.6	L	0.008	8
Imperial/Wright Road medians (Lynwood)	Oct 94	0.2	L	0	0
WVWD Office 271 S. Brea Canyon Road (Walnut)	Oct 94	0.2	L	0.001	1
Palmtree Acquisition Corp. Prologis (Walnut)	Oct 94	18.9	L	0.009	10
Palmtree Acq. Corp. Prologis, 501 Cheryl Ln. (Walnut)	Oct 94	1	L	0.006	7
Imperfect Foods, 351 Cheryl Lane (Walnut)	Oct 94	0.6	L	0.001	2
Sorenson Elementary School (Whittier)	Oct 94	4	AF,L	0.004	4
Palm Park West (Whittier)	Nov 94	5	L	0.011	12
Metrolink Station (Industry)	Nov 94	0.6	L	0.004	5
Little Lake Park (Santa Fe Springs)	Dec 94	18	L	0.053	60
Sundance Condominiums (Cerritos)	Jan 95	9	L	0.036	40
Del Paso High School (Walnut)	Jan 95	3	AF,L	0.004	5
Sea Shield Marine Products, 20832 Currier Rd. (Walnut)	Jan 95	0.1	L	0.00002	0.03
Unical Aviation Inc., Currier/Lemon (Walnut)	Apr 95	1.1	L	0.003	3
Sysco Food Service, 20701 Currier Road (Walnut)	Apr 95	2.3	L	0.006	6
Thermaltake Inc., 20420 E. Business Parkway (Walnut)	Apr 95	0.8	L	0.003	4
Equus Computer, 20480 E. Business Parkway (Walnut)	Apr 95	0.9	L	0.003	4
Dura Freight Lines, 515-525 S. Lemon (Walnut)	Apr 95	0.5	L	0.001	1
S/W-S/E Corner Lemon/Business Parkway (Walnut)	Apr 95	0.2	L	0.003	3
Majestic Mgmt., 20275 Business Parkway (Walnut)	Apr 95	1.3	L	0.003	3
Coaster Co. of America, 20300 Business Pkwy. (Walnut)	Apr 95	0.7	L	0.002	2
Dura Freight Lines, 20405 Business Parkway (Walnut)	Apr 95	1	L	0.002	2
Dura Freight Lines, 20595 E. Business Parkway (Walnut)	Apr 95	0.8	L	0.003	4
Extra Express Inc., 20435-45 Business Parkway (Walnut)	Apr 95	0.7	L	0.002	2
Orange Grove School (Whittier)	Apr 95	6.6	AF,L	0.018	20
South Middle School (Downey)	May 95	15.8	AF,L	0.011	12

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TABLE 8
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
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Reuse Site (City)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Nuffer Elementary School (Norwalk)	Jun 95	10.4	AF,L	0.013	14
Lampton Middle School (Norwalk)	Jun 95	9.5	AF,L	0.017	19
THUMS (Long Beach)	Jun 95	8	I	1.687	1,891
820 Fairway Drive medians (Industry)	Jun 95	0.1	L	0.0001	0.1
MSI Computer Corp., 435 S. Lemon Ave. (Walnut)	Jun 95	0.5	L	0.001	1
Haier US, 19805 E Business Parkway (Walnut)	Jun 95	1.1	L	0.004	5
ACME Furniture, 20002 E. Business Parkway (Walnut)	Jun 95	4	L	0.005	5
Haier US, 20005 E. Business Parkway (Walnut)	Jun 95	6.7	L	0.008	9
Hargitt Middle School (Norwalk)	Jul 95	9.5	AF,L	0.021	24
Norwalk Adult School (Norwalk)	Jul 95	17.2	AF,L	0.022	25
John Glenn High School (Norwalk)	Jul 95	38.8	AF,L	0.012	14
Ramona Elementary School (Norwalk)	Jul 95	6.8	AF,L	0.010	11
New River Elementary School (Norwalk)	Jul 95	10.3	AF,L	0.011	12
Morrison Elementary School (Norwalk)	Sep 95	7.7	AF,L	0.010	11
Katherine Edwards Middle School (Whittier)	Sep 95	19	AF,L	0.040	45
Longfellow Elementary School (Whittier)	Sep 95	4.5	AF,L	0.007	8
Walter Dexter Middle School (Whittier)	Sep 95	15.5	AF,L	0.017	19
D.D. Johnston Elementary School (Norwalk)	Sep 95	8.9	AF,L	0.015	17
Corvallis Middle School (Norwalk)	Sep 95	16.9	AF,L	0.032	36
Norwalk High School (Norwalk)	Sep 95	35.1	AF,L	0.022	25
Heritage Park (Santa Fe Springs)	Oct 95	9.2	L	0.011	12
Robertson's Ready-Mix (Paramount)	Nov 95	--	I	0.017	19
Cerritos Nursery (Cerritos)	Dec 95	3	O	0.004	4
Founders Memorial Park (Whittier)	Jan 96	4	L	0.022	24
Los Nietos Park (Santa Fe Springs)	Jan 96	11.2	L	0.024	27
Bell Gardens Soccer Field (Bell Gardens)	Feb 96	2.6	AF	0.008	9
Jersey Ave. School/city athl. fields (Santa Fe Springs)	Mar 96	8	AF	0.010	11
Salt Lake Municipal Park (Huntington Park)	Apr 96	20.9	L	0.041	46
Sorenson Park (Whittier)	May 96	10.7	L	0.017	19
Encore Maintenance-Warmington Homes (Cerritos)	May 96	1.1	L	0.004	5
Bellflower Blvd. medians (Bellflower)	Jul 96	0.3	L	0.003	3
Artesia off-ramp - 91 Freeway (Cerritos)	Aug 96	3.3	L	0.002	2
Ping Ting Hsu, 20732 Currier Road (Walnut)	Aug 96	0.1	L	0.0004	0.5
Temple Park (Downey)	Oct 96	1	L	0.001	1
Woodruff Avenue medians (Bellflower)	Oct 96	0.8	L	0.007	8
TRZ International, 20822 Currier Road (Walnut)	Oct 96	0.1	L	0.001	1
Tung Hsin Trading, 19700 Business Parkway (Walnut)	Nov 96	0.4	L	0.001	1
Joe Rodgers Park (Long Beach)	Nov 96	3	L	0.011	12
Ham Park (Lynwood)	Dec 96	10	L	0.012	13
Jauregui Nursery (Paramount)	Dec 96	2	O	0.003	3
Heritage Corporate Center (Santa Fe Springs)	Jan 97	29.9	L	0.044	50
Foster Road medians (Norwalk)	Jan 97	0.3	L	0.002	3
Rowland Heights Christian Church (Rowland Heights)	Feb 97	0.5	L	0.0002	0.2
Rosecrans Avenue medians (Paramount)	Mar 97	0.2	L	0.002	2
L.A. County Vector Control Bldg. (Santa Fe Springs)	Mar 97	3.8	L	0.002	2
Greenstone Warehouse (Santa Fe Springs)	Apr 97	0.4	L	0.002	2
Palmtree, 510 Cheryl/455 Brea Canyon Road (Walnut)	Jul 97	1.8	L	0.010	11
Jauregui Nursery (Long Beach)	Jul 97	5	O	0.021	23
McNab Avenue medians (Bellflower)	Jul 97	0.1	L	0.0004	0.4
Foster Road/Premier Ave. medians (Downey)	Aug 97	0.1	L	0.001	1
Alondra Blvd medians @ SGR (Bellflower)	Oct 97	0.1	L	0.0004	0.4
Puente Hills Landfill irrigation (Industry)	Nov 97	320	L	0.394	442
Puente Hills Gas-to-Energy Facility (Industry)	Nov 97	--	I	0.546	612
Midway International (Cerritos)	Feb 98	0.3	L	0.001	1
Countryside Suites (Diamond Bar)	Mar 98	1.4	L	0.003	3

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TABLE 8
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
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Reuse Site (City)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Lugo Park (Cudahy)	Apr 98	7	L	0.001	1
Rose Hills Memorial Park (Whittier)	Jun 98	772.5	L	1.541	1,727
El Dorado Lakes Condominiums (Long Beach)	Aug 98	11	L	0.028	32
Bloomfield Associates, 17871 Park Plaza Dr. (Cerritos)	Sep 98	0.5	L	0.001	1
Maruichi American building (Santa Fe Springs)	Oct 98	0.4	L	0.002	2
Diamond Crest Homeowners Assn. (Diamond Bar)	Oct 98	14	L	0.020	23
Norm Ashley Park (Walnut)	Nov 98	0.2	L	0.001	1
EP Family Corp., 368 Cheryl Lane (Walnut)	Nov 98	0.8	L	0.002	2
Waterfall Estates (Rowland Heights)	Dec 98	1.2	L	0.004	4
WalMart (Long Beach)	Dec 98	3	L	0.001	2
Norwalk Golf Course (Norwalk)	Jan 99	8	L	0.025	28
Soco-Lynch Corp. building (Santa Fe Springs)	Feb 99	1	L	0.002	2
Vestar Development (Long Beach)	Feb 99	8	L	0.023	25
183rd Street on-ramp - 91 Freeway (Cerritos)	Feb 99	0.6	L	0.0003	0.3
Lakewood Blvd. medians (Paramount)	Mar 99	0.2	L	0.0004	0.4
Progress Park (Paramount)	Mar 99	6.2	L	0.012	13
MC&C building (Santa Fe Springs)	Mar 99	0.7	L	0.009	9
Garfield Avenue medians (Paramount)	Apr 99	0.1	L	0.002	2
Calvary Chapel (Diamond Bar)	Apr 99	1	L	0.014	16
Anfield Apparel Group Inc., 20851 Currier Rd. (Walnut)	Jun 99	0.2	L	0.001	1
Wind River Homeowners Assn. (Rowland Heights)	Jul 99	12.6	L	0.022	24
AT&T building, 12900 Park Plaza Dr. (Cerritos)	Aug 99	0.9	L	0.010	11
Orange Avenue medians (Paramount)	Aug 99	0.1	L	0.002	2
Metropolitan State Hospital (Norwalk)	Sep 99	80	L	0	0
Moffit School (Norwalk)	Sep 99	1.6	AF,L	0.009	10
L.A. Fitness Inter., 20801 Golden Springs (Industry)	Sep 99	1.2	L	0.005	5
CSR Industries Corp., 268 Benton Court (Industry)	Sep 99	0.3	L	0.002	2
Gemini Foods Corp., 251 Benton Court (Industry)	Sep 99	0.6	L	0.0004	0.4
Tri-Net Technology, 21709 Ferraro Parkway (Industry)	Sep 99	0.3	L	0.0003	0.3
Hupa International, 21717 Ferraro Parkway (Industry)	Oct 99	0.3	L	0.001	2
Nu-Health Products, 20875-85-95 Currier Rd. (Walnut)	Oct 99	0.1	L	0	0
Rio Hondo Channel (Downey)	Nov 99	0.8	L	0.00005	0.1
Lemon Avenue medians (Industry)	Dec 99	0.1	L	0.0004	0.4
Simms Park (Bellflower)	Dec 99	12.5	L	0.017	19
Prudential Insurance Co., 21558 Ferraro (Walnut)	Jan 00	3.5	L	0.002	2
Foster Road Greenbelt (Norwalk)	Mar 00	3.3	L	0.005	6
McDonald's Restaurant (Diamond Bar)	Mar 00	0.1	L	0.0005	1
J&L Footwear, 250 Benton Court (Industry)	Jul 00	0.6	L	0.002	2
Jefferson School (Paramount)	Jul 00	0.5	AF,L	0.002	2
Columbus High School (Downey)	Aug 00	25	AF,L	0.032	36
Triangle Park (South Gate)	Nov 00	0.4	L	0.002	2
Markwins Inter. Corp., 22067 Ferraro Pkwy. (Industry)	Nov 00	1.9	L	0.002	2
Lee Wang LLC, 21901 Ferraro Parkway (Industry)	Nov 00	2	L	0.007	8
Sun Yin USA, 280 Maclin Court (Industry)	Nov 00	0.8	L	0.001	1
Cubework.com Inc., 218 Maclin Court (Industry)	Nov 00	1.5	L	0.001	1
Morrow Meadows, 231 Benton Court (Industry)	Apr 01	0.9	L	0.001	1
The Cross Schools of Education (Walnut)	May 01	0.6	AF,L	0.001	1
Golden Springs Business Park (Santa Fe Springs)	Apr 01	31.4	L	0.162	182
Bellflower Storage (Bellflower)	Jun 01	3	L	0.001	2
Railroad Beautification (Paramount)	Jul 01	0.5	L	0.001	1
Rio Hondo Channel (Bell Gardens)	Jul 01	0.3	L	0	0
Bank of the West (Rowland Heights)	Sep 01	0.1	L	0.0005	1
Gym/Teen Center, 20003 La Puente Road (Walnut)	Sep 01	0.6	L	0.001	2
CDM building (Santa Fe Springs)	Oct 01	0.1	L	0.002	2
Laskey-Weil building, 13101 Moore St. (Cerritos)	Oct 01	0.4	L	0.002	3

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TABLE 8
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
(PAGE 8 OF 16)

Reuse Site (City)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Willow Street medians (Long Beach)	Dec 01	2.4	L	0.004	4
Harvard Estates (Rowland Heights)	Dec 01	2	L	0.002	3
L.A. County Recorder's Office (Norwalk)	Jan 02	2.7	L	0.009	10
Tays Cool Fuel (Paramount)	Feb 02	0.2	L	0.002	3
Walnut Nazarene Church (Walnut)	Feb 02	0.8	L	0	0
Antelope Valley Farms (Palmdale)	Mar 02	1,704	AG	7.825	8,768
Majestic Mgmt., 168-188 Brea Canyon Road (Walnut)	Apr 02	0.6	L	0.002	2
Comphone, 108-118 Brea Canyon Road (Walnut)	Apr 02	0.7	L	0.002	3
Port Logistics, 108-288 Mayo Drive (Walnut)	Apr 02	0.1	L	0.010	12
Holiday Inn Express (Walnut)	May 02	0.4	L	0.002	2
Lemon Avenue Investments (Walnut)	Jun 02	0.6	L	0.003	3
Magnolia at Snow Creek (Walnut)	Jul 02	5.4	L	0.015	17
Lakewood-Adoree medians (Downey)	Jul 02	3.9	L	0.046	52
River Ridge Golf Course (Pico Rivera)	Jul 02	21.3	L	0.031	35
Long Beach Water Dept. Impoundment (Long Beach)	Jul 02	--	I	0.002	2
Everbright Management, 1163 Fairway Dr. (Industry)	Sep 02	0.6	L	0.001	2
Everbright Management, 1169 Fairway Dr. (Industry)	Sep 02	0.2	L	0.001	1
Kelly Paper, 288 Brea Canyon Road (Walnut)	Sep 02	1.2	L	0.005	5
V-Tec Automotive, 19677 Valley Blvd. (Walnut)	Sep 02	0.1	L	0.0002	0.2
Grand and Valley landscaping (Walnut)	Sep 02	0.1	L	0.006	7
Extra Space Storage (Walnut)	Oct 02	0.8	L	0.001	1
Latter Days Saints Church (Walnut)	Oct 02	0.9	L	0.002	2
Nogales and Killian landscaping (Rowland Heights)	Oct 02	0.1	L	0.001	1
Double Five Invest., 20855 Golden Sprgs (Diamond Bar)	Nov 02	0.2	L	0.001	1
Chancellor Village Senior Housing (Cerritos)	Nov 02	0.9	L	0.002	2
Simon Trucking (Santa Fe Springs)	Nov 02	0.9	L	0.001	2
Foster/Coldbrook medians (Bellflower)	Nov 02	0.1	L	0.0002	0.3
L.A. County Library (Norwalk)	Nov 02	0.9	L	0.003	4
Metro State/Wheelabrator (Norwalk)	Jan 03	--	I	0.159	179
Alamitos Seawater Intrusion Barrier (Long Beach)	Feb 03	--	R	3.328	3,729
Boeing (Long Beach)	Mar 03	52	L	0.043	48
Brea Canyon Rd/Old Ranch Road medians (Industry)	May 03	0.1	L	0.0002	0.2
CLT Computers, 20153 Paseo del Prado (Walnut)	May 03	0.6	L	0.002	2
Rio Hondo College (Whittier)	Jun 03	85	AF,L	0.015	17
Mill Elementary School (Whittier)	Jun 03	15	AF,L	0.011	12
Del Amo Blvd. greenbelt (Lakewood)	Jul 03	0.3	L	0.001	1
Imperial Equestrian (South Gate)	Jul 03	1.5	L	0.007	8
Norwalk Walkway/Parking (Santa Fe Springs)	Jul 03	1	L	0.001	2
Tournament Players Club at Valencia (Santa Clarita)	Aug 03	120	L	0.370	414
The Old Road medians, 26840-27236 (Santa Clarita)	Aug 03	5.8	L	0.025	28
CU Transport, Inc., 19885 Harrison Ave. (Industry)	Aug 03	0.2	L	0.001	1
Broadway.com, 19715 Harrison Ave. (Industry)	Aug 03	0.5	L	0.003	3
Bayharbor-Harrison, 19901 Harrison Ave. (Industry)	Aug 03	0.8	L	0.003	3
J Pack International, 19789 Harrison Ave. (Industry)	Aug 03	0.5	L	0.0004	0.4
Golden Applexx Co., 19805 Harrison Ave. (Industry)	Aug 03	0.2	L	0.001	1
Cianni Inc., 19865 Harrison Ave. (Industry)	Aug 03	0.3	L	0.001	1
Shinetec Group, Inc., 19835 Harrison Ave. (Industry)	Aug 03	0.4	L	0.001	1
Majestic Realty, Grand/Village Staples (Walnut)	Aug 03	1.6	L	0.006	6
Orange Grove Services, Lemon/La Puente (Walnut)	Sep 03	0.4	L	0.002	2
Max Management LLC, 21401 Ferraro Pkwy. (Industry)	Sep 03	0.7	L	0.003	3
NP 21301 Ferraro Pkwy, 21301 Ferraro Pkwy. (Industry)	Sep 03	0.8	L	0.002	2
568 TriNet Court (Walnut)	Oct 03	0.3	L	0.001	1
Steve Horn Way/Bellflower medians (Downey)	Nov 03	0.3	L	0.011	13
Walnut City Hall, 21201 La Puente Road (Walnut)	Dec 03	0.6	L	0.001	1
Walnut Senior Center, 21215 La Puente Road (Walnut)	Dec 03	0.5	L	0.001	1

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TABLE 8
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
(PAGE 9 OF 16)

Reuse Site (City)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
East Lion Corporation, 318 Brea Canyon (Walnut)	Dec 03	2.6	L	0.006	6
Young Hoon Cho, 1709 Nogales Ave. (Rowland Heights)	Mar 04	0.1	L	0.0004	0.4
Shell Station, 21103 Golden Springs (Diamond Bar)	Mar 04	0.1	L	0.0002	0.3
Ferraro/Grand East ramp (Industry)	Apr 04	3.8	L	0.007	8
Hing Wa Lee Plaza, 1569 Fairway Drive (Walnut)	May 04	0.1	L	0.0005	1
Tucker Elementary School (Long Beach)	May 04	3	AF,L	0.005	6
Dream Wireless Inc., 20625 Lycoming St. (Walnut)	Jun 04	0.3	L	0.001	2
APL Logistics, 408 Brea Canyon Road (Walnut)	Jun 04	2.1	L	0.005	5
Alamitos Hill Reservoir landscaping (Long Beach)	Jul 04	8.6	L	0	0
FTH Group Inc., 20801 Currier Road (Walnut)	Jul 04	0.1	L	0.001	1
NICCAL, LLC, 2889 Valley Blvd. (Walnut)	Aug 04	0.1	L	0	0
Pro Growers Nursery (Norwalk)	Sep 04	11.3	O	0.044	49
Kaiser Administration building (Downey)	Oct 04	2.5	L	0.005	6
Community Day School (Walnut)	Nov 04	0.1	AF,L	0.0004	0.5
Majestic Mgmt., 21438 Baker Parkway (Walnut)	Jan 05	0.1	L	0.008	9
Gateway Pointe (Whittier)	Jan 05	8	L	0.021	23
Puente Hills Materials Recovery Facility (Industry)	Feb 05	2.4	L	0.080	90
Sy Develop. condos, 20118-20138 Colima Road (Walnut)	Jun 05	0.1	L	0	0
Dills Park (Paramount)	Jul 05	12.5	L	0.021	23
N/E corner Cheryl Lane/Baker Parkway (Industry)	Aug 05	3.3	L	0.008	9
Jakk's Pacific, Inc. 21733-21749 Baker Pkwy. (Industry)	Aug 05	1.2	L	0.004	5
20813 Valley Blvd. medians (Walnut)	Sep 05	0.4	L	0.001	2
20265 Valley Blvd. medians (Walnut)	Sep 05	0.4	L	0.001	1
19849 Valley Blvd. medians (Walnut)	Sep 05	0.4	L	0.001	1
Kohl's Center (Walnut)	Sep 05	2	L	0.008	9
Hollydale Elementary (South Gate)	Sep 05	3	AF,L	0.008	9
Malburg Generation Station (Vernon)	Oct 05	--	I	0.661	741
Angela Preschool & Kindergarten (Rowland Heights)	Dec 05	0.1	AF,L	0.0002	0.3
The Home Depot, 21535-21651 Baker Pkwy. (Industry)	Jan 06	2.8	L	0.010	12
Martin Brower Co., 21415-21489 Baker Pkwy. (Industry)	Jan 06	2.3	L	0.006	7
Stuart and Gray medians (Downey)	Dec 05	0.4	L	0.005	5
Woodruff and Maple medians (Bellflower)	Mar 06	0.1	L	0.0001	0.1
Haitao Group LLC, 350 Cheryl Lane (Walnut)	Apr 06	0.7	L	0.004	5
Jose Munoz Nursery (Industry)	Apr 06	5	O	0.012	13
Fairway median @ Brea Canyon Road (Walnut)	Jun 06	0.3	L	0.001	1
Grand Avenue Crossing (Industry)	Jul 06	99.3	L	0.189	211
22002 Valley Blvd. (Industry)	Jul 06	1.6	L	0.001	1
Foster Road medians (Santa Fe Springs)	Jul 06	1	L	0.013	15
Buddhist Tzu Chi, 1920 Brea Canyon Road (Walnut)	Aug 06	2.2	L	0.004	5
Target Store T-2179, 747 Grand Ave. (Walnut)	Sep 06	3.9	L	0.006	7
Whittier Narrows Recreation Area (South El Monte)	Sep 06	568	L	0.687	769
Leg Avenue, 19601 E. Walnut Drive (Walnut)	Oct 06	0.5	L	0.002	2
LandRover (Cerritos)	Dec 06	0.3	L	0.003	4
Eastern Agricultural Site (Lancaster)	Dec 06	1,840	AG	7.611	8,528
Poundex Assoc. Group, 21908-21958 Baker (Industry)	Jan 07	0.8	L	0.002	2
Williams-Sonoma, 21508-21662 Baker Pkwy. (Industry)	Apr 07	4.8	L	0.011	12
FedEx Ground, 200 Old Ranch Road (Walnut)	May 07	28	L	0.009	10
USA Signage, LLC., 20819 Currier Road (Walnut)	May 07	0.3	L	0.001	1
Bluff Park (Long Beach)	Jul 07	25.8	L	0.033	37
Stearns Park (Long Beach)	Jul 07	21	L	0.018	20
Bixby Park (Long Beach)	Jul 07	12.5	L	0.025	28
South El Monte High School (South El Monte)	Aug 07	16.1	AF, L	0.074	83
Williams-Sonoma, 21700 Baker Parkway (Industry)	Aug 07	2	L	0.004	4
Douglas Park development (Long Beach)	Nov 07	2.1	L	0.139	156
21350 Valley Blvd. (Industry)	Feb 08	0.4	L	0.001	2

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TABLE 8
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
(PAGE 10 OF 16)

Reuse Site (City)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Grand Avenue Venture, 21508 Ferraro Pkwy. (Walnut)	Apr 08	3.5	L	0.001	1
Space Learning Center (Downey)	Apr 08	10.5	L	0	0
Surgical Center, Carmenita & 166th (Cerritos)	May 08	0.1	L	0.0003	0.3
UPS Parking Structure, 13150 Moore St. (Cerritos)	May 08	0.5	L	0.002	2
Grand Avenue/Baker Parkway medians (Industry)	May 08	6.7	L	0.012	13
Majestic Mgmt., 21530-21590 Baker (Industry)	May 08	2	L	0.007	8
Cornerstone Commerce Center (Downey)	Jun 08	0.8	L	0.003	3
Yanlin Liu, 1335-1337 Otterbein (Rowland Heights)	Jul 08	0.1	L	0.0001	0.1
Apex Capital Invest., 20657 Golden Springs (Diam. Bar)	Aug 08	0.4	L	0.001	1
Chili's Restaurant, Golden Springs (Diamond Bar)	Sep 08	0.2	L	0.001	1
AIC Advanced Industrial, 21808 Garcia Lane (Industry)	Sep 08	0.5	L	0.001	1
Geniqua Corp., 21858 Garcia Lane (Industry)	Sep 08	0.4	L	0.002	2
JL Concepts Inc., 21912 Garcia Lane (Industry)	Sep 08	0.3	L	0.001	1
Majestic Mgmt., 21760-21788 Garcia Lane (Industry)	Sep 08	0.4	L	0.001	2
CFT Development, Golden Springs (Diamond Bar)	Oct 08	0.01	L	0.001	1
Jonathan Cabrera, 20125 Valley Blvd. (Walnut)	Nov 08	0.03	L	0	0
Mora Drive medians (Santa Fe Springs)	Oct 08	0.1	L	0.008	9
UPS Main Building, 13233 Moore St. (Cerritos)	Nov 08	4.4	L	0.009	10
Fountain Walk Sr. Housing, 18310 Carmenita (Cerritos)	Nov 08	0.1	L	0.0002	0.2
Public Works Dept. sewer flushing (Lancaster)	Jan 09	--	I	0.001	1
Public Works Dept. street sweeping (Lancaster)	Feb 09	--	I	0.0003	0.3
ASCIP Building, 16550 Bloomfield Ave. (Cerritos)	Feb 09	0.1	L	0.001	1
Tincher Elementary School (Long Beach)	Feb 09	1.5	AF,L	0.006	7
Firestone Blvd. medians (Downey)	Feb 09	0.1	L	0.005	6
Citibank, 8764 Firestone Blvd. (Downey)	Feb 09	0.1	L	0.001	1
Brea Canyon Road/Currier Road median (Walnut)	Feb 09	2	L	0.004	4
Calif. Assn. for Bilingual Ed., 20888 Amar Rd. (Walnut)	May 09	0.04	L	0.0001	0.1
Apec Water Systems, 293 Brea Canyon Road (Walnut)	May 09	0.3	L	0.002	2
Steve Horn Pkwy. medians @ Kaiser (Downey)	May 09	1.4	L	0.045	40
Walgreens/Big Lots, 9018 Firestone Blvd. (Downey)	May 09	0.4	L	0	0
Lancaster University Center (Lancaster)	May 09	2	L	0.008	9
12800 Center Court (Cerritos)	Jul 09	0.4	L	0.001	2
Pacific Alloy Casting (South Gate)	Jul 09	--	I	0.011	12
Sunshine Park (L.A. County)	Jul 09 (May 86)	4	L	0.007	7
Rowland Elementary School (Rowland Heights)	Jul 09 (May 86)	3	AF,L	0.007	8
Southland Schools (Rowland Heights)	Jul 09 (May 86)	4	AF,L	0.002	2
Farjardo Park (Rowland Heights)	Jul 09 (May 86)	4	L	0.005	5
Nogales High School (L.A. County)	Jul 09 (Jun 86)	11	AF,L	0.021	24
Queen of Heaven Cemetery (Rowland Heights)	Jul 09 (Jun 86)	35	L	0.063	71
Schabarum Regional County Park (L.A. Co.)	Jul 09 (Sep 86)	233	L	0.043	48
Pepperbrook Park (Hacienda Heights)	Jul 09	4.4	L	0.006	7
Countrywood Park (Hacienda Heights)	Jul 09	5.4	L	0.006	7
Rowland Heights Golf Center (Rowland Heights)	Jul 09	8	L	0.008	9
Nogales Med. Plaza, 4115-½ Nogales Ave. (West Covina)	Jul 09	0.1	L	0.004	4
Medians at 755 Nogales Ave. (Industry)	Jul 09	0.1	L	0.0004	0.5
Tsai Lien Liao, 4111 Nogales Ave. (West Covina)	Jul 09	0.5	L	0.0003	0.4
Medians at 2654-½ Valley Blvd. (West Covina)	Jul 09	0.2	L	0.00001	0.01
GMP Products, 788 Phillips Dr. (Industry)	Jul 09	0.1	L	0.0005	1
JJ Plaza, 18253 Colima Road (Rowland Heights)	Jul 09	0.1	L	0.0001	0.1
New World RTCI-LP, 18958 Daisetta (Rowland Heights)	Jul 09	0.1	L	0.00004	0.05
Battery Technology, 16651 Johnson Dr. (Industry)	Jul 09	0.1	L	0.0002	0.2
Super Max Corp., 16685 Johnson Dr. (Industry)	Jul 09	0.1	L	0.0004	0.4
Ancillary Provider 16664 Johnson Dr. (Industry)	Jul 09	0.1	L	0.0003	0.3
Ancillary Provider 16666 Johnson Dr. (Industry)	Jul 09	0.2	L	0.001	1
Blue Pacific, 1354 Marion Ct. (Industry)	Jul 09	0.2	L	0.001	1

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TABLE 8
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
(PAGE 11 OF 16)

Reuse Site (City)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Vonnic Inc., 16610 Gale Ave. (Industry)	Jul 09	0.2	L	0.0004	0.4
Romano's Macaroni Grill, 17603 Colima (Rowland Hts.)	Jul 09	0.1	L	0.0004	0.4
Wedgeworth Elementary School (Hacienda Heights)	Aug 09	2.5	AF,L	0.003	3
Wilson High School (Hacienda Heights)	Aug 09	18.3	AF,L	0.056	63
Clemson Distribution Inc., 20722 Currier Road (Walnut)	Sep 09	0.1	L	0.0003	0.3
Ybarra Elementary School (Rowland Heights)	Sep 09	5.6	AF,L	0.006	7
Bixby Elementary School (Hacienda Heights)	Sep 09	6.1	AF,L	0.008	9
Jade Fashion, 1350 Bixby Dr. (Industry)	Sep 09	0.1	L	0.001	1
Gonzalez Nursery, 16411 Wedgeworth Dr, (Industry)	Sep 09	4	O	0.008	9
Robertson's Ready-Mix (Pomona)	Oct 09	--	I	0.006	7
MTA Bike Trail (Bellflower)	Nov 09	0.1	L	0.008	9
Whittier Narrows Golf Course (South El Monte)	Dec 09	260	L	0.438	490
Seibon International, 1215 Bixby Dr. (Industry)	Dec 09	0.1	L	0.001	1
Laido International, 16710-12 Johnson Dr. (Industry)	Dec 09	0.1	L	0.0003	0.3
Bolt Products, 16725 Johnson Dr. (Industry)	Dec 09	0.1	L	0.0003	0.3
Ily Enterprise, 783 Phillips Dr. (Industry)	Jan 10	0.1	L	0.001	1
Superior Profiles, 1325 Bixby Dr. (Industry)	Jan 10	0.2	L	0.001	1
60 Freeway, Countrywood & Fullerton (Industry)	Jan 10	5	L	0.004	4
Harmoni International Spice, 881 Azusa Ave. (Industry)	Jan 10	0.1	L	0.001	1
East Group Prop., 855 Anaheim-Puente Road (Industry)	Mar 10	0.6	L	0.002	3
So. Cal. Air Condition, 16950 Chestnut St. (Industry)	Mar 10	2	L	0.001	1
USACD, 16900 Chestnut St. (Industry)	Mar 10	0.3	L	0.001	1
Azusa Ave. medians (Industry)	Mar 10	0.2	L	0.0005	1
Paramount Blvd. medians (Paramount)	Mar 10	0.3	L	0.004	4
L.A. Co. ISD building, 16610 Chestnut St. (Industry)	Apr 10	0.5	L	0.001	1
Azusa Property Co., 885 Azusa Ave. (Industry)	Apr 10	0.2	L	0.001	1
Teledyne Instruments, 16830 Chestnut St. (Industry)	Apr 10	0.4	L	0.002	2
Golden West Footwear, 16750 Chestnut St. (Industry)	Apr 10	0.3	L	0.00001	0.01
Medians, 18927 Daisetta St. (Rowland Heights)	Apr 10	0.2	L	0.0002	0.2
Medians, 1442 Fullerton Road (Industry)	Apr 10	0.3	L	0.0001	0.2
Colima Road medians (L.A. County)	Apr 10	0.1	L	0.002	2
Teledyne Picco, 16800 Chestnut St. (Industry)	May 10	0.4	L	0	0
East Group Prop., 16700 Chestnut St. (Industry)	Jun 10	0.6	L	0.001	2
Harmoni International Spice, 883 Azusa Ave. (Industry)	Jun 10	0.1	L	0.001	1
New Age Kaleidoscope, 7 Colima Road (Industry)	Jun 10	0.6	L	0.003	3
Min Maw Intl. Inc., 18350 San Jose Ave. (Industry)	Jun 10	0.7	L	0.001	1
Hot Topic, 18305 San Jose Ave. (Industry)	Jul 10	0.6	L	0.002	2
FedEx, 1081 Fullerton Road (Industry)	Jul 10	0.6	L	0.001	1
Long Beach Public Works sewer flushing	Aug 10	--	I	0.002	3
Los Amigos Golf Course (L.A. County)	Aug 10	110	L	0.202	286
A Professional Law Corp, 19803 Valley Blvd. (Walnut)	Sep 10	0.1	L	0.0003	0.3
Port Logistics Group, 18215 Rowland St. (Industry)	Sep 10	0.6	L	0.002	3
New Age Kaleidoscope, 5 Stoner Creek (Industry)	Oct 10	1.4	L	0.004	5
GBT Inc., 1020 Bixby Dr. (Industry)	Oct 10	0.1	L	0.0004	0.5
Nogales Distribution Center, 717 Nogales St. (Industry)	Oct 10	0.5	L	0.002	2
Centro Watt Operating, 17518A Colima Road (Industry)	Oct 10	0.4	L	0.002	3
Centro Watt Operating, 17414 Colima Road (Industry)	Oct 10	0.5	L	0.003	3
The Old Road/Magic Mountain Pkwy (Santa Clarita)	Nov 10	2.8	L	0.015	16
Walgreens, 18308 Colima Road (Industry)	Dec 10	0.1	L	0.0002	0.2
RWD Office, 3021 S. Fullerton Road (Industry)	Dec 10	0.3	L	0.0004	0.4
Bell Memorial Church, 1747 Nogales (Rowland Heights)	Dec 10	0.3	L	0.001	1
Chugh Firm, 15925 Carmenita Road (Cerritos)	Jan 11	0.2	L	0.003	4
Chevron, 17255 Bloomfield Ave. (Cerritos)	Mar 11	0.1	L	0.0002	0.3
Atlantic Ave. medians (South Gate)	Mar 11	16.3	L	0.005	6
Pathfinder Park (Rowland Heights)	May 11	29	L	0.011	13

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TABLE 8
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
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Reuse Site (City)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Quest Nutrition, 18551 Arenth Ave. (Industry)	May 11	0.7	L	0.002	2
Nogales Dist. Center, 18961 Arenth Ave. (Industry)	May 11	0.5	L	0.002	2
Kimco Realty, 17100 Colima Road (Industry)	May 11	3	L	0.004	5
Acme Trading Group, 18895 Arenth, (Industry)	May 11	0.9	L	0.004	4
Winit America, 18501 Arenth Ave. (Industry)	May 11	0.6	L	0.002	3
BMS Motorsports, Inc., 18701 Arenth Ave. (Industry)	May 11	0.4	L	0.001	1
Design International, 755 Epperson Dr. (Industry)	Jul 11	0.1	L	0.001	1
Design International, 745 Epperson Dr. (Industry)	Jul 11	0.1	L	0.001	1
Siegfried & Parsifal Inc., 18689 Arenth Ave. (Industry)	Aug 11	0.4	L	0.002	2
HT Window Fashions, 770 Epperson Dr. (Industry)	Aug 11	0.1	L	0.001	1
HT Development, 780 Epperson Dr. (Industry)	Aug 11	0.1	L	0.002	2
HD Technology, 738 Epperson Dr. (Industry)	Aug 11	0.2	L	0.001	1
Walnut Creek Energy Park, 911 Bixby Dr. (Industry)	Aug 11	--	I	0.116	130
Sanchez Elementary/Temple Middle School (Rosemead)	Aug 11	12.8	AF, L	0.005	6
Loma Elementary School (South El Monte)	Aug 11	1.9	AF, L	0.005	6
Jess Gonzales Sports Park (Rosemead)	Oct 11	4	L	0.017	20
Southern California Edison corporate offices (Rosemead)	Oct 11	53	L	0.041	45
Eldridge Rice Elementary School (Rosemead)	Oct 11	8.3	AF, L	0.013	14
Guardian Life Insurance, 710 Epperson Dr. (Industry)	Sep 11	0.2	L	0.002	2
Blue Giant Investments, 18701 Arenth Ave. (Industry)	Sep 11	0.1	L	0.001	2
Rubbercraft, 3701 Conant Street (Long Beach)	Sep 11	0.9	L	0.001	1
Millikin High School (Long Beach)	Oct 11	12	AF,L	0.025	27
K-1 Printing, 17989 Arenth Ave. (Industry)	Oct 11	0.2	L	0.001	1
K-1 Printing, 17979 Arenth Ave. (Industry)	Oct 11	0.2	L	0.001	1
Private Label PC Inc., 748 Epperson Dr. (Industry)	Nov 11	0.2	L	0.0004	0.4
Penske Truck Leasing, 18305 Arenth Ave. (Industry)	Nov 11	0.6	L	0.001	2
Schurr High School (Montebello)	Nov 11	11	AF,L	0.020	22
Commercial Cooling, 17855 Arenth Ave. (Industry)	Dec 11	0.4	L	0.0003	0.3
Forever Link, 18738 San Jose Ave. (Industry)	Dec 11	0.4	L	0.001	1
Majestic Realty, 179 S. Grand Ave. (Walnut)	Dec 11	2.5	L	0.005	5
Walnut Grove Avenue medians (Rosemead)	Dec 11	0.1	L	0.001	1
Rush Street medians (South El Monte)	Dec 11	0.1	L	0.001	2
Sunshine Nursery, 8448 Dorothy St. (Rosemead)	Dec 11	4.6	L	0.003	3
WalMart, 1827 Walnut Grove Ave. (Rosemead)	Dec 11	17.7	L	0.001	1
Panda Restaurant Grp., 1683 Walnut Grove (Rosemead)	Dec 11	8.9	L	0.016	18
Garvey Avenue medians (Rosemead)	Dec 11	0.1	L	0.00004	0.05
Willard Elementary School (Rosemead)	Jan 12	6	AF, L	0.0004	0.4
Beverly Blvd. medians (Pico Rivera)	Jan 12	1.5	L	0.001	1
Rio Hondo Park (Pico Rivera)	Jan 12	8	L	0.038	43
Brook Furniture, 18960 San Jose Ave. (Industry)	Jan 12	0.4	L	0.0002	0.2
University of the West, 1409 Walnut Grove (Rosemead)	Feb 12	0.4	L	0.002	2
LD Products, 3700 Cover St. (Long Beach)	Feb 12	0.7	L	0.002	2
LD Products, 3700 Cover St. (Long Beach)	Feb 12	--	D	0.0003	0.4
Real Good Food, 18901 Railroad St. (Industry)	Feb 12	0.4	L	0.0003	0.3
CWCI Insulation, 18825 Railroad St. (Industry)	Feb 12	0.2	L	0.001	1
Hot Topic, 18385 San Jose Ave. (Industry)	Feb 12	0.8	L	0.002	3
Ko Amex, 18965 San Jose Ave. (Industry)	Feb 12	0.5	L	0.002	2
Lincoln Products, 18825 San Jose Ave. (Industry)	Feb 12	0.3	L	0.002	2
MA Labs Inc., 18755 San Jose Ave. (Industry)	Feb 12	0.4	L	0.001	2
8 Net Inc., 18691 San Jose Ave. (Industry)	Mar 12	0.3	L	0.002	2
8 Net Inc., 18601 San Jose Ave. (Industry)	Mar 12	0.6	L	0.002	2
Torrid LLC, 18501 San Jose Ave. (Industry)	Mar 12	0.6	L	0.002	3
Mailroom Global Inventory, 18591 San Jose (Industry)	Mar 12	0.6	L	0.002	2
Shoe Magnate Inc., 18560 San Jose Ave. (Industry)	Mar 12	0.4	L	0.001	1

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TABLE 8
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
(PAGE 13 OF 16)

Reuse Site (City)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Pinky Footware Shoes, 18600 San Jose Ave. (Industry)	Mar 12	0.8	L	0.001	2
Zapopan Park (Rosemead)	Apr 12	7	L	0.002	2
Garvey Avenue medians (Rosemead)	Apr 12	0.2	L	0	0
WVWD Parker Canyon Reservoir (Walnut)	May 12	3.5	L	0.003	4
La Merced Elementary School (Montebello)	Jun 12	10	AF,L	0.018	20
Montebello Gardens Elementary (Pico Rivera)	Jun 12	1	AF,L	0.003	3
The Heights Shopping Center (West Covina)	Jul 12	12.5	L	0.009	10
Home Depot, 2320 Azusa Ave. (West Covina)	Jul 12	0.2	L	0.0002	0.2
Nogales Ave. medians (West Covina)	Jul 12	0.6	L	0.00003	0.03
Azusa Ave. medians (West Covina)	Jul 12	3.1	L	0.003	3
Amar Road medians (West Covina)	Jul 12	2.1	L	0.007	8
BKK Landfill (West Covina)	Jul 12	220	L	0	0
South Hills Country Club (West Covina)	Aug 12	100	L	0.275	308
Medians, 2357 Fullerton Road (L.A. County)	Aug 12	0.4	L	0.002	2
McDonalds, 2623 Valley Blvd. (Industry)	Sep 12	0.2	L	0.0004	0.5
Whitewave Foods, 18275 Arenth Ave. (Industry)	Oct 12	2.6	L	0.003	4
Big League Dreams (West Covina)	Oct 12	21	AF,L	0.067	75
CIMIS Weather Station (Palmdale)	Oct 12	1	L	0.002	2
McAdam Park (Palmdale)	Oct 12	15	L	0.166	186
Tree Barriers (Palmdale)	Jan 13	6	AG	0.020	22
Rowland Korean Church, 1717 Otterbein Ave. (Walnut)	Jan 13	0.3	L	0.001	2
Pearl of the East, 18888 Labin Ct. (Industry)	Feb 13	0.5	L	0.001	1
Beverly Blvd. medians (Pico Rivera)	Feb 13	1.5	L	0.004	4
Walnut Creek Energy Park, 911 Bixby Dr. (Industry)	Apr 13	0.3	L	0.0004	0.5
Bloomfield Plaza, 12560 Artesia Blvd. (Cerritos)	May 13	0.1	L	0.001	1
Atherton St. medians (Long Beach)	Jun 13	0.5	L	0.003	3
St. Lorenzo Church, 747 Meadow Pass (Walnut)	Aug 13	5.5	L	0.029	32
Cortez Elementary School (West Covina)	Aug 13	6.2	AF,L	0.023	26
Cameron Elementary School (West Covina)	Aug 13	3.9	AF,L	0.016	18
Vine Elementary School (West Covina)	Aug 13	3.8	AF,L	0.016	18
Lemon Valley LLC, 20373 Valley Blvd. (Walnut)	Sep 13	0.1	L	0.001	1
Foothill Transit, 500 Brea Canyon Road (Walnut)	Sep 13	0.2	L	0.001	1
Air Products & Chemicals (Santa Fe Springs)	Nov 13	--	I	0.268	300
Countrywood Park I, (Rowland Heights)	Nov 13	17	L	0.008	9
Countrywood Park II, (Rowland Heights)	Nov 13	15	L	0.010	11
Shadow Oak Paseo A (West Covina)	Jan 14	8.1	L	0.024	27
Shadow Oak Paseo B (West Covina)	Jan 14	6.9	L	0.020	23
Shadow Oak Paseo C (West Covina)	Jan 14	1.6	L	0.005	6
Shadow Oak Paseo D (West Covina)	Jan 14	1.8	L	0.006	7
Shadow Oak Paseo F (West Covina)	Jan 14	1.5	L	0.001	1
Shadow Oak Paseo G (West Covina)	Jan 14	8.1	L	0.005	6
Hollencrest Middle School (West Covina)	Jan 14	10.8	AF,L	0.036	40
Merced Elementary School (West Covina)	Jan 14	7.6	AF,L	0.027	30
West Covina High School (West Covina)	Jan 14	9.7	AF,L	0.031	35
Woodgrove Park (West Covina)	Feb 14	10	L	0.017	19
Will Rogers Mini-park (Long Beach)	Feb 14	1.7	L	0.006	6
Stanford Middle School (Long Beach)	Feb 14	13.3	AF,L	0.010	11
Lowell Elementary/Rogers Middle Schools (Long Beach)	Feb 14	5.3	AF,L	0.005	5
DRT Grading Inc. (Walnut)	Mar 14	--	I	0.003	3
Firestone Blvd. medians (South Gate)	Mar 14	0.8	L	0.008	9
Owens Memorial (Lancaster City) Park (Lancaster)	Mar 14	36	L	0.158	177
Smith Park (Pico Rivera)	Apr 14	16	L	0.034	38
Pico Rivera Public Library (Pico Rivera)	Apr 14	0.6	L	0.004	5
Walmart, 4651 Firestone Blvd. (South Gate)	Apr 14	0.7	L	0.001	1
CVS Pharmacy, 4621 Firestone (South Gate)	Apr 14	0.4	L	0.003	3

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

TABLE 8
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
(PAGE 14 OF 16)

Reuse Site (City)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Rimgrove Park (West Covina)	Jun 14	7.1	L	0.019	21
Shadow Park Center (West Covina)	Jun 14	9.6	L	0.019	21
Cortez Park (West Covina)	Jul 14	14	L	0.045	50
Cameron Park (West Covina)	Jul 14	4.2	L	0.014	16
Firestone Plaza 2, 4833 Firestone Blvd. (South Gate)	Jul 14	1.7	L	0.002	3
Grant Rea Park (Montebello)	Aug 14	22.7	L	0.046	51
Pheasant Ridge Apartments (Rowland Heights)	Sep 14	25	L	0.015	16
Shawan Const., Grand Crossing/Baker Pkwy. (Walnut)	Nov 14	--	I	0.006	6
South Pointe Middle School (Walnut)	Jan 15	7	AF,L	0.011	13
Maverick Field (West Covina)	Jan 15	2.5	AF	0.009	10
Graybar Electric Co. (Pomona)	Jan 15	3.1	L	0.012	13
BYD Energy Road landscaping (Lancaster)	Jan 15	0.1	L	0.0004	0.4
Public Works Dept. road maintenance (Lancaster)	May 15	--	I	0	0
McDonalds, Lakewood and Gallatin (Downey)	Jun 15	0.1	L	0.0003	0.3
City Ventures Condos, Gallatin/Florence (Downey)	Jun15	0.5	L	0.003	3
Emerson Parkside Academy (Long Beach)	Jun 15	2	AF,L	0.004	4
Entrada, 27640 Media Center Drive (Santa Clarita)	Jun 15	1.4	L	0.006	7
Entrada, 27780 Entertainment Drive (Santa Clarita)	Jun 15	0.7	L	0.010	11
Entrada, 27770 Entertainment Drive (Santa Clarita)	Jun 15	0.7	L	0.014	15
Forest Lawn Memorial Park, Covina Hills (Covina)	Jul 15	96	L	0.369	413
South Hills High School (West Covina)	Jul 15	5.9	AF,L	0.015	17
Camp Fire USA, Shiwaka day camp (Long Beach)	Jul 15	3.2	L	0.005	5
Downey Commons, 9516 Lakewood Blvd. (Downey)	Sep 15	0.5	L	0.003	3
Downey Crossroads, 9515 Lakewood Blvd. (Downey)	Sep 15	0.4	L	0.003	3
8740 Firestone Blvd. (Downey)	Sep 15	0.2	L	0.002	2
Bruce Kolstad, 1601 Rolling Greens (Whittier)	Sep 15	1	L	0.002	2
City Water Truck (Lakewood)	Sep 15		L	0.00002	0.03
Salud Park (Paramount)	Nov 15	8.9	L	0.008	9
Universal Warehouse, 888 Kearn Creek (Industry)	Dec 15	0.7	L	0.001	1
Fed Ex, 11720 Greenstone (Santa Fe Springs)	Dec 15	0.8	L	0.003	3
Pro Energy Services Group, Angeles Forest (Palmdale)	Dec 15	--	I	0.0003	0.4
Kaiser Medical Office (Lancaster)	Jan 16	8.2	L,I	0.011	12
SCE Substation, 13339 166th St. (Cerritos)	Feb 16	1.2	L	0.0003	0.4
LDS Church, 17909 Bloomfield Ave. (Cerritos)	Feb 16	3.5	L	0.003	4
Downey Promenade, S/S Apollo Way (Downey)	Mar 16	2.0	L	0.008	9
Floor & Décor, N/S Apollo Way (Downey)	Mar 16	--	D	0.0003	0.3
24-Hour Fitness, N/S Steve Horn Way (Downey)	Mar 16	--	D	0	0
Valley Nogales LLC, 4141 Nogales Ave. (West Covina)	Mar 16	0.2	L	0.001	1
Lancaster Cemetery (Lancaster)	Apr 16	5.3	L	0.028	32
Kaiser Landscape Maintenance Dist. (Lancaster)	Apr 16	0.1	L	0.0002	0.2
Pacific Auto Recycling Center (Lancaster)	Apr 16	1.5	L	0.001	1
Walmart, 9001 Apollo Way (Downey)	May 16	0.6	L	0.002	2
Stonewood Mall, 251 Stonewood St. (Downey)	May 16	0.4	L	0.005	5
Steve Horn Parkway @ Apollo Way (Downey)	May 16	0.2	L	0.0002	0.3
LDS Church, 16115 Studebaker Road (Cerritos)	Jun 16	4.1	L	0.005	6
Forest Lawn Memorial Park, Cypress (Cerritos)	Aug 16	77	L	0.225	252
Downey Promenade, N/S Apollo Way (Downey)	Aug 16	3.1	L	0.013	15
Ulta Cosmetics (Downey)	Aug 16	--	D	0.0001	0.2
TJ Maxx/Homegoods (Downey)	Aug 16	--	D	0.001	1
Carters (Downey)	Aug 16	--	D	0	0
Antelope Valley High School (Lancaster)	Oct 16	16	AF,L	0.063	70
Prince RH Property, 18156 Colima (Rowland Heights)	Oct 16	0.5	L	0.0004	0.4
Cornerstone HOA (Walnut)	Nov 16	2.3	L	0.005	6
First General Bank, 19306 Colima Road (Walnut)	Dec 16	0.1	L	0.0004	0.4
Larks tone Park (Diamond Bar)	Feb 17	5.2	L	0.011	13

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

TABLE 8
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
(PAGE 15 OF 16)

Reuse Site (City)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
South Pointe HOA (Diamond Bar)	Feb 17	10.8	L	0.013	14
Caltrans 5 Freeway, 13402 Excelsior (Santa Fe Springs)	Mar 17	1.2	L	0.007	8
Canadian Solar (Lancaster)	Mar 17	0.4	L	0.001	1
Caltrans 5 Freeway @ Painter (Norwalk)	Apr 17	0.5	L	0.001	1
405 Freeway at Clark (Long Beach)	Jul 17	18.5	L	0.004	4
Prisk Elementary School (Long Beach)	Jul 17	1.5	AF,L	0.0004	0.5
Aldi Grocery, 11215 Lakewood Blvd. (Downey)	Jul 17	0.2	L	0.0002	0.3
Pico Park (Pico Rivera)	Feb 18	17	L	0.015	17
Henry Acuna Park (Montebello)	Apr 18	7.1	L	0.021	23
Grand JK&C, Ltd., 17333 Freedom Way (Industry)	Apr 18	0.7	L	0.002	2
Goodman Devel., 12418 Florence (Santa Fe Springs)	Apr 18	2.8	L	0.009	10
UTC, Norwalk Blvd. (Santa Fe Springs)	May 18	--	I	0.049	55
Rio Hondo Spreading Grounds (Montebello)	May 18	0.02	L	0.001	2
Sun Hing Foods Inc., 908 Curl Court (Industry)	Jun 18	0.6	L	0.0005	1
Johnson Wilshire, 17343 Freedom Way (Industry)	Jun 18	0.3	L	0.001	1
Forever Chestnut LLC, 888 Azusa Ave. (Industry)	Jul 18	1.1	L	0.003	4
Cali Cabinets, 880 Azusa Ave. (Industry)	Jul 18	0.8	L	0.004	5
9080 Apollo Way (Downey)	Jul 18		L	0	0
Five Below Discount Store, 9090 Apollo Way (Downey)	Jul 18		L	0.0001	0.1
FedEx Ground, 20825 Currier Road (Walnut)	Aug 18	0.3	L	0.002	2
Moon Valley Nursery (Montebello)	Oct 18	20	O	0.017	19
Palm Growers Nursery (Montebello)	Oct 18	20	O	0.014	15
Viper Enterprises (Dodge Ram of the West) (Lancaster)	Oct 18	0.7	L	0.001	1
JCC Calif. Prop. LLC, 17640 Castleton (Industry)	Dec 18	0.6	L	0.007	7
WRD's ARCAWTF (Pico Rivera)	Feb 19	--	R	9.685	10,852
Rowland Hts. Med. Center, 19115 Colima (Walnut) (195)	Mar 19	0.1	L	0.0004	0.5
Shively Park (S. El Monte)	Mar 19	5.9	L	0.016	18
Dennis the Menace Park (Downey)	Mar 19	4	L	0.014	15
Legacy High School (South Gate)	Apr 19	5	AF,L	0.017	19
Mary Van Dyke Park (S. El Monte)	Apr 19	1.5	L	0.002	3
New Temple Park (S. El Monte)	Apr 19	8.2	L	0.021	24
Aquatics Center, 1500 Central Ave. (S. El Monte)	Apr 19	1	L	0.003	4
Community Center, 1530 Central Ave. (S. El Monte)	Apr 19	0.7	L	0.002	2
Senior Center, 1556 Central Ave. (S. El Monte)	Apr 19	0.8	L	0.001	1
City Hall, 1415 Santa Anita Ave. (S. El Monte)	May 19	0.7	L	0.003	3
Shively Middle School (S. El Monte)	May 19	1	AF, L	0.011	12
L.A. Co. Services Center, 1441 Santa Anita (S. El Monte)	May 19	0.1	L	0.001	1
Los Angeles Co. Library, 1430 Central (S. El Monte)	May 19	0.3	L	0.001	1
Montebello Golf Course (Montebello)	May 19	120	L	0.249	279
Santa Anita Avenue medians (S. El Monte)	Jun 19	1.3	L	0.0001	0.1
New Temple Elementary, 11033 Central (S. El Monte)	Jul 19	3.4	AF, L	0.015	17
Shively Preschool, 1431 Central Ave. (S. El Monte)	Jul 19	0.2	AF, L	0.002	2
Legacy Middle School (South Gate)	Jul 19	8.4	AF,L	0.028	31
Foster/Dalwood medians (Norwalk)	Aug 19	0.5	L	0.001	1
AV Recycling (Lancaster)	Aug 19	--	I	0.00002	0.02
San Gabriel River Parkway (Pico Rivera)	Oct 19	0.6	L	0	0
WRD's ARCAWTF, 4330 SGR Parkway (Pico Rivera)	Oct 19	1.1	L	0.004	5
AHMC Healthcare Inc., 1701 Santa Anita (S. El Monte)	Nov 19	0.7	L	0.008	9
Interior Demolition, 38560 9th St. East) (Palmdale)	Nov 19	--	I	0	0
DM Property Group, 142 Pierre Road (Walnut)	Jan 20	0.02	L	0.0001	0.1
JP Morgan Bank, 17427 Colima Road (Industry)	Jan 20	0.2	L	0.0004	0.5
Prophecy Technology, 339 Cheryl Lane (Walnut)	Feb 20	0.3	L	0.001	1
PJD Marble, 610 E. Ave. L (Lancaster)	Jun 20	--	I	0.0004	0.5
Taft Electric, 45034 Sierra Highway (Lancaster)	Jun 20	--	I	0.00001	0.01
Patriot Paving, Inc. (SCE Vincent Hill substation) (Palm.)	Jul 20	--	I	0.00005	0.1

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

TABLE 8
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
(PAGE 16 OF 16)

Reuse Site (City)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
JD Tuckman (SCE Angeles Forest Hwy substation) (Palm.)	Jul 20	--	I	0.0001	0.1
Pacific Comm. Builders (35th St. E and Ave.R) (Palm.)	Aug 20	--	I	0.014	16
Taylor Ranch Park (Montebello)	Aug 20	1.2	L	0.006	6
Montebello Blvd. medians (Montebello)	Aug 20	0.5	L	0.001	1
C.A. Rasmussen (10th St. W/Bikeway) (Lancaster)	Aug 20	--	I	0.0004	0.5
Atlas Underground (various sites) (Palmdale)	Aug 20	--	I	0.0003	0.3
Solar Maid (38250 Sierra Hwy & 3850 E. Ave. S) (Palm.)	Aug 20	--	I	0.000003	0.003
Phoenix Renewable Service (Greenskies Proj.) (Lancaster)	Sep 20	--	I	0.00003	0.03
Sully Miller (Lancaster Spring 2020 PMP) (Lancaster)	Sep 20	--	I	0.001	1
Mike Prlich & Sons (PWCP 20-002 Sewer Rehab) (Lanc.)	Sep 20	--	I	0.00004	0.04
Ramirez nursery (Cerritos)	Oct 20	3.5	O	0.002	2
DBI Services (RR ROW, Colton-Sierra Hwy) (Palmdale)	Nov 20	--	I	0.0001	0.1
Tricom Networks (400 E. Avenue Street) (Palmdale)	Jan 21	--	I	0.00001	0.01
Toll Brothers Montebello Hills (Montebello)	Jan 21	--	I	0.109	122
Superior Equipment, 1085 Bixby Dr. (Industry)	Feb 21	0.2	L	0.0001	0.1
Union Pacific Railroad (various along ROW) (Palmdale)	Feb 21	--	I	0.0001	0.1
Majestic Management, 21971 Baker Pkwy. (Walnut)	Mar 21	3.3	L	0.001	1
Majestic Management, 21860 Baker Pkwy. (Walnut)	Mar 21	0.6	L	0.0003	0.4
Frontier Communities (E Palmdale and 70th St E) (Palm.)	Mar 21	--	I	0.003	3
Hylan West, Inc. (E Ave. Q and 9th St E) (Palmdale)	Mar 21	--	I	0.00003	0.03
C.S. Legacy (PWCP 20-010 Sidewalk Proj.) (Lancaster)	Mar 21	--	I	0.00001	0.01
Granite Construction (PWCP 21-003) (Lancaster)	Apr 21	--	I	0.002	2
C.A. Rasmussen Inc. (PWCP 21-007) (Lancaster)	Apr 21	--	I	0.0003	0.4
EA Equestrian (E Avenue M and 100th St E) (Palmdale)	Apr 21	--	I	0.001	1
BC2 Environmental, LLC (W Ave. M-SR 14) (Palmdale)	Apr 21	--	I	0.0003	0.3
AC Infinity, Inc., 21880 Baker Pkwy. (Walnut)	Apr 21	0.6	L	0.0002	0.2
Shaolun Ku, 20659 Valley Blvd. (Walnut)	May 21	0.3	L	0.0004	1
Chalmers Corp., 4310 Valley Blvd. (Walnut)	Jun 21	0.3	L	0.00002	0.03
Chalmers Corp., 4320 Valley Blvd. (Walnut)	Jun 21	0.2	L	0.00002	0.02
Chalmers Corp., 4330 Valley Blvd. (Walnut)	Jun 21	0.1	L	0.00001	0.01
Chalmers Corp., 4340 Valley Blvd. (Walnut)	Jun 21	0.1	L	0.00001	0.02
Chalmers Corp., 4350 Valley Blvd. (Walnut)	Jun 21	0.1	L	0.00002	0.02
Maisons Palmdale, LP (E Avenue S and 65th St E) (Palm.)	Jun 21	--	I	0.0002	0.2

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

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 344.72 MGD (386,271 AFY) of treated effluent in FY20-21, a decrease of 0.7% from 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 16 years, except for FY16-17, 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, 96.39 MGD (108,005 AFY), or 27.9%, was recycled water available for reuse, an increase of 0.9% 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. However, recycled water production is still only 50.0% of the rated treatment capacity (215,935 AFY) of the WRPs in the JOS. During FY20-21, 72.71 MGD (81,475 AFY) was actively reused, a 7.2% increase over the preceding fiscal year due to warmer weather and relatively lower levels of rainfall. This quantity was 75.5% of the recycled water available and 21.1% of the total effluent produced in the JOS.

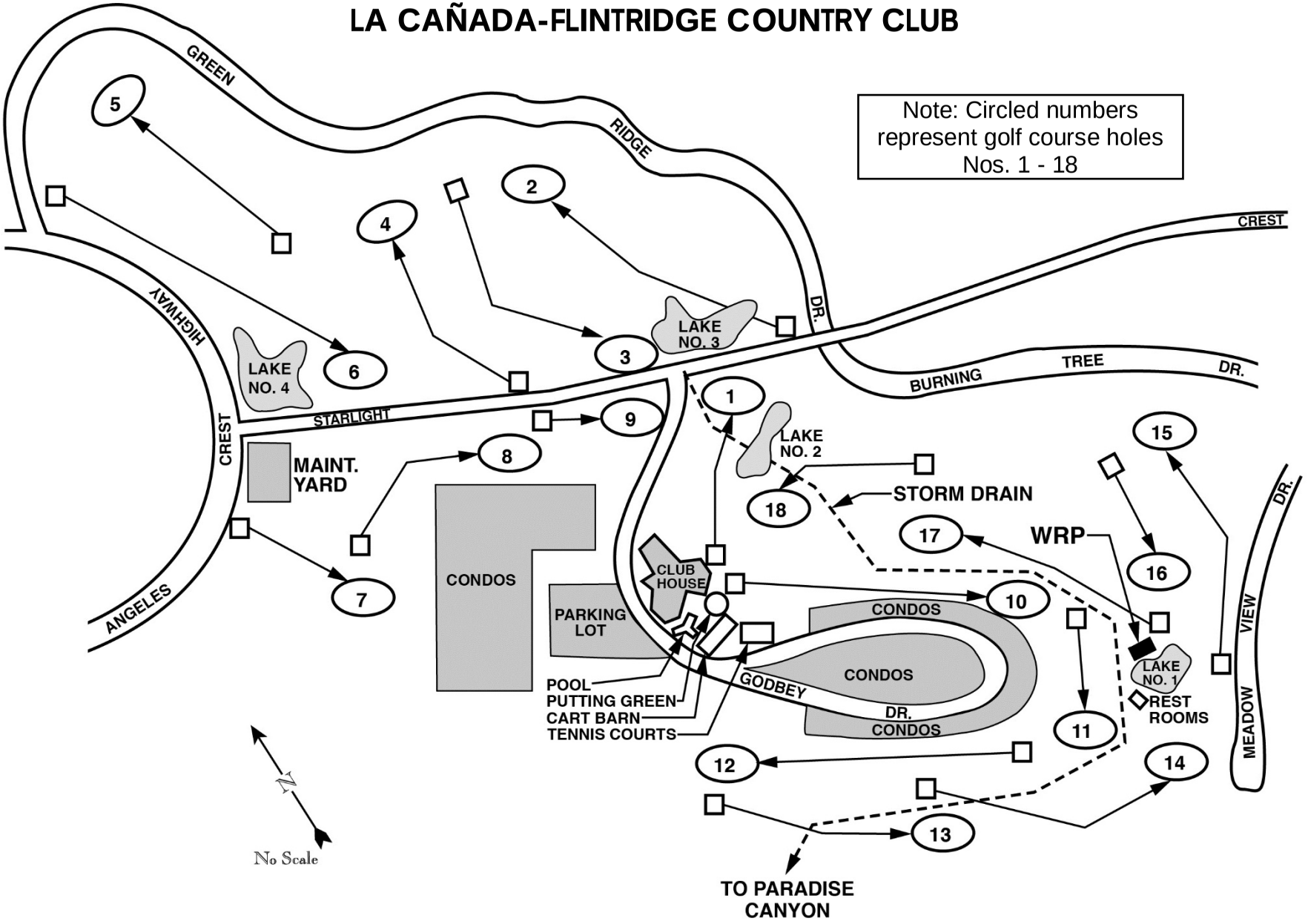
2.1 LA CAÑADA WRP

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 0.066 MGD (74 AFY) of wastewater generated by the 425 homes surrounding the country club in FY20-21 (0.02% of the effluent produced in the JOS). This flow rate was a 6.3% decrease from the preceding fiscal year. The operation and maintenance (O&M) cost in FY20-21 to produce this water was approximately $5,582/AF.

LA CAÑADA WRP FACTS	
Plant capacity:	0.2 MGD
Water produced and reused:	0.066 MGD 74 AFY 6.3% FY decrease
FY20-21 O&M:	$45,582/AF
No. of reuse sites:	1 120 acres

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



LONG BEACH WRP FACTS	
Plant capacity:	25 MGD
Water produced:	11.83 MGD 13,256 AFY 24.1% FY increase
FY20-21 O&M:	$537/AF
Water reused:	8.165 MGD 9,149 AFY 123.7% FY increase 69.0% of production
Delivery systems:	2 179,680 ft. of pipe
No. of reuse sites:	70 1,989.4 acres

2.2 LONG BEACH WRP

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 11.83 MGD (13,256 AFY) of coagulated, filtered, disinfected tertiary recycled water in FY20-21 (3.4% of the effluent produced in the JOS), which was a 24.1% increase over the preceding fiscal year, at an O&M cost of approximately $537/AF.

Recycled water quality for FY20-21 is presented in **Table B-1** of **Appendix B**. An average of 8.165 MGD (9,149 AFY), or 69.0% of the recycled water produced at this plant, was delivered for reuse during FY20-21. This represents a 123.7% increase over the preceding fiscal year, due to significantly 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) and R4-2005-0061 (for seawater intrusion barrier injection). 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 FY20-21.

No new sites were added to the LBWD distribution system in FY20-21; 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 FY20-21, LBWD served 4.836 MGD (5,419 AFY), or 40.9% of the recycled water produced at this plant, through approximately 179,680 feet of pipeline (6- to 24-inches in diameter) to 69 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 59.2% increase over the preceding fiscal year, due in large part to the increased production from this plant.

LBWD sells the recycled water at a rate of $1,026.27/AF for peak demand (nighttime) usage or $871.20/AF for off-peak demand (daytime) usage, or between 55-65% 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

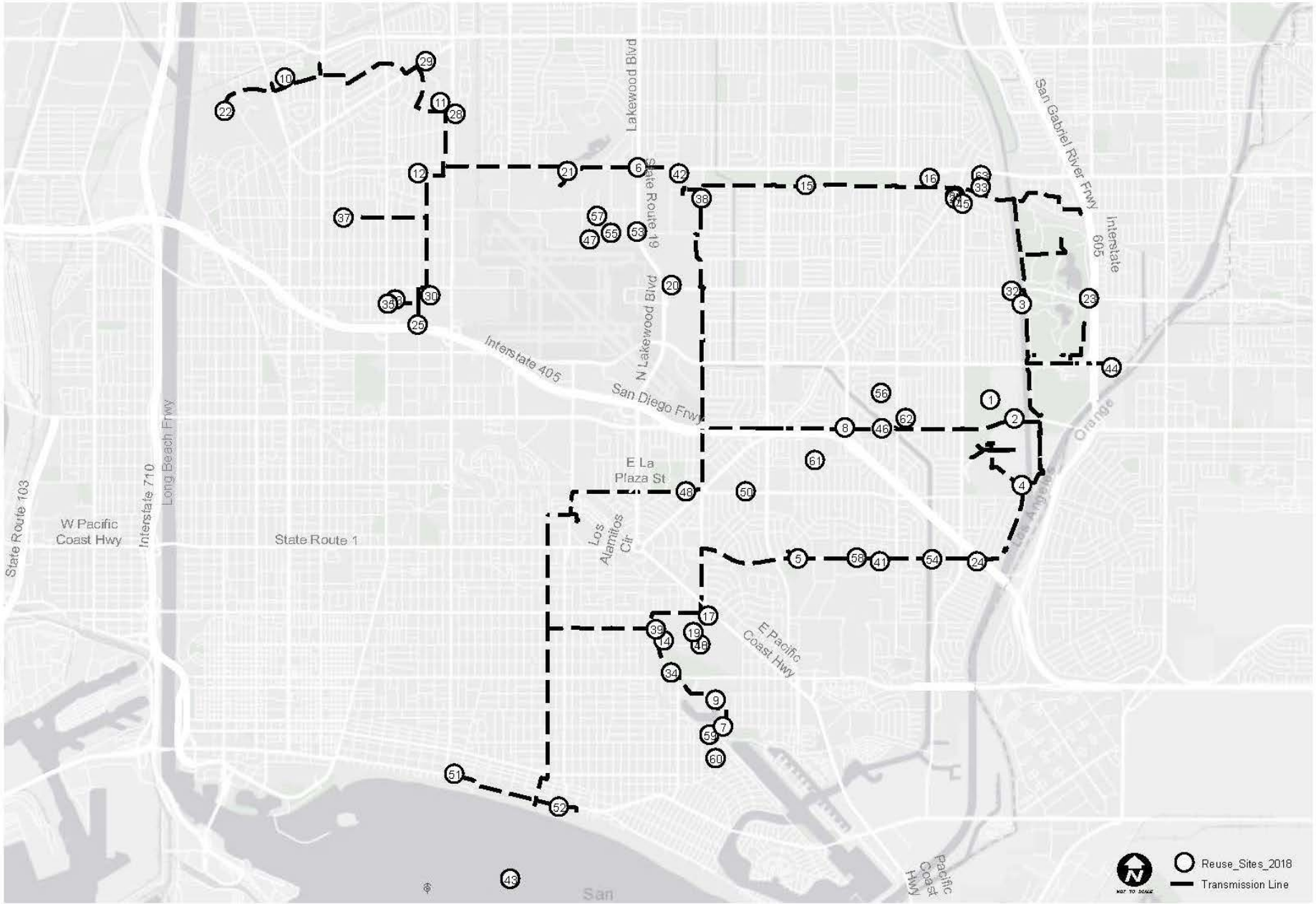


TABLE 9
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
LONG BEACH WATER DEPARTMENT
(PAGE 1 OF 2)

Reuse Site (City) (Figure 7 No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
El Dorado Park West (1)	Aug 80	135	L	0.513	171
El Dorado Golf Course (2)	Aug 80	150	L	0.250	280
Recreation Park (17)	Oct 82	26	L	0.040	45
Recreation Golf Course (18)	Oct 82	149	L	0.276	309
Whaley Park (5)	Jun 83	9	L	0.024	27
El Dorado Park East (3)	Jan 84	300	L	0.295	330
Nature Center (4)	Jan 84	60	L	0.052	59
605 Freeway at Wardlow (23)	Feb 84	50	L	0.020	23
Heartwell Park (15)	Feb 84	120	L	0.212	237
Skylinks Golf Course (20)	Apr 84	155	L,P	0.247	277
Douglas Park (6)	Apr 84	3	L	0.006	7
405 Freeway at Atherton (24)	May 84	5	L	0.001	2
DeMille Junior High School (33)	Jun 84	5	AF,L	0.026	29
Heartwell Golf Park (16)	Jun 84	30	L	0.072	81
Veterans Memorial Stadium (38)	Jan 85	6	AF	0.021	24
Recreation Park Bowling Green (39)	Aug 85	3	L	0.008	9
California State University, Long Beach (41)	Dec 85	52	AF,L	0.163	183
Long Beach City College (42)	Feb 86	15	AF,L	0.041	46
Recreation 9-Hole Golf Course (19)	Mar 86	37	L	0.088	89
Blair Field (40)	Apr 86	5	AF	0.013	15
Woodlands Park (8)	Apr 86	7	L	0.013	15
Colorado Lagoon Park (9)	Apr 86	4	L	0.004	4
Marina Vista Park (7)	Apr 86	30	L	0.035	39
Lakewood 1st Presbyterian Church (27)	Sep 88	1	L	0.002	2
Virginia Country Club (22)	Mar 89	135	L,P	0.013	14
Lakewood Golf Course (21)	Mar 89	128	L,P	0.389	436
Scherer Park (10)	Mar 89	24	L	0.032	36
Forest Lawn (Sunnyside) Memorial Park (29)	Apr 89	35	L	0.084	94
All Soul's Cemetery (28)	Apr 89	40	L	0.086	96
Cherry Avenue Park (11)	May 89	10	L	0.016	17
Los Coyotes Diagonal (26)	Mar 91	1	L	0	0
Wilson High School (34)	Jun 91	5	AF,L	0.020	23
Long Beach Water Department office (30)	Jan 92	2	L	0.0002	0.3
Reservoir Park (Signal Hill) (13)	Feb 92	2	L	0.010	11
Burroughs Elementary School (Signal Hill) (35)	Feb 92	4	AF,L	0.003	3
Hughes Middle School (36)	Apr 92	3	AF,L	0.012	13
405 Freeway at Walnut (25)	Apr 92	9	L	0.0004	0.4
Longfellow Elementary School (37)	May 92	1	AF,L	0.00003	0.04
Somerset Park (12)	May 92	3	L	0.001	1
THUMS (43)	Jun 95	8	I	1.687	1,891
Joe Rodgers Park (14)	Nov 96	3	L	0.011	12
Jauregui Nursery (32)	Jul 97	5	O	0.021	23
El Dorado Lakes Condominiums (44)	Aug 98	11	L	0.028	32
WalMart (31)	Dec 98	3	L	0.001	2
Vestar Development (45)	Feb 99	8	L	0.023	25
Willow Street medians (46)	Dec 01	2.4	L	0.004	4
Long Beach Water Department Impoundment (30)	Jul 02	--	I	0.002	2
Alamitos Seawater Intrusion Barrier (WRD)	Feb 03	--	R	3.328	3,729
Boeing (47)	Mar 03	52	L	0.043	48
Tucker Elementary School (48)	May 04	3	AF,L	0.005	6
Alamitos Hill Reservoir landscaping (49)	Jul 04	8.6	L	0	0
Bluff Park (52)	Jul 07	25.8	L	0.033	37
Stearns Park (50)	Jul 07	21	L	0.018	20

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

TABLE 9
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
LONG BEACH WATER DEPARTMENT
(PAGE 2 OF 2)

Reuse Site (City) (Figure 7 No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Bixby Park (51)	Jul 07	12.5	L	0.025	28
Douglas Park residential/commercial development (53)	Nov 07	2.1	L	0.139	156
Tincher Elementary School (54)	Feb 09	1.5	AF,L	0.006	7
Long Beach Public Works sewer flushing	Aug 10	--	I	0.002	3
Rubbercraft, 3701 Conant Street (55)	Sep 11	0.9	L	0.001	1
Millikin High School (56)	Oct 11	12	AF,L	0.025	27
LD Products, 3700 Cover St. (57)	Feb 12	0.7	L	0.002	2
LD Products, 3700 Cover St. (57)	Feb 12	--	D	0.0003	0.4
Atherton St. medians (58)	Jun 13	0.5	L	0.003	3
Will Rogers Mini-park (59)	Feb 14	1.7	L	0.006	6
Stanford Middle School (61)	Feb 14	13.3	AF,L	0.010	11
Lowell Elementary/Rogers Middle Schools (60)	Feb 14	5.3	AF,L	0.005	5
Emerson Parkside Academy (62)	Jun 15	2	AF,L	0.004	4
Camp Fire USA, Shiwaka day camp (63)	Jul 15	3.2	L	0.005	5
405 Freeway at Clark (64)	Jul 17	18.5	L	0.004	4
Prisk Elementary School (65)	Jul 17	1.5	AF,L	0.0004	0.5
TOTALS		**1,989.4**		**8.165**	**9,149**

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

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 the 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 FY20-21, the LVLAWTF produced 3.328 MGD (3,730 AFY) of advanced treated recycled water that was injected into the Alamitos Barrier, or 28.1% of the effluent produced at the Long Beach WRP. This was a 444% increase in the amount of recycled water used for this application over the preceding fiscal year, resulting from the increased operation of the expanded LVLAWTF.

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 18.69 MGD (20,942 AFY) of coagulated, filtered, disinfected tertiary recycled water during FY20-21 (5.4% of the effluent produced in the JOS), which was a decrease of 2.3% from the preceding fiscal year, at an O&M cost of approximately $429/AF. Effluent water quality for FY20-21 is presented in **Table B-2** of **Appendix B**.

Through three contracts, an average of 6.200 MGD (6,948 AFY), or 33.2% of the recycled water produced at this plant was delivered during FY20-21 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 12.4% increase in reuse flows over 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 in FY20-21, 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:	18.69 MGD 20,942 AFY 2.3% FY decrease
FY20-21 O&M:	$429/AF
Water reused:	6.200 MGD 6,948 AFY 12.4% FY increase 33.2% of production
Delivery systems:	4 290,680 ft. of pipe
No. of reuse sites:	300 2,581.1 acres

2.3.1 CITY OF BELLFLOWER

Recycled water deliveries to a single, 5-acre site (Ruth B. Caruthers Park) in this city began in November 1978. During FY20-21, an average of 0.046 MGD (51 AFY), or about 0.2% of the recycled water produced at this plant, was used at this site for landscape irrigation. This was a 70.0% increase over the preceding fiscal year. A 30 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.

2.3.2 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 8**). A narrative description of the layout of the City of Cerritos' recycled water distribution system is contained in **Appendix D**. **Table 10** lists all the users of recycled water on the City of Cerritos distribution system (including the sites in Cypress and La Palma, **Section 2.3.4**) as of the end of FY20-21.

No new users of recycled water were added to the City of Cerritos distribution system during FY20-21. During FY20-21, the City of Cerritos used 1.478 MGD (1,656 AFY), or 7.9% of the recycled water produced at the Los Coyotes WRP, for landscape irrigation and impoundments on 764.5 acres at 89 individual sites. This was an increase of 8.3% over the preceding fiscal year. No city or private water trucks hauled recycled water during this fiscal year. In FY20-21, the City of Cerritos charged its recycled water customers $326.70/AF, or 27% of the potable water rate of $1,197.90/AF.

2.3.3 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 FY20-21, are shown on **Figure 9** and listed in **Table 11**. A narrative description of the layout of the City of Lakewood's recycled water distribution system is contained in **Appendix E**.

FIGURE 8
CITY OF CERRITOS RECYCLED WATER DISTRIBUTION SYSTEM

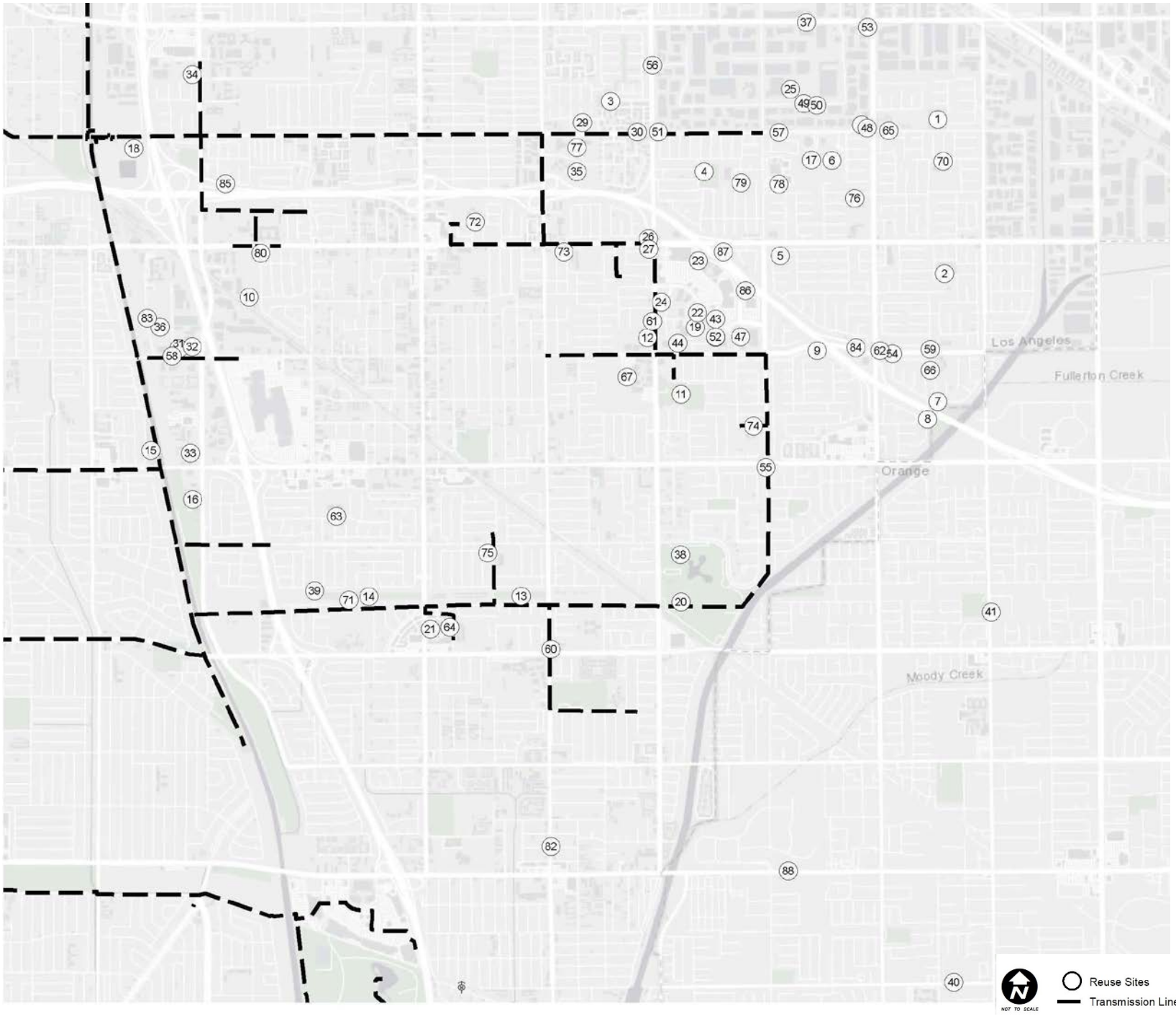


TABLE 10
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
CITY OF CERRITOS
(PAGE 1 OF 2)

Reuse Site (Figure 8 No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Ironwood 9 Golf Course (20)	Nov 78	25	L,P	0.010	12
Library/Civic Center (12)	Dec 87	4	L	0.014	15
Olympic Natatorium (19)	Dec 87	6	L	0.016	18
Whitney Learning Center (44)	Dec 87	10	AF,L	0.019	21
Gonsalves Elementary School (34)	Dec 87	5	AF,L	0.009	10
Wittman Elementary School (39)	Dec 87	5	AF,L	0.007	8
Gahr High School (49)	Dec 87	28	AF,L	0.053	60
Area Development Project No. 2 (22)	Jan 88	11.5	L,P	0.071	79
Medians/Parkways (25)	Jan 88	42.8	L	0.150	168
605 Freeway (54)	Jan 88	58.6	L	0.046	52
91 Freeway (55)	Jan 88	70	L	0.007	8
Frontier Park (4)	Jan 88	2.5	L	0.011	12
Carmenita Junior High School (40)	Jan 88	5	AF,L	0.020	23
Cerritos Elementary School (33)	Jan 88	6	AF,L	0.015	16
Stowers Elementary School (38)	Jan 88	6	AF,L	0.015	16
Kennedy Elementary School (45)	Jan 88	7	AF,L	0.012	14
City Park East (6)	Jan 88	18	L	0.036	41
Satellite Park (3)	Jan 88	2	L	0.006	7
Leal Elementary School (36)	Jan 88	6	AF,L	0.008	8
Cerritos High School (42)	Jan 88	20	AF,L	0.039	44
Elliott Elementary School (46)	Jan 88	7	AF,L	0.010	11
Carmenita Park (1)	Jan 88	4.5	L	0.016	17
Juarez Elementary School (35)	Jan 88	7	AF,L	0.016	17
ABC Adult School & Office (41)	Jan 88	3	L	0.011	12
Tracy Education Center (43)	Jan 88	6	AF,L	0.002	3
Liberty Park (18)	Jan 88	20	L	0.079	89
Gridley Park (15)	Jan 88	9	L	0.019	21
Jacob Park (14)	Jan 88	4.5	L	0.008	9
Heritage Park (11)	Feb 88	12	L	0.037	41
Bragg Elementary School (32)	Feb 88	7	AF,L	0.014	16
Haskell Junior High School (48)	Feb 88	18	AF,L	0.040	45
Pat Nixon Elementary School (37)	Feb 88	5	AF,L	0.010	11
Cabrillo Lane Elementary School (47)	Feb 88	9	AF,L	0.011	13
Sunshine Park (13)	Feb 88	3.5	L	0.012	14
Friendship Park (2)	Feb 88	4	L	0.010	11
Bettencourt Park (8)	Feb 88	2	L	0.007	8
Brookhaven Park (9)	Feb 88	2	L	0.007	8
Saddleback Park (5)	Feb 88	2	L	0.005	5
Westgate Park (17)	Feb 88	4	L	0.010	11
Rainbow Park (7)	Mar 88	2.5	L	0.005	6
Bellflower Christian School (50)	Mar 88	31.4	AF,L	0.042	47
Cerritos Community College (51)	Mar 88	55	AF,L	0.076	85
Cerritos Regional County Park (53)	Apr 88	59	L	0.103	115
Artesia Cemetery District (52)	Apr 88	10.9	L	0.037	42
Rosewood Park (10)	Apr 88	2.7	L	0.011	13
Sports Complex (21)	Mar 89	25	AF,L	0.055	62
Shoemaker on/off ramp - 91 Freeway (23)	Dec 89	4.6	L	0.011	12
Transpacific Development Co. (26)	Feb 90	6.9	L	0.014	15
Automated Data Processing (28)	Feb 90	0.7	L	0.004	4
Sheraton Hotel (27)	Mar 90	0.6	L	0.002	3
Cerritos Pontiac/GMC Truck (29)	May 90	0.5	L	0.001	1
Moothart Chrysler (30)	May 90	0.4	L	0.004	5
Windjammer off-ramp - 91 Freeway (24)	Sep 90	0.8	L	0	0
Browning Oldsmobile (31)	Sep 90	0.1	L	0.001	1

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

TABLE 10
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
CITY OF CERRITOS
(PAGE 2 OF 2)

Reuse Site (Figure 8 No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Parkside Condominiums (56)	May 91	1.8	L	0.003	4
Concordia Church (58)	Jun 91	4	L	0.002	3
Church of the Nazarene (59)	Aug 91	1	L	0.005	5
B&B Stables (60)	Aug 91	18	I	0.004	4
Shadow Park Homeowner's Association (57)	Nov 91	6	L	0.021	24
Area Development Project No. 6 (61)	Apr 92	9	L	0.053	59
Granada Park Homeowners Association (62)	May 92	3.8	L	0.009	10
Cerritos Post Office (63)	Feb 93	0.7	L	0.005	6
Center for the Performing Arts (64)	Mar 93	1	L	0.005	6
Delta Dental (65)	Nov 93	1.8	L	0.003	4
Vestar Development (68)	Jun 94	9.6	L	0.021	24
Sundance Condominiums (69)	Jan 95	9	L	0.036	40
Cerritos Nursery (70)	Dec 95	3	O	0.004	4
Encore Maintenance-Warmington Homes (71)	May 96	1.1	L	0.004	5
Artesia off-ramp - 91 Freeway (16)	Aug 96	3.3	L	0.002	2
Midway International (72)	Feb 98	0.3	L	0.001	1
Bloomfield Associates, 17871 Park Plaza Dr. (73)	Sep 98	0.5	L	0.001	1
183rd Street on-ramp - 91 Freeway (74)	Feb 99	0.6	L	0.0003	0.3
AT&T building, 12900 Park Plaza Dr. (75)	Aug 99	0.9	L	0.010	11
Laskey-Weil building, 13101 Moore St. (76)	Oct 01	0.4	L	0.002	3
Chancellor Village Senior Housing (77)	Nov 02	0.9	L	0.002	2
LandRover (78)	Dec 06	0.3	L	0.003	4
Surgical Center, Carmenita & 166th (79)	May 08	0.1	L	0.0003	0.3
UPS Parking Structure, 13150 Moore St. (80)	May 08	0.5	L	0.002	2
UPS Main Building, 13233 Moore St. (81)	Nov 08	4.4	L	0.009	10
Fountain Walk Senior Housing, 18310 Carmenita (82)	Nov 08	0.1	L	0.0002	0.2
ASCIP Building, 16550 Bloomfield Ave. (83)	Feb 09	0.1	L	0.001	1
12800 Center Court (84)	Jul 09	0.4	L	0.001	2
Chugh Firm, 15925 Carmenita Rd. (85)	Jan 11	0.2	L	0.003	4
Chevron, 17255 Bloomfield Ave. (86)	Mar 11	0.1	L	0.0002	0.3
Bloomfield Plaza, 12560 Artesia Blvd. (87)	May 13	0.1	L	0.001	1
SCE Substation, 13339 166th St. (88)	Feb 16	1.2	L	0.0003	0.4
LDS Church, 17909 Bloomfield Ave. (89)	Feb 16	3.5	L	0.003	4
LDS Church, 16115 Studebaker Rd. (90)	Jun 16	4.1	L	0.005	6
Forest Lawn Memorial Park, Cypress (91)	Aug 16	77	L	0.225	252
Ramirez nursery (67)	Oct 20	3.5	O	0.002	2
TOTALS		**841.5**		**1.703**	**1,908**

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

FIGURE 9
CITY OF LAKEWOOD REUSE SITES

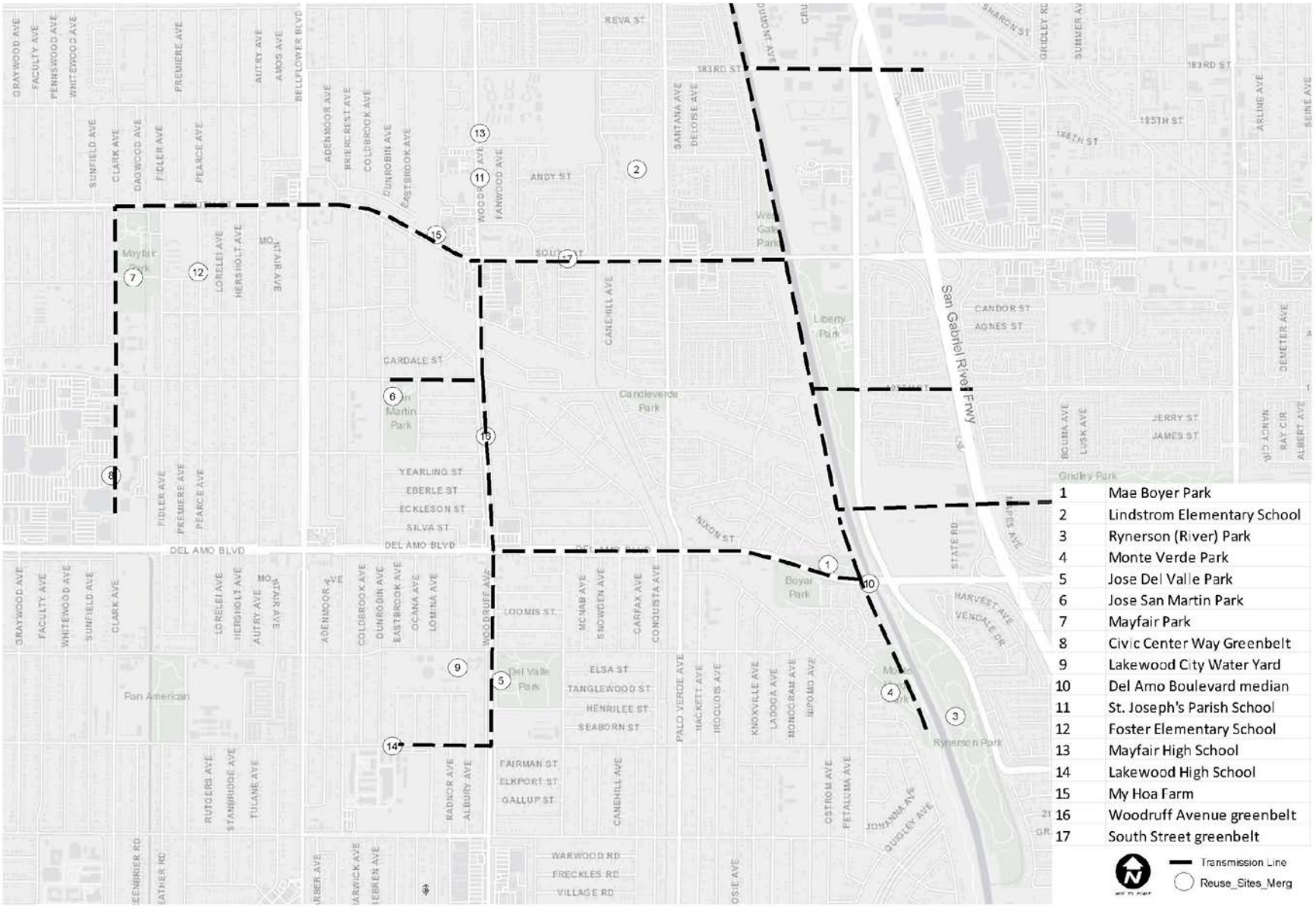


TABLE 11
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
CITY OF LAKEWOOD

Reuse Site (Figure 9 No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
River (Rynerson) Park (1)	Aug 89	40	L	0.092	103
Monte Verde Park (2)	Aug 89	4	L	0.033	37
Mae Boyer Park (3)	Aug 89	8	L	0.058	65
Jose Del Valle Park (4)	Aug 89	12	L	0.037	41
Jose San Martin Park (5)	Aug 89	9.3	L	0.026	29
City Water Yard (8)	Aug 89	1	L	0.005	6
Woodruff Avenue greenbelt (9)	Aug 89	4.1	L	0.015	17
South Street greenbelt (10)	Aug 89	3.3	L	0.007	7
Mayfair Park (6)	Dec 89	18	L	0.028	31
St. Joseph Parish School (11)	Aug 90	3.5	AF,L	0.012	13
Foster Elementary School (12)	Sep 90	6	AF,L	0.015	17
Civic Center Way and City Hall (7)	Nov 90	2.8	L	0.013	15
Mayfair High School (13)	May 91	36.5	AF,L	0.045	51
Lindstrom Elementary School (14)	Sep 91	12	AF,L	0.015	17
Lakewood High School (15)	Sep 91	25	AF,L	0.026	29
My Hoa Farm (16)	May 93	5	AG	0.015	16
Del Amo Blvd. greenbelt (17)	Jul 03	0.3	L	0.001	1
City Water Truck (18)	Sep 15		L	0.00002	0.03
TOTALS		**190.8**		**0.441**	**495**

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

During FY20-21, the City of Lakewood used 0.441 MGD (495 AFY), or 2.4% of recycled water produced at the Los Coyotes WRP, for irrigation of landscaping, athletic fields and vegetables on 190.8 acres at 17 individual sites, as well as via a city water truck. This was a 13.0% increase over the preceding fiscal year. No new reuse sites were added to City's recycled water distribution system in FY20-21.

The City of Lakewood was charged $958.32/AF by the City of Cerritos for recycled water delivered during FY20-21. The City of Lakewood, in turn, retailed the recycled water to its customers for $1,054.15/AF, or 67% of its potable rate of $1,581.23/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.

2.3.4 *Cities of Cypress and La Palma*

In June 2015, the City of Cypress began taking recycled water from a wharf head hydrant located on the eastern end of the City of Cerritos' distribution system. In April 2016, the City of La Palma began doing the same. Recycled water was hauled by water truck for irrigation around Cypress City Hall and the La Palma Civic Center, respectively. During FY20-21, no recycled water was used at either of these sites, which was less than the preceding fiscal year. The City of Cerritos has confirmed that neither of the two other cities will be taking recycled water in the future. 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 FY20-21, 0.225 MGD (252 AFY), or 1.2% of the recycled water produced at the Los Coyotes WRP, was used for landscape irrigation on 77 acres of cemetery, an increase of 0.4% over the preceding fiscal year. Forest Lawn is charged $670.82/AF for recycled water by the City of Cerritos. All three of these reuse sites are included in **Table 10** with those in the City of Cerritos.

2.3.5 *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 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 the Rio Hondo recycled water distribution system, as detailed in **Section 2.5.6** below. Both the Century and Rio Hondo distribution 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. Most of the recycled water delivered through the Century distribution system may originate at the San Jose Creek WRP. However, for the sake of consistency, recycled water usage along the Century facilities is reported in the water reuse reports as coming from the Los Coyotes WRP, and along the Rio Hondo facilities 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 Blvd. and Telegraph Road in Santa Fe Springs, were previously included with CBMWD's Rio Hondo distribution system (**Section 2.5.6**) and now have been more appropriately reassigned to the Century system.

Figure 10 shows all the pipelines for both distribution systems, as well as all the current recycled water use sites. A narrative description of the layout of the Century recycled water distribution system is contained in **Appendi**x **F**. **Table 12** lists all the recycled water use sites connected to the Century distribution system through FY20-21.

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. No new sites were added to the Century recycled water distribution system during FY20-21.

During FY20-21, CBMWD delivered 4.010 MGD (4,493 AFY), or 21.5% of recycled water produced at the Los Coyotes WRP, through 14 retail water purveyors to 191 individual sites for landscape and athletic field irrigation on approximately 1,543.8 acres, for industrial process water and for toilet flushing. This was an increase of 13.9% over the preceding fiscal year. For this report, 21 inactive sites were removed from the list in **Table 12**.

In FY20-21, 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 61% of the rate of $1,302/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.

2.4 POMONA WRP

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 most recently expanded in 1991, allowing the plant to treat up to 15 MGD. In FY20-21, the plant produced 5.05 MGD (5,656 AFY) of coagulated, filtered, disinfected tertiary recycled water (1.5% of the effluent produced in the JOS), which was a 13.0% decrease from the preceding fiscal year, at a FY20-21 O&M cost of approximately $760/AF. Recycled water quality for FY20-21 is presented in **Table B-3** of **Appendix B**.

POMONA WRP FACTS	
Plant capacity:	15 MGD
Water produced:	5.05 MGD 5,656 AFY 13.0% FY decrease
FY20-21 O&M:	$760/AF
Water reused: (including recharge)	5.073 MGD 5,685 AFY 11.5% FY decrease 100% of production
Delivery systems:	2 211,200 ft. of pipe
No. of reuse sites:	214 2,301.5 acres

Two agencies, the Pomona Water Department (PWD) and the Walnut Valley Water District (WVWD), along with the Sanitation Districts' Spadra site, together used 3.074 MGD (3,445 AFY) or 60.9% of the plant's total production. This was a 14.2% 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.

FIGURE 10
CENTRAL BASIN MUNICIPAL WATER DISTRICT
CENTURY RECYCLED WATER DISTRIBUTION SYSTEM

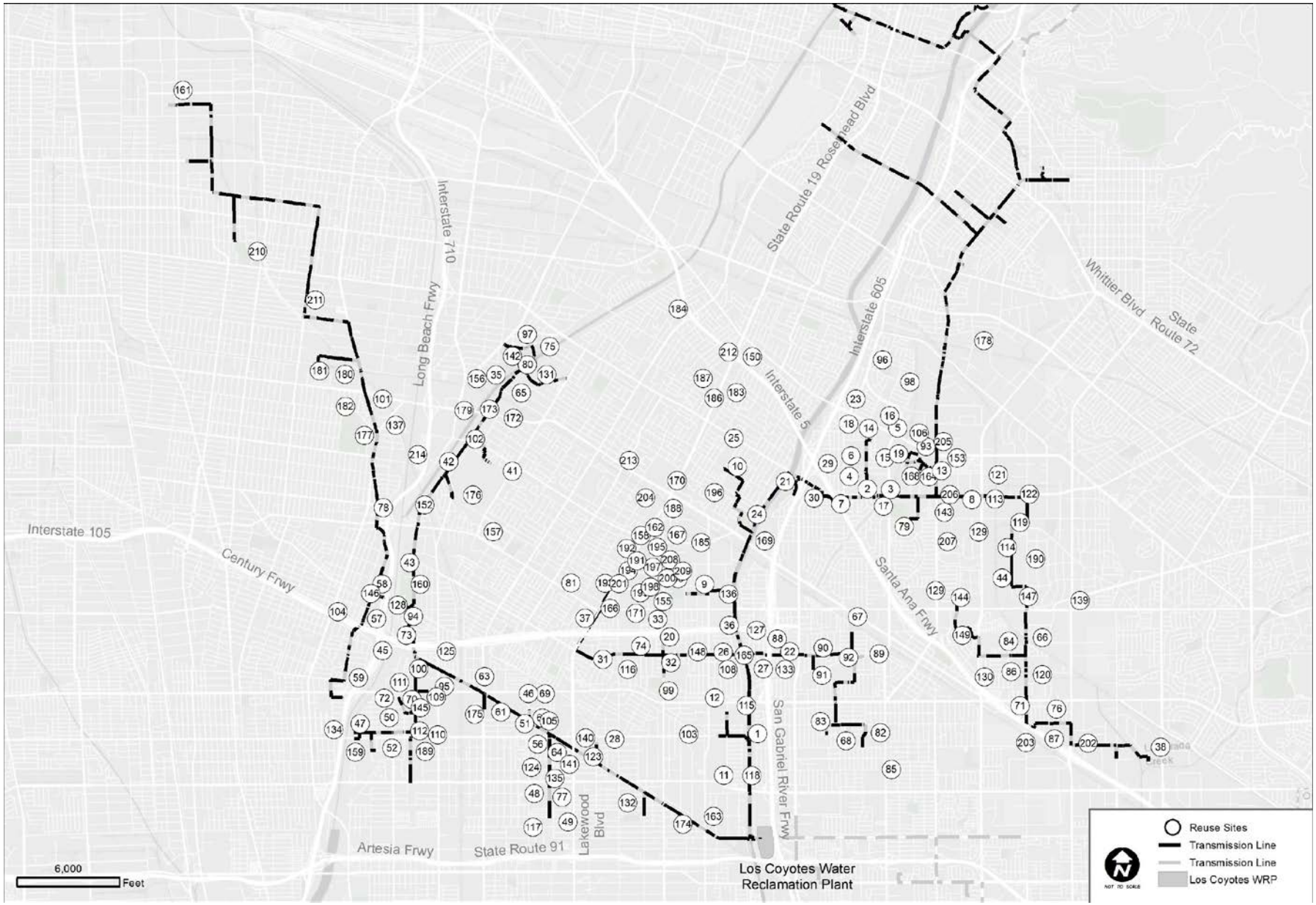


TABLE 12
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
CENTURY DISTRIBUTION SYSTEM
(PAGE 1 OF 4)

Reuse Site (City) (Figure 10 No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Andy's Nursery (Bellflower) (1)	Feb 92	9	O	0.022	24
Lake Center Park (Santa Fe Springs) (2)	Mar 92	8	L	0.029	32
Lake Center School (Santa Fe Springs) (3)	Mar 92	8	AF,L	0.024	26
Towne Center Walkway (Santa Fe Springs) (5)	Apr 92	0.1	L	0.0003	0.3
Lakeview Child Care (Santa Fe Springs) (6)	May 92	0.2	L	0.001	1
Orr & Day Road medians (Santa Fe Springs) (7)	May 92	0.1	L	0	0
Florence Avenue medians (Santa Fe Springs) (8)	Jun 92	3	L	0.004	4
Gauldin Elementary School (Downey) (9)	Jun 92	8.4	AF,L	0.009	10
Rio San Gabriel School (Downey) (10)	Jun 92	14.8	AF,L	0.020	23
Bellflower High School (Bellflower) (11)	Jul 92	28.4	AF,L	0.059	66
Ernie Pyle Elementary School (Bellflower) (12)	Aug 92	4.9	AF,L	0.011	12
Telegraph Road medians (Santa Fe Springs) (13)	Aug 92	0.5	L	0.003	4
Lakeview Park (Santa Fe Springs) (14)	Aug 92	6.7	L	0.017	19
Clark Estate (Santa Fe Springs) (15)	Aug 92	4.3	L	0.008	9
Towne Center Green (Santa Fe Springs) (16)	Aug 92	2.3	L	0.009	10
Pioneer Road medians (Santa Fe Springs) (17)	Sep 92	0.4	L	0.003	3
Police Station (Santa Fe Springs) (18)	Sep 92	0.2	L	0.001	1
Aquatic Center (Santa Fe Springs) (19)	Sep 92	0.5	L	0.004	5
Lewis School (Downey) (20)	Nov 92	4.6	AF,L	0.009	10
Wilderness Park (Downey) (21)	Nov 92	24	L	0.046	52
605 Freeway at Foster (Bellflower) (22)	Jan 93	14	L	0.0002	0.02
Promenade Walkway (Santa Fe Springs) (23)	Jan 93	0.3	L	0.002	2
Rio San Gabriel Park (Downey) (24)	Jan 93	6.4	L	0.022	24
East Middle School (Downey) (25)	Jan 93	26	AF,L	0.016	18
Zinn Park (Bellflower) (26)	Jan 93	1.7	L	0.006	6
605/105 Interchange (Bellflower) (27)	Feb 93	22	L	0.002	2
Hollywood Sports Center (Bellflower) (28)	Feb 93	22.5	L	0.001	2
Santa Fe Springs High School (Santa Fe Springs) (29)	Feb 93	14.5	AF,L	0.040	44
605/5 Freeway at Florence (Santa Fe Springs) (30)	Feb 93	17	L	0.007	8
Old Downey Cemetery (Downey) (31)	Apr 93	7.5	L	0.023	26
Thompson Park (Bellflower) (32)	Apr 93	15	L	0.022	25
105 Freeway at Bellflower (Downey) (33)	May 93	17.9	L	0	0
Palms Park (Lakewood) (34)	May 93	20	L	0.031	35
Crawford Park (Downey) (35)	Jul 93	2.1	L	0.007	7
Humedo Nursery (Downey) (36)	Aug 93	11	O	0.005	5
105 Freeway at Lakewood (Downey) (37)	Sep 93	25	L	0.001	1
Shaw Industries Carpet Mill (Santa Fe Springs) (38)	Sep 93	--	I	0.155	174
Palms Elementary School (Lakewood) (39)	Sep 93	3.5	AF,L	0.012	15
Artesia High School (Lakewood) (40)	Sep 93	20.9	AF,L	0.044	50
West Middle School (Downey) (41)	Oct 93	19.5	AF,L	0.021	24
Circle Park (South Gate) (42)	Oct 93	4	L	0.016	18
Hollydale Park (South Gate) (43)	Nov 93	46	L	0.198	222
Robertson's Ready-Mix (Santa Fe Springs) (44)	Dec 93	--	I	0.008	9
710/105 Interchange (Paramount) (45)	Dec 93	18.5	L	0	0
Downey/Contreras greenbelt (Paramount) (46)	Dec 93	0.1	L	0.001	1
Compton Golf Course (Paramount) (47)	Dec 93	13	L	0.041	46
Alondra Junior High School (Paramount) (48)	Dec 93	14	AF,L	0.026	29
Mokler Elementary School (Paramount) (49)	Dec 93	10	AF,L	0.007	8
Los Cerritos Elementary School (Paramount) (50)	Dec 93	8	AF,L	0.008	9
Wirtz Elementary School (Paramount) (51)	Dec 93	9	AF,L	0.008	9
Keppel Elementary School (Paramount) (52)	Dec 93	4	AF,L	0.005	6
Billy Lee Nursery (Paramount) (56)	Dec 93	2.5	O	0.008	9
105 Freeway at Wright (Lynwood) (57)	Jan 94	19.6	L	0	0

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

TABLE 12
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
CENTURY DISTRIBUTION SYSTEM
(PAGE 2 OF 4)

Reuse Site (City) (Figure 10 No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
710 Freeway at M.L. King (Lynwood) (58)	Jan 94	15.5	L	0.016	18
710 Freeway at Rosecrans (Compton) (59)	Jan 94	24.2	L	0	0
Independence Park (Downey) (60)	Feb 94	10.4	L	0.016	18
Paramount Park (Paramount) (61)	Feb 94	9	L	0.024	27
Paramount High School (Paramount) (62)	Feb 94	19	AF,L	0.029	32
Rosecrans/Paramount medians (Paramount) (63)	Mar 94	0.2	L	0.001	1
Somerset medians (Paramount) (64)	Apr 94	0.9	L	0.006	6
Rio Hondo Golf Course (Downey) (65)	Apr 94	92.4	L	0.284	318
Zimmerman Park (Norwalk) (66)	Apr 94	9.5	L	0.027	30
Vista Verde Park (Norwalk) (67)	Apr 94	6.5	L	0.015	17
Gerdes Park (Norwalk) (68)	Apr 94	8.6	L	0.003	4
Clearwater Junior High School (Paramount) (69)	Apr 94	4	AF,L	0.028	31
Steam Engine Park (Paramount) (70)	Jun 94	0.6	L	0.001	1
5 Freeway at Shoemaker/Firestone (Norwalk) (71)	Jul 94	0.8	L	0	0
Spane Park (Paramount) (72)	Jul 94	5	L	0.011	12
Orange/Cortland Parkway (Paramount) (73)	Jul 94	1.3	L	0.003	4
Carpenter School (Downey) (74)	Aug 94	7.4	AF,L	0.009	10
Field, S/W corner Norwalk/Telegraph (S.F. Springs) (205)	Aug 94	5.2	L	0.011	13
John Anson Ford Park (Bell Gardens) (75)	Sep 94	45	L	0.035	39
Ramona Park (Norwalk) (76)	Oct 94	4.8	L	0.008	9
Alondra median (Paramount) (77)	Oct 94	0.6	L	0.008	8
Imperial/Wright Road medians (Lynwood) (78)	Oct 94	0.2	L	0	0
Little Lake Park (Santa Fe Springs) (79)	Dec 94	18	L	0.053	60
John Anson Ford Golf Course (Bell Gardens) (80)	Feb 95	13.6	L	0	0
South Middle School (Downey) (81)	May 95	15.8	AF,L	0.011	12
Nuffer Elementary School (Norwalk) (82)	Jun 95	10.4	AF,L	0.013	14
Lampton Middle School (Norwalk) (83)	Jun 95	9.5	AF,L	0.017	19
Hargitt Middle School (Norwalk) (84)	Jul 95	9.5	AF,L	0.021	24
Norwalk Adult School (Norwalk) (85)	Jul 95	17.2	AF,L	0.022	25
John Glenn High School (Norwalk) (86)	Jul 95	38.8	AF,L	0.012	14
Ramona Elementary School (Norwalk) (87)	Jul 95	6.8	AF,L	0.010	11
New River Elementary School (Norwalk) (88)	Jul 95	10.3	AF,L	0.011	12
Morrison Elementary School (Norwalk) (89)	Sep 95	7.7	AF,L	0.010	11
D.D. Johnston Elementary School (Norwalk) (90)	Sep 95	8.9	AF,L	0.015	17
Corvallis Middle School (Norwalk) (91)	Sep 95	16.9	AF,L	0.032	36
Norwalk High School (Norwalk) (92)	Sep 95	35.1	AF,L	0.022	25
Heritage Park (Santa Fe Springs) (93)	Oct 95	9.2	L	0.011	12
Robertson's Ready-Mix (Paramount) (95)	Nov 95	--	I	0.017	19
Los Nietos Park (Santa Fe Springs) (96)	Jan 96	11.2	L	0.024	27
Bell Gardens Soccer Field (Bell Gardens) (97)	Feb 96	2.6	AF	0.008	9
Jersey Ave. School/city athl. fields (S.F. Springs) (98)	Mar 96	8	AF	0.010	11
Salt Lake Municipal Park (Huntington Park) (210)	Apr 96	20.9	L	0.041	46
Bellflower Blvd. medians (Bellflower) (99)	Jul 96	0.3	L	0.003	3
Temple Park (Downey) (102)	Oct 96	1	L	0.001	1
Woodruff Avenue medians (Bellflower) (103)	Oct 96	0.8	L	0.007	8
Ham Park (Lynwood) (104)	Dec 96	10	L	0.012	13
Jauregui Nursery (Paramount) (105)	Dec 96	2	O	0.003	3
Heritage Corporate Center (Santa Fe Springs) (106)	Jan 97	29.9	L	0.044	50
Foster Road medians (Norwalk) (108)	Jan 97	0.3	L	0.002	3
Rosecrans Avenue medians (Paramount) (109)	Mar 97	0.2	L	0.002	2
L.A. County Vector Control Bldg. (S.F. Springs) (113)	Mar 97	3.8	L	0.002	2
Greenstone Warehouse (Santa Fe Springs) (114)	Apr 97	0.4	L	0.002	2
McNab Avenue medians (Bellflower) (115)	Jul 97	0.1	L	0.0004	0.4

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TABLE 12
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
CENTURY DISTRIBUTION SYSTEM
(PAGE 3 OF 4)

Reuse Site (City) (Figure 10 No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Foster Road/Premier Ave. medians (Downey) (116)	Aug 97	0.1	L	0.001	1
Alondra Blvd medians @ SGR (Bellflower) (118)	Oct 97	0.1	L	0.0004	0.4
Lugo Park (Cudahy) (211)	Apr 98	7	L	0.001	1
Maruichi American building (Santa Fe Springs) (119)	Oct 98	0.4	L	0.002	2
Norwalk Golf Course (Norwalk) (120)	Jan 99	8	L	0.025	28
Soco-Lynch Corp. building (Santa Fe Springs) (121)	Feb 99	1	L	0.002	2
MC&C building (Santa Fe Springs) (122)	Mar 99	0.7	L	0.009	9
Lakewood Blvd. medians (Paramount) (123)	Mar 99	0.2	L	0.0004	0.4
Progress Park (Paramount) (124)	Mar 99	6.2	L	0.012	13
Garfield Avenue medians (Paramount) (125)	Apr 99	0.1	L	0.002	2
Orange Avenue medians (Paramount) (128)	Aug 99	0.1	L	0.002	2
Metropolitan State Hospital (Norwalk) (129)	Sep 99	80	L	0	0
Moffit School (Norwalk) (130)	Sep 99	1.6	AF,L	0.009	10
Rio Hondo Channel (Downey) (131)	Nov 99	0.8	L	0.00005	0.1
Simms Park (Bellflower) (132)	Dec 99	12.5	L	0.017	19
Foster Road Greenbelt (Norwalk) (133)	Mar 00	3.3	L	0.005	6
Jefferson School (Paramount) (135)	Jul 00	0.5	AF,L	0.002	2
Columbus High School (Downey) (136)	Aug 00	25	AF,L	0.032	36
Triangle Park (South Gate) (137)	Nov 00	0.4	L	0.002	2
Golden Springs Business Park (Santa Fe Springs) (139)	Apr 01	31.4	L	0.162	182
Bellflower Storage (Bellflower) (140)	Jun 01	3	L	0.001	2
Railroad Beautification (Paramount) (141)	Jul 01	0.5	L	0.001	1
Rio Hondo Channel (Bell Gardens) (142)	Jul 01	0.3	L	0	0
CDM building (Santa Fe Springs) (143)	Oct 01	0.1	L	0.002	2
L.A. County Recorder's Office (Norwalk) (144)	Jan 02	2.7	L	0.009	10
Tays Cool Fuel (Paramount) (145)	Feb 02	0.2	L	0.002	3
Lakewood-Adoree medians (Downey) (150)	Jul 02	3.9	L	0.046	52
Simon Trucking (Santa Fe Springs) (147)	Nov 02	0.9	L	0.001	2
Foster/Coldbrook medians (Bellflower) (148)	Nov 02	0.1	L	0.0002	0.3
L.A. County Library (Norwalk) (149)	Nov 02	0.9	L	0.003	4
Metro State/Wheelabrator (Norwalk) (129)	Jan 03	--	I	0.159	179
Imperial Equestrian (South Gate) (152)	Jul 03	1.5	L	0.007	8
Norwalk Walkway/Parking (Santa Fe Springs) (153)	Jul 03	1	L	0.001	2
Steve Horn Way/Bellflower medians (Downey) (155)	Nov 03	0.3	L	0.011	13
Pro Growers Nursery (Norwalk) (156)	Sep 04	11.3	O	0.044	49
Kaiser Administration building (Downey) (157)	Oct 04	2.5	L	0.005	6
Dills Park (Paramount) (159)	Jul 05	12.5	L	0.021	23
Hollydale Elementary (South Gate) (160)	Sep 05	3	AF,L	0.008	9
Malburg Generation Station (Vernon) (161)	Oct 05	--	I	0.661	741
Stuart and Gray medians (Downey) (162)	Dec 05	0.4	L	0.005	5
Woodruff and Maple medians (Bellflower) (163)	Mar 06	0.1	L	0.0001	0.1
Foster Road medians (Santa Fe Springs) (165)	Jul 06	1	L	0.013	15
Space Learning Center (Downey) (166)	Apr 08	10.5	L	0	0
Cornerstone Commerce Center (Downey) (167)	Jun 08	0.8	L	0.003	3
Mora Drive medians (Santa Fe Springs) (168)	Oct 08	0.1	L	0.008	9
Paramount Blvd. medians (Paramount) (175)	Mar 10	0.3	L	0.004	4
Los Amigos Golf Course (L.A. County) (176)	Aug 10	110	L	0.202	286
Atlantic Ave. medians (South Gate) (177)	Mar 11	16.3	L	0.005	6
Air Products & Chemicals (Santa Fe Springs) (178)	Nov 13	--	I	0.268	300
Firestone Blvd. medians (South Gate) (179)	Mar 14	0.8	L	0.008	9
Walmart, 4651 Firestone Blvd. (South Gate) (180)	Apr 14	0.7	L	0.001	1
CVS Pharmacy, 4621 Firestone (South Gate) (181)	Apr 14	0.4	L	0.003	3
Firestone Plaza 2, 4833 Firestone (South Gate) (182)	Jul 14	1.7	L	0.002	3

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

TABLE 12
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CENTURY DISTRIBUTION SYSTEM
(PAGE 4 OF 4)

Reuse Site (City) (Figure 10 No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
McDonalds, Lakewood and Gallatin (Downey) (183)	Jun 15	0.1	L	0.0003	0.3
City Ventures Condos, Gallatin/Flor. (Downey) (184)	Jun15	0.5	L	0.003	3
Downey Commons, 9516 Lakewood (Downey) (186)	Sep 15	0.5	L	0.003	3
Downey Crossroads, 9515 Lakewood (Downey) (187)	Sep 15	0.4	L	0.003	3
8740 Firestone Blvd. (Downey) (188)	Sep 15	0.2	L	0.002	2
Salud Park (Paramount) (189)	Nov 15	8.9	L	0.008	9
Fed Ex, 11720 Greenstone (Santa Fe Springs) (190)	Dec 15	0.8	L	0.003	3
Downey Promenade, S/S Apollo Way (Downey) (191)	Mar 16	2.0	L	0.008	9
Floor & Décor, N/S Apollo Way (Downey) (192)	Mar 16	--	D	0.0003	0.3
24-Hour Fitness, N/S Steve Horn Way (Downey) (193)	Mar 16	--	D	0	0
Walmart, 9001 Apollo Way (Downey) (195)	May 16	0.6	L	0.002	2
Stonewood Mall, 251 Stonewood St. (Downey) (196)	May 16	0.4	L	0.005	5
Steve Horn Parkway @ Apollo Way (Downey) (197)	May 16	0.2	L	0.0002	0.3
Downey Promenade, N/S Apollo Way (Downey) (198)	Aug 16	3.1	L	0.013	15
Ulta Cosmetics (Downey) (199)	Aug 16	--	D	0.0001	0.2
TJ Maxx/Homegoods (Downey) (200)	Aug 16	--	D	0.001	1
Carters (Downey) (201)	Aug 16	--	D	0	0
Caltrans 5 Freeway, 13402 Excelsior (S.F Springs) (202)	Mar 17	1.2	L	0.007	8
Caltrans 5 Freeway @ Painter (Norwalk) (203)	Apr 17	0.5	L	0.001	1
Aldi Grocery, 11215 Lakewood Blvd. (Downey) (204)	Jul 17	0.2	L	0.0002	0.3
Goodman Devel., 12418 Florence (Santa Fe Sprgs.) (206)	Apr 18	2.8	L	0.009	10
UTC, Norwalk Blvd. (Santa Fe Springs) (207)	May 18	--	I	0.049	55
9080 Apollo Way (Downey) (208)	Jul 18		L	0	0
Five Below Discount Store, 9090 Apollo (Downey) (209)	Jul 18		L	0.0001	0.1
Dennis the Menace Park (Downey) (212)	Mar 19	4	L	0.014	15
Legacy High School (South Gate) (213)	Apr 19	5	AF,L	0.017	19
Legacy Middle School (South Gate) (215)	Jul 19	8.4	AF,L	0.028	31
Foster/Dalwood medians (Norwalk) (216)	Aug 19	0.5	L	0.001	1
Firestone Blvd. medians (Downey) (169)	Feb 09	0.1	L	0.005	6
Citibank, 8764 Firestone Blvd. (Downey) (170)	Feb 09	0.1	L	0.001	1
Steve Horn Pkwy. medians @ Kaiser (Downey) (171)	May 09	1.4	L	0.045	40
Walgreens/Big Lots, 9018 Firestone (Downey) (172)	May 09	0.4	L	0	0
Pacific Alloy Casting (South Gate) (173)	Jul 09	--	I	0.011	12
MTA Bike Trail (Bellflower) (174)	Nov 09	0.1	L	0.008	9
TOTALS		**1,543.8**		**4.010**	**4,493**

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

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 FY20-21, 1.999 MGD (2,240 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 the LARWQCB under Order Nos. 81-34 and 97-072 for direct, non-potable applications and Order No. 91-100 and R4-2009-0048 for groundwater replenishment (see **Section 2.5.1** for a discussion on the amended 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 FY20-21, the PWD delivered 1.773 MGD (1,986 AFY), or 35.1% of the recycled water from the Pomona WRP through 37,000 feet of pipeline, to nine retail customers on 1,426.1 acres as shown on **Figure 11**. This was a 18.1% increase over the preceding fiscal year. **Table 13** lists the users of the PWD system as of the end of FY20-21, with no new users being added during this fiscal year.

During FY20-21, the PWD sold the recycled water to its customers from its pressure system at a rate of $546.92/AF, which is set at 39% of its potable water rate of $1,402.63/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 FY20-21, 0.085 MGD (95 AFY), or 1.7% 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 43.9% increase over the preceding fiscal year.

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 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 million gallon reservoir. A second, 2 million gallon reservoir on Brea Canyon Road was constructed in mid-1992 to provide more storage for the nighttime peak demands, while a third, 1 million gallon reservoir was built in

FIGURE 11
POMONA WATER DEPARTMENT AND SPADRA REUSE SITES

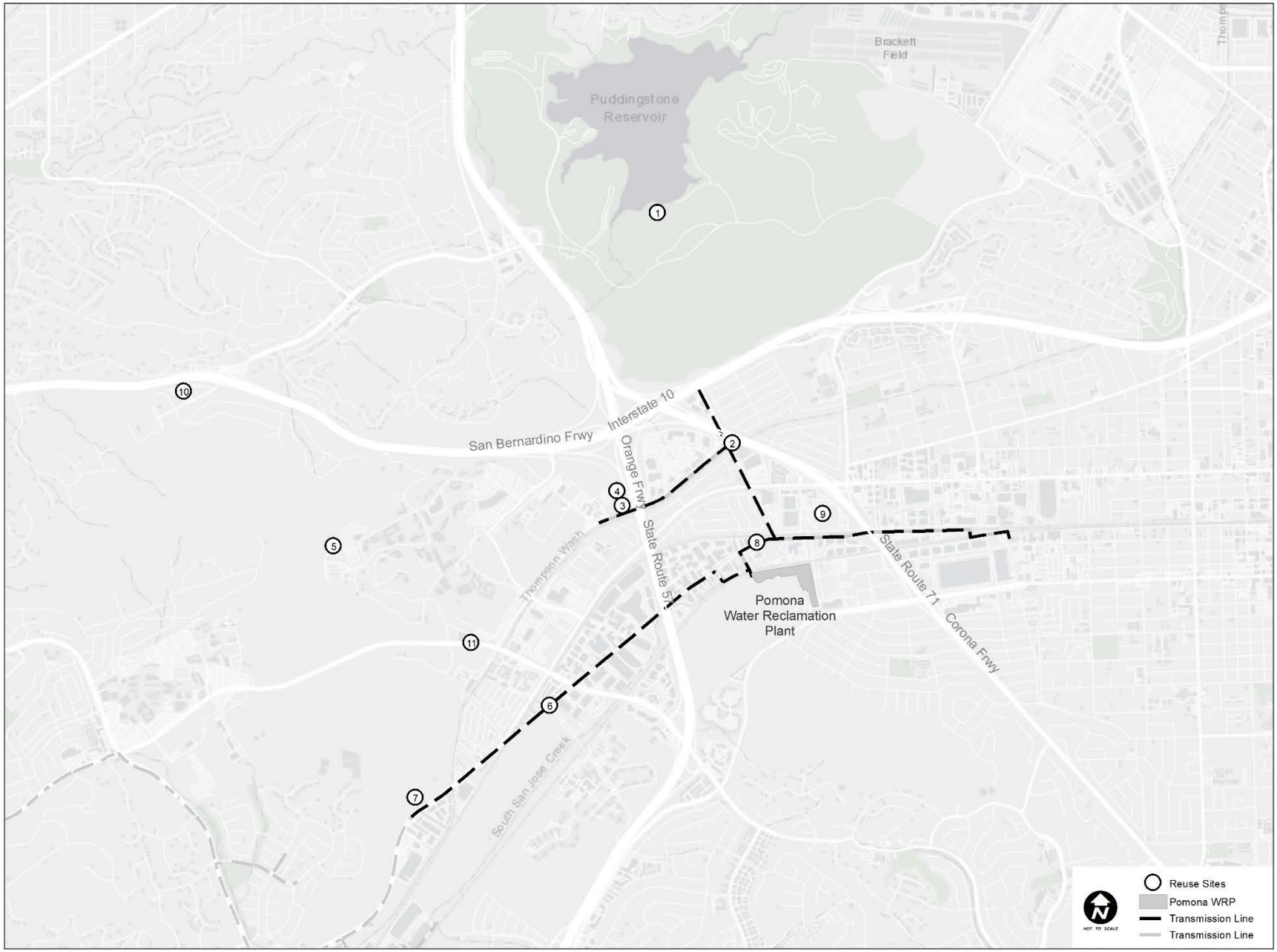


TABLE 13
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
POMONA WATER DEPARTMENT & SANITATION DISTRICTS' SPADRA SITE

Reuse Site (Figure 11 No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Cal Poly, Pomona-Kellogg (5)	Dec 73	500	AG,L,O,P,AF	0.624	700
South Campus Drive Parkway (4)	Dec 73	8	L	0.033	37
Route 57 and 10 Freeways (3)	May 75	18	L	0.026	29
Bonelli Regional County Park (1)	Apr 77	789	L	0.703	788
Route 71 and 10 Freeways (2)	Apr 81	12	L	0.00001	0.01
Spadra Landfill landscape (7)	Jul 84	53	L	0.079	89
Cal Poly LandLab/CRS (12)	Nov 93	2.5	AG,L	0.005	6
Robertson's Ready-Mix (8)	Oct 09	--	I	0.006	7
Graybar Electric Co. (9)	Jan 15	3.1	L	0.012	13
Forest Lawn Memorial Park, Covina Hills (10)	Jul 15	96	L	0.369	413
TOTALS		**1,481.6**		**1.857**	**2,081**

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

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. Initially, 26 individual sites were served following completion of the distribution system. 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 which was 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 FY20-21. A narrative description of the layout of the WVWD recycled water distribution system is contained in **Appendix H**.

Nine new sites were added to the WVWD distribution system in FY20-21. The landscaping around Majestic Management (21971 Baker Pkwy and 21860 Baker Pkwy) was connected in March 2021. AC Infinity, Inc. (21880 Baker Pkwy) was connected in April 2021. Shaolun Ku (20659 Valley Blvd.) was connected in May 2021. Chalmers Corporation (4310, 4320, 4330, 4340 and 4350 Valley Blvd.) was connected in June 2021. In addition, five former sites (Burger King, Campus Group, Inc., Yellow Box Corp., Gomez Upholstery and Cardinal Capital Partners) have been removed from the list of active sites, as they have not received recycled water for a number of years and have been disconnected from the distribution system. During FY20-21, WVWD delivered 1.214 MGD (1,364 AFY), or 24.1% of the recycled water produced at the Pomona WRP, an increase of 7.6% over the preceding fiscal year. WVWD received its recycled water directly from the Sanitation Districts and retailed it to its 203 customers (which irrigate approximately 819.9 acres) at 54% of its potable water rate of $1,598.65/AF, or $858.13/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 FY20-21, 1.999 MGD (2,240 AFY) was used to replenish the groundwater supply, a 34.3% decrease from the preceding fiscal year and 39.6% of the plant's production.

SAN JOSE CREEK WRP FACTS	
Plant capacity:	100 MGD
Water produced:	52.42 MGD 58,734 AFY 0.3% FY increase
FY20-21 O&M:	$454/AF (east) $404/AF (west)
Water reused:	44.95 MGD 50,373 AFY 1.6% FY increase 85.8% of production
Delivery systems:	7 511,480 ft. of pipe
No. of reuse sites:	188 4,552.3 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 million gallon flow equalization tanks that were completed in February 2020. During FY20-21, Stages I & II (east side) produced 32.28 MGD (36,168 AFY) and Stage III (west side) produced 20.14 MGD (22,566 AFY), at O&M costs of $454/AF and $404/AF, respectively. The entire facility produced a total of 52.42 MGD (58,734 AFY) of coagulated, filtered, disinfected tertiary recycled water (15.2% of the effluent produced in the JOS), a 0.3% increase over the preceding fiscal year.

FIGURE 12
WALNUT VALLEY WATER DISTRICT
RECYCLED WATER DISTRIBUTION SYSTEM

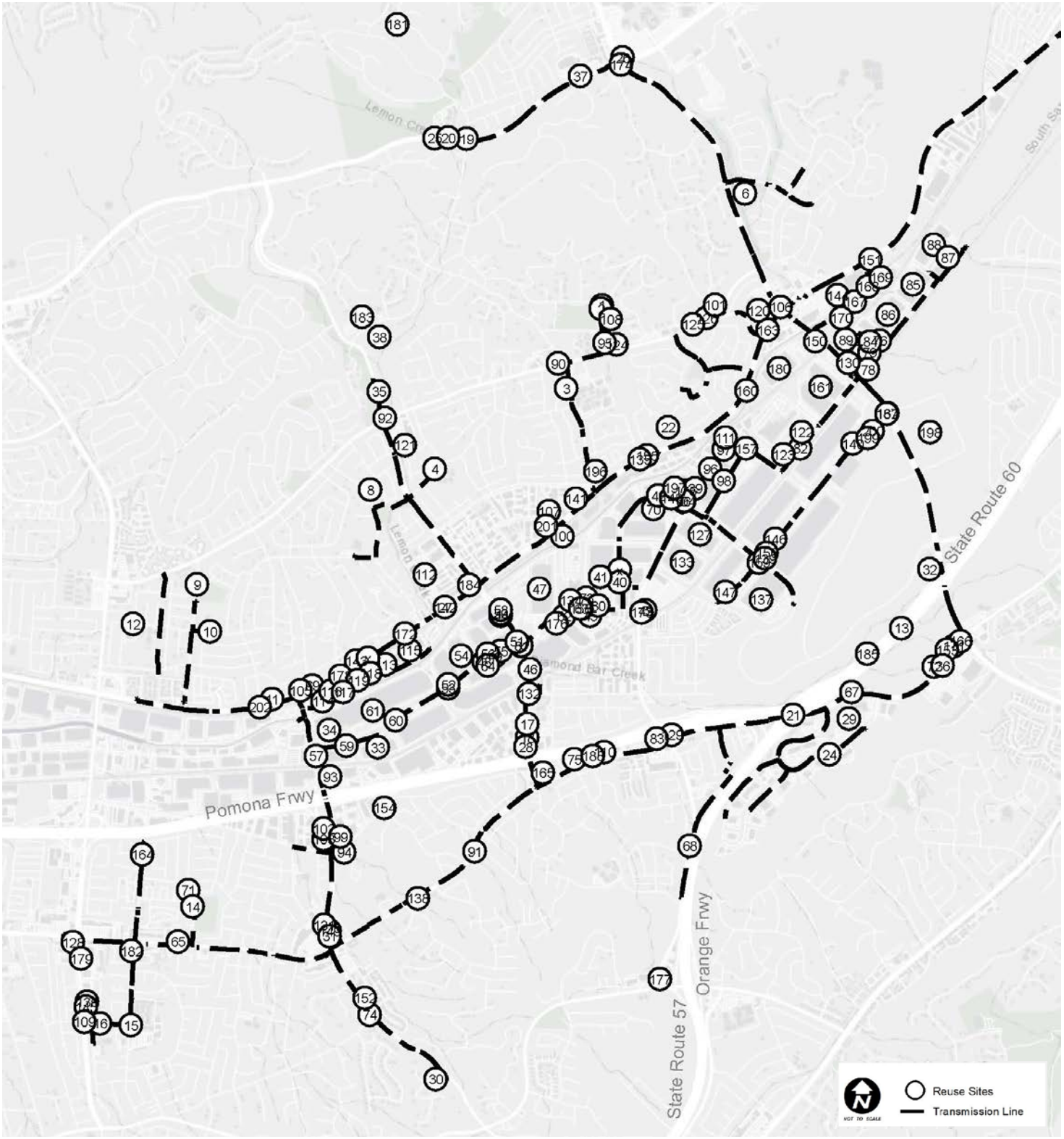


TABLE 14
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
WALNUT VALLEY WATER DISTRICT
(PAGE 1 OF 4)

Reuse Site (City) (Figure 12 No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Suzanne Park (Walnut) (1)	Oct 80	12	L	0.016	18
Suzanne Middle School (Walnut) (2)	May 86	4	AF,L	0.009	11
Walnut High School (Walnut) (3)	May 86	15	AF,L	0.018	20
Vejar School (Walnut) (4)	May 86	3	AF,L	0.008	9
Morris School (Walnut) (5)	May 86	9	AF,L	0.006	7
Snow Creek Park (Walnut) (6)	May 86	7	L	0.011	12
Snow Creek Landscape Maintenance Dist. (Walnut) (7)	May 86	13.5	L	0.031	35
Lemon Creek Park (Walnut) (8)	May 86	5	L	0.004	5
Friendship Park (West Covina) (9)	May 86	6	L	0.008	8
Hollingworth School (West Covina) (10)	May 86	3	AF,L	0.006	7
Lanesboro Park (West Covina) (11)	May 86	2	L	0.006	7
Rincon Middle School (West Covina) (12)	May 86	3	AF,L	0.009	10
Route 57 and 60 Freeways (Rowland Heights) (13)	May 86	19.7	L	0.003	3
Rowland Heights Reg. Co. Park (Rowland Heights) (14)	May 86	11	L	0.014	15
Rowland High School (Rowland Heights) (15)	May 86	9	AF,L	0.018	21
Killian Elementary School (Rowland Heights) (16)	May 86	3	AF,L	0.006	7
Walnut Elementary School (Walnut) (17)	May 86	4	AF,L	0.009	10
WUSD Administrative Service Center (Walnut) (18)	May 86	4	L	0.003	3
Walnut Ranch Park (Walnut) (19)	Jun 86	26	L	0.015	17
Amar Road greenbelt (Walnut) (20)	Jun 86	16	L	0.073	82
Diamond Bar Golf Course (Diamond Bar) (21)	Jul 86	174	L,P	0.126	141
Walnut Ridge Landscape Maintenance Dist. (Walnut) (22)	Mar 87	25.5	L	0.028	32
Morningside Park (Walnut) (23)	Mar 87	4	L	0.005	5
Gateway Corporate Center (Diamond Bar) (24)	Jun 87	45	L	0.045	51
Westhoff Elementary School (Walnut) (25)	Sep 88	8	AF,L	0.007	7
Temple Avenue greenbelt (Walnut) (26)	Jan 90	1	L	0.0003	0.3
Walnut Tech Business Center (Walnut) (27)	Apr 90	1	L	0.001	1
Lemon Avenue greenbelt (Walnut) (28)	Sep 91	4.3	L	0.005	5
South Coast AQMD Headquarters (Diamond Bar) (29)	Nov 91	2	L	0.005	6
WVWD Brea Canyon reservoir (Diamond Bar) (30)	May 92	1	L	0.001	1
First Chinese Baptist Church (Walnut) (31)	Dec 92	0.3	L	0.001	1
Majestic Mgmt., 19850 E. Business Pkwy. (Walnut) (33)	Nov 93	0.8	L	0.004	4
Haier US, 19705 E. Business Parkway (Walnut) (34)	Nov 93	1.6	L	0.003	4
Rodeo Ridge Estates (Walnut) (35)	Dec 93	6.3	L	0.005	5
Golden Springs Drive medians (Diamond Bar) (36)	Jan 94	1.3	L	0.004	5
Walnut Hills Village Shopping Center (Walnut) (37)	Mar 94	2.4	L	0.005	6
Brookside Equestrian Center (Walnut) (38)	Aug 94	13.6	L	0.002	2
WVWD Office 271 S. Brea Canyon Road (Walnut) (39)	Oct 94	0.2	L	0.001	1
Palmtree Acquisition Corp. Prologis (Walnut) (40)	Oct 94	18.9	L	0.009	10
Palmtree Acq. Corp. Prologis, 501 Cheryl (Walnut) (41)	Oct 94	1	L	0.006	7
Imperfect Foods, 351 Cheryl Ln. (Walnut) (42)	Oct 94	0.6	L	0.001	2
Metrolink Station (Industry) (43)	Nov 94	0.6	L	0.004	5
Del Paso High School (Walnut) (44)	Jan 95	3	AF,L	0.004	5
Sea Shield Marine Products, 20832 Currier (Walnut) (45)	Jan 95	0.1	L	0.00002	0.03
Unical Aviation Inc., Currier/Lemon (Walnut) (46)	Apr 95	1.1	L	0.003	3
Sysco Food Service, 20701 Currier Road (Walnut) (47)	Apr 95	2.3	L	0.006	6
Thermaltake Inc., 20420 E. Bus. Parkway (Walnut) (48)	Apr 95	0.8	L	0.003	4
Equus Computer, 20480 E. Bus. Parkway (Walnut) (49)	Apr 95	0.9	L	0.003	4
Dura Freight Lines, 515-525 S. Lemon (Walnut) (50)	Apr 95	0.5	L	0.001	1
S/W-S/E Corner Lemon/Business Parkway (Walnut) (51)	Apr 95	0.2	L	0.003	3
Majestic Mgmt., 20275 Business Parkway (Walnut) (52)	Apr 95	1.3	L	0.003	3
Coaster Co. of America, 20300 Bus. Pkwy. (Walnut) (53)	Apr 95	0.7	L	0.002	2
Dura Freight Lines, 20405 Business Pkwy. (Walnut) (54)	Apr 95	1	L	0.002	2
Dura Freight Lines, 20595 E. Bus. Pkwy. (Walnut) (55)	Apr 95	0.8	L	0.003	4

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

TABLE 14
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
WALNUT VALLEY WATER DISTRICT
(PAGE 2 OF 4)

Reuse Site (City) (Figure 12 No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Extra Express Inc., 20435-45 Bus. Pkwy. (Walnut) (56)	Apr 95	0.7	L	0.002	2
820 Fairway Drive medians (Industry) (57)	Jun 95	0.1	L	0.0001	0.1
MSI Computer Corp., 435 S. Lemon (Walnut) (58)	Jun 95	0.5	L	0.001	1
Haier US, 19805 E Business Pkwy. (Walnut) (59)	Jun 95	1.1	L	0.004	5
ACME Furniture, 20002 E. Business Pkwy. (Walnut) (60)	Jun 95	4	L	0.005	5
Haier US, 20005 E. Business Parkway (Walnut) (61)	Jun 95	6.7	L	0.008	9
Ping Ting Hsu, 20732 Currier Road (Walnut) (62)	Aug 96	0.1	L	0.0004	0.5
TRZ International, 20822 Currier (Walnut) (63)	Oct 96	0.1	L	0.001	1
Tung Hsin Trading, 19700 Business Pkwy. (Walnut) (64)	Nov 96	0.4	L	0.001	1
Rowland Heights Christian Church (Rowland Hts.) (65)	Feb 97	0.5	L	0.0002	0.2
Palmtree, 510 Cheryl/455 Brea Canyon Rd. (Walnut) (66)	Jul 97	1.8	L	0.010	11
Countryside Suites (Diamond Bar) (67)	Mar 98	1.4	L	0.003	3
Diamond Crest Homeowners Assn. (Diamond Bar) (68)	Oct 98	14	L	0.020	23
Norm Ashley Park (Walnut) (69)	Nov 98	0.2	L	0.001	1
EP Family Corp., 368 Cheryl Lane (Walnut) (70)	Nov 98	0.8	L	0.002	2
Waterfall Estates (Rowland Heights) (71)	Dec 98	1.2	L	0.004	4
Calvary Chapel (Diamond Bar) (72)	Apr 99	1	L	0.014	16
Anfield Apparel Group Inc., 20851 Currier (Walnut) (73)	Jun 99	0.2	L	0.001	1
Wind River Homeowners Assn. (Rowland Heights) (74)	Jul 99	12.6	L	0.022	24
L.A. Fitness Inter., 20801 Golden Springs (Industry) (75)	Sep 99	1.2	L	0.003	4
CSR Industries Corp., 268 Benton Court (Industry) (76)	Sep 99	0.3	L	0.002	2
Gemini Foods Corp., 251 Benton Court (Industry) (77)	Sep 99	0.6	L	0.00002	0.02
Tri-Net Technology, 21709 Ferraro Pkwy. (Industry) (78)	Sep 99	0.3	L	0.0003	0.3
Hupa International, 21717 Ferraro Pkwy. (Industry) (79)	Oct 99	0.3	L	0.001	1
Nu-Health Products, 20875-85-95 Currier (Walnut) (80)	Oct 99	0.1	L	0	0
Lemon Avenue medians (Industry) (81)	Dec 99	0.1	L	0.0004	0.4
Prudential Insurance Co., 21558 Ferraro (Walnut) (82)	Jan 00	3.5	L	0.002	2
McDonald's Restaurant (Diamond Bar) (83)	Mar 00	0.1	L	0.0005	1
J&L Footwear, 250 Benton Court (Industry) (84)	Jul 00	0.6	L	0.002	2
Markwins Inter. Corp., 22067 Ferraro (Industry) (85)	Nov 00	1.9	L	0.002	2
Lee Wang LLC, 21901 Ferraro Parkway (Industry) (86)	Nov 00	2	L	0.007	8
Sun Yin USA, 280 Maclin Court (Industry) (87)	Nov 00	0.8	L	0.001	1
Cubework.com Inc., 218 Maclin (Industry) (88)	Nov 00	1.5	L	0.001	1
Morrow Meadows, 231 Benton Court (Industry) (89)	Apr 01	0.9	L	0.001	1
The Cross Schools of Education (Walnut) (90)	May 01	0.6	AF,L	0.001	1
Bank of the West (Rowland Heights) (91)	Sep 01	0.1	L	0.0005	1
Gym/Teen Center, 20003 La Puente Rd. (Walnut) (92)	Sep 01	0.6	L	0.001	2
Harvard Estates (Rowland Heights) (94)	Dec 01	2	L	0.002	3
Walnut Nazarene Church (Walnut) (95)	Feb 02	0.8	L	0	0
Majestic Mgmt., 168-188 Brea Canyon Rd. (Walnut) (96)	Apr 02	0.6	L	0.002	2
Comphone, 108-118 Brea Canyon Road (Walnut) (97)	Apr 02	0.7	L	0.002	3
Port Logistics, 108-288 Mayo Drive (Walnut) (98)	Apr 02	0.1	L	0.010	12
Holiday Inn Express (Walnut) (99)	May 02	0.4	L	0.002	2
Lemon Avenue Investments (Walnut) (100)	Jun 02	0.6	L	0.003	3
Magnolia at Snow Creek (Walnut) (101)	Jul 02	5.4	L	0.015	17
Everbright Management, 1163 Fairway (Industry) (102)	Sep 02	0.6	L	0.001	2
Everbright Management, 1169 Fairway (Industry) (103)	Sep 02	0.2	L	0.001	1
Kelly Paper, 288 Brea Canyon Road (Walnut) (104)	Sep 02	1.2	L	0.005	5
V-Tec Automotive, 19677 Valley Blvd. (Walnut) (105)	Sep 02	0.1	L	0.0002	0.2
Grand and Valley landscaping (Walnut) (106)	Sep 02	0.1	L	0.006	7
Extra Space Storage (Walnut) (107)	Oct 02	0.8	L	0.001	1
Latter Days Saints Church (Walnut) (108)	Oct 02	0.9	L	0.002	2
Nogales and Killian landscaping (Rowland Hts.) (109)	Oct 02	0.1	L	0.001	1
Double Five Invest., 20855 Golden Sprgs (D. Bar) (110)	Nov 02	0.2	L	0.001	1

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

TABLE 14
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
WALNUT VALLEY WATER DISTRICT
(PAGE 3 OF 4)

Reuse Site (City) (Figure 12 No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Brea Canyon Rd/Old Ranch Rd medians (Industry) (111)	May 03	0.1	L	0.0002	0.2
CLT Computers, 20153 Paseo del Prado (Walnut) (112)	May 03	0.6	L	0.002	2
CU Transport, Inc., 19885 Harrison Ave. (Industry) (113)	Aug 03	0.2	L	0.001	1
Broadway.com, 19715 Harrison Ave. (Industry) (114)	Aug 03	0.5	L	0.003	3
Bayharbor-Harrison, 19901 Harrison (Industry) (115)	Aug 03	0.8	L	0.003	3
J Pack International, 19789 Harrison (Industry) (116)	Aug 03	0.5	L	0.0004	0.4
Golden Applexx Co., 19805 Harrison (Industry) (117)	Aug 03	0.2	L	0.001	1
Cianni Inc., 19865 Harrison (Industry) (118)	Aug 03	0.3	L	0.001	1
Shinetec Group, Inc., 19835 Harrison (Industry) (119)	Aug 03	0.4	L	0.001	1
Majestic Realty, Grand/Village Staples (Walnut) (120)	Aug 03	1.6	L	0.006	6
Orange Grove Services, Lemon/La Puente (Walnut) (121)	Sep 03	0.4	L	0.002	2
Max Management LLC, 21401 Ferraro (Industry) (122)	Sep 03	0.7	L	0.003	3
NP 21301 Ferraro Pkwy, 21301 Ferraro (Industry) (123)	Sep 03	0.8	L	0.002	2
568 TriNet Court (Walnut) (124)	Oct 03	0.3	L	0.001	1
Walnut City Hall, 21201 La Puente Rd. (Walnut) (125)	Dec 03	0.6	L	0.001	1
Walnut Senior Center, 21215 La Puente (Walnut) (126)	Dec 03	0.5	L	0.001	1
East Lion Corporation, 318 Brea Canyon (Walnut) (127)	Dec 03	2.6	L	0.006	6
Young Hoon Cho, 1709 Nogales (Rowland Hts.) (128)	Mar 04	0.1	L	0.0004	0.4
Shell Station, 21103 Golden Sprgs. (Diamond Bar) (129)	Mar 04	0.1	L	0.0002	0.3
Ferraro/Grand East ramp (Industry) (130)	Apr 04	3.8	L	0.007	8
Hing Wa Lee Plaza, 1569 Fairway Drive (Walnut) (131)	May 04	0.1	L	0.0005	1
Dream Wireless Inc., 20625 Lycoming St. (Walnut) (132)	Jun 04	0.3	L	0.001	2
APL Logistics, 408 Brea Canyon Rd. (Walnut) (133)	Jun 04	2.1	L	0.005	5
FTH Group Inc., 20801 Currier Rd. (Walnut) (134)	Jul 04	0.1	L	0.001	1
NICCAL, LLC, 2889 Valley Blvd. (Walnut) (135)	Aug 04	0.1	L	0	0
Community Day School (Walnut) (136)	Nov 04	0.1	AF,L	0.0004	0.5
Majestic Mgmt., 21438 Baker Parkway (Walnut) (137)	Jan 05	0.1	L	0.008	9
Sy Develop. condos, 20118-20138 Colima (Walnut) (138)	Jun 05	0.1	L	0	0
N/E corner Cheryl Lane/Baker Parkway (Industry) (139)	Aug 05	3.3	L	0.008	9
Jakk's Pacific, Inc. 21733-21749 Baker (Industry) (140)	Aug 05	1.2	L	0.004	5
20813 Valley Blvd. medians (Walnut) (141)	Sep 05	0.4	L	0.001	2
20265 Valley Blvd. medians (Walnut) (142)	Sep 05	0.4	L	0.001	1
19849 Valley Blvd. medians (Walnut) (143)	Sep 05	0.4	L	0.001	1
Kohl's Center (Walnut) (144)	Sep 05	2	L	0.008	9
Angela Preschool & Kindergarten (Rowland Hts.) (145)	Dec 05	0.1	AF,L	0.0002	0.3
The Home Depot, 21535-21651 Baker (Industry) (146)	Jan 06	2.8	L	0.010	12
Martin Brower Co., 21415-21489 Baker (Industry) (147)	Jan 06	2.3	L	0.006	7
Haitao Group LLC, 350 Cheryl Lane (Walnut) (148)	Apr 06	0.7	L	0.004	5
Fairway median @ Brea Canyon Road (Walnut) (149)	Jun 06	0.3	L	0.001	1
Grand Avenue Crossing (Industry) (150)	Jul 06	99.3	L	0.189	211
22002 Valley Blvd. (Industry) (151)	Jul 06	1.6	L	0.001	1
Buddhist Tzu Chi, 1920 Brea Canyon Rd. (Walnut) (152)	Aug 06	2.2	L	0.004	5
Target Store T-2179, 747 Grand Ave. (Walnut) (153)	Sep 06	3.9	L	0.006	7
Leg Avenue, 19601 E. Walnut Drive (Walnut) (154)	Oct 06	0.5	L	0.002	2
Poundex Assoc. Gp., 21908-21958 Baker (Industry) (155)	Jan 07	0.8	L	0.002	2
Williams-Sonoma, 21508-21662 Baker (Industry) (156)	Apr 07	4.8	L	0.011	12
FedEx Ground, 200 Old Ranch Road (Walnut) (157)	May 07	28	L	0.009	10
USA Signage, LLC., 20819 Currier Rd. (Walnut) (158)	May 07	0.3	L	0.001	1
Williams-Sonoma, 21700 Baker Pkwy. (Industry) (159)	Aug 07	2	L	0.004	4
21350 Valley Blvd. (Industry) (160)	Feb 08	0.4	L	0.001	2
Grand Avenue Venture, 21508 Ferraro (Walnut) (161)	Apr 08	3.5	L	0.001	1
Grand Avenue/Baker Parkway medians (Industry) (162)	May 08	6.7	L	0.012	13
Majestic Mgmt., 21530-21590 Baker (Industry) (163)	May 08	2	L	0.007	8
Yanlin Liu, 1335-1337 Otterbein (Rowland Hts.) (164)	Jul 08	0.1	L	0.0001	0.1

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

TABLE 14
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
WALNUT VALLEY WATER DISTRICT
(PAGE 4 OF 4)

Reuse Site (City) (Figure 12 No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Apex Capital Invest., 20657 Golden Sprgs (D. Bar) (165)	Aug 08	0.4	L	0.001	1
Chili's Restaurant, Golden Springs (Diamond Bar) (166)	Sep 08	0.2	L	0.001	1
AIC Advanced Industrial, 21808 Garcia (Industry) (167)	Sep 08	0.5	L	0.001	1
Geniqua Corp., 21858 Garcia Lane (Industry) (168)	Sep 08	0.4	L	0.002	2
JL Concepts Inc., 21912 Garcia Lane (Industry) (169)	Sep 08	0.3	L	0.001	1
Majestic Mgmt., 21760-21788 Garcia Ln. (Industry) (170)	Sep 08	0.4	L	0.001	2
CFT Development, Golden Springs (Diamond Bar) (171)	Oct 08	0.01	L	0.001	1
Jonathan Cabrera, 20125 Valley Blvd. (Walnut) (172)	Nov 08	0.03	L	0	0
Brea Canyon Road/Currier Road median (Walnut) (173)	Feb 09	2	L	0.004	4
Calif. Assn. for Bilingual Ed., 20888 Amar (Walnut) (174)	May 09	0.04	L	0.0001	0.1
Apec Water Systems, 293 Brea Canyon (Walnut) (175)	May 09	0.3	L	0.002	2
Clemson Distribution Inc., 20722 Currier (Walnut) (176)	Sep 09	0.1	L	0.0003	0.3
Ybarra Elementary School (Rowland Heights) (177)	Sep 09	5.6	AF,L	0.006	7
A Professional Law Corp, 19803 Valley (Walnut) (178)	Sep 10	0.1	L	0.0003	0.3
Bell Mem. Church, 1747 Nogales (Rowland Hts.) (179)	Dec 10	0.3	L	0.001	1
Majestic Realty, 179 S. Grand Ave. (Walnut) (180)	Dec 11	2.5	L	0.005	5
WVWD Parker Canyon Reservoir (Walnut) (181)	May 12	3.5	L	0.003	4
Rowland Korean Church, 1717 Otterbein (Walnut) (182)	Jan 13	0.3	L	0.001	2
St. Lorenzo Church, 747 Meadow Pass (Walnut) (183)	Aug 13	5.5	L	0.029	32
Lemon Valley LLC, 20373 Valley Blvd. (Walnut) (184)	Sep 13	0.1	L	0.001	1
Foothill Transit, 500 Brea Canyon Rd. (Walnut) (185)	Sep 13	0.2	L	0.001	1
DRT Grading Inc. (Walnut) (186)	Mar 14	--	I	0.003	3
Shawan Const., Grand Crossing/Baker (Walnut) (187)	Nov 14	--	I	0.006	6
South Pointe Middle School (Walnut) (188)	Jan 15	7	AF,L	0.011	13
Cornerstone HOA (Walnut) (191)	Nov 16	2.3	L	0.005	6
First General Bank, 19306 Colima Rd. (Walnut) (190)	Dec 16	0.1	L	0.0004	0.4
Larkstone Park (Diamond Bar) (192)	Feb 17	5.2	L	0.011	13
South Pointe HOA (Diamond Bar) (193)	Feb 17	10.8	L	0.013	14
FedEx Ground, 20825 Currier Rd. (Walnut) (194)	Aug 18	0.3	L	0.002	2
Rowland Hts. Med. Center, 19115 Colima (Walnut) (195)	Mar 19	0.1	L	0.0004	0.5
DM Property Group, 142 Pierre Road (Walnut) (196)	Jan 20	0.02	L	0.0001	0.1
Prophecy Technology, 339 Cheryl Ln (Walnut) (197)	Feb 20	0.3	L	0.001	1
Majestic Management, 21971 Baker Pkwy(Walnut) (198)	Mar 21	3.3	L	0.001	1
Majestic Management, 21860 Baker Pkwy(Walnut) (199)	Mar 21	0.6	L	0.0003	0.4
AC Infinity, Inc., 21880 Baker Pkwy (Walnut) (200)	Apr 21	0.6	L	0.0002	0.2
Shaolun Ku, 20659 Valley Blvd. (Walnut) (201)	May 21	0.3	L	0.0004	1
Eosen LLC, 4310 Valley Blvd. (Walnut) (202)	Jun 21	0.3	L	0.00002	0.03
Simply Stylish, 4320 Valley Blvd. (Walnut) (202)	Jun 21	0.2	L	0.00002	0.02
Thermaltake Inc, 4330 Valley Blvd. (Walnut) (202)	Jun 21	0.1	L	0.00001	0.01
Arrow Lighter Inc., 4340 Valley Blvd. (Walnut) (202)	Jun 21	0.1	L	0.00001	0.02
Stay Tuned Performance, 4350 Valley (Walnut) (202)	Jun 21	0.1	L	0.00002	0.02
TOTALS		**819.9**		**1.214**	**1,364**

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

Recycled water quality from both the east and west sides of the plant for FY20-21 is presented in **Tables B-4 and B-5**, respectively, of **Appendix B**. Of the total amount of recycled water produced, 44.954MGD (50,373 AFY), or 85.8% of the plant's combined production, was actively reused, a 1.6% increase over the preceding fiscal year.

The remaining effluent was discharged to the concrete-lined portion of the San Gabriel River below Firestone Boulevard where it flows unimpeded 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) and listed in **Table 15**. 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 and R4-2009-0048 for groundwater replenishment.

2.5.1 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 FY20-21 was 39.060 MGD (43,769 AFY), a very slight 0.1% decrease from the preceding fiscal year and 74.5% of the recycled water produced by this plant. Of this amount, 29.375 MGD (32,917 AFY) was tertiary effluent that was delivered directly for recharge. However, WRD began start-up of its ARCAWTF (formerly known as the Groundwater Reliability Improvement Program, or GRIP) in December 2018, with product water becoming available for recharge in February 2019. During FY20-21, ARCAWTF produced 9.685 MGD (10,852 AFY) of advanced treated (MF/RO/AO) recycled water that was recharged, an increase of 22.0% over the preceding fiscal year. Most of the recycled water delivered from the San Jose Creek WRP for groundwater recharge went to the San Gabriel Coastal Spreading Grounds (78%), with 22% being delivered to the Rio Hondo Spreading Grounds during this fiscal year. None of the tertiary-treated recycled water delivered to the spreading grounds had to be bypassed and be lost to the ocean during storm episodes in FY20-21. 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 Sanitation Districts' 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, WRD requested that the LARWQCB revise the 1991 recharge permit to eliminate the existing annual and three-year total quantity limits (60,000 and 150,000 AF, respectively) and rely instead on a 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) and was adopted by the LARWQCB in April 2009 using a 5-year average and then readopted in May 2013 using a more versatile 10-year running average that is more closely aligned with the region's cyclical rainfall pattern. An April 2014 permit revision allowed for an increase in recycled water contribution from 35 to 45%. Assuming sufficient dilution water is available, these changes would allow approximately 5,000-10,000 AFY more recycled water to be recharged.

2.5.2 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. 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 gallons per minute (gpm) of recycled water from the lake. During FY20-21, 0.360 MGD (404 AFY), or 0.7% of recycled water produced at this plant, was delivered to this site, a decrease of 3.1% from the preceding fiscal year.

FIGURE 13-A
SAN JOSE CREEK WRP SOUTHWESTERN REUSE SITES

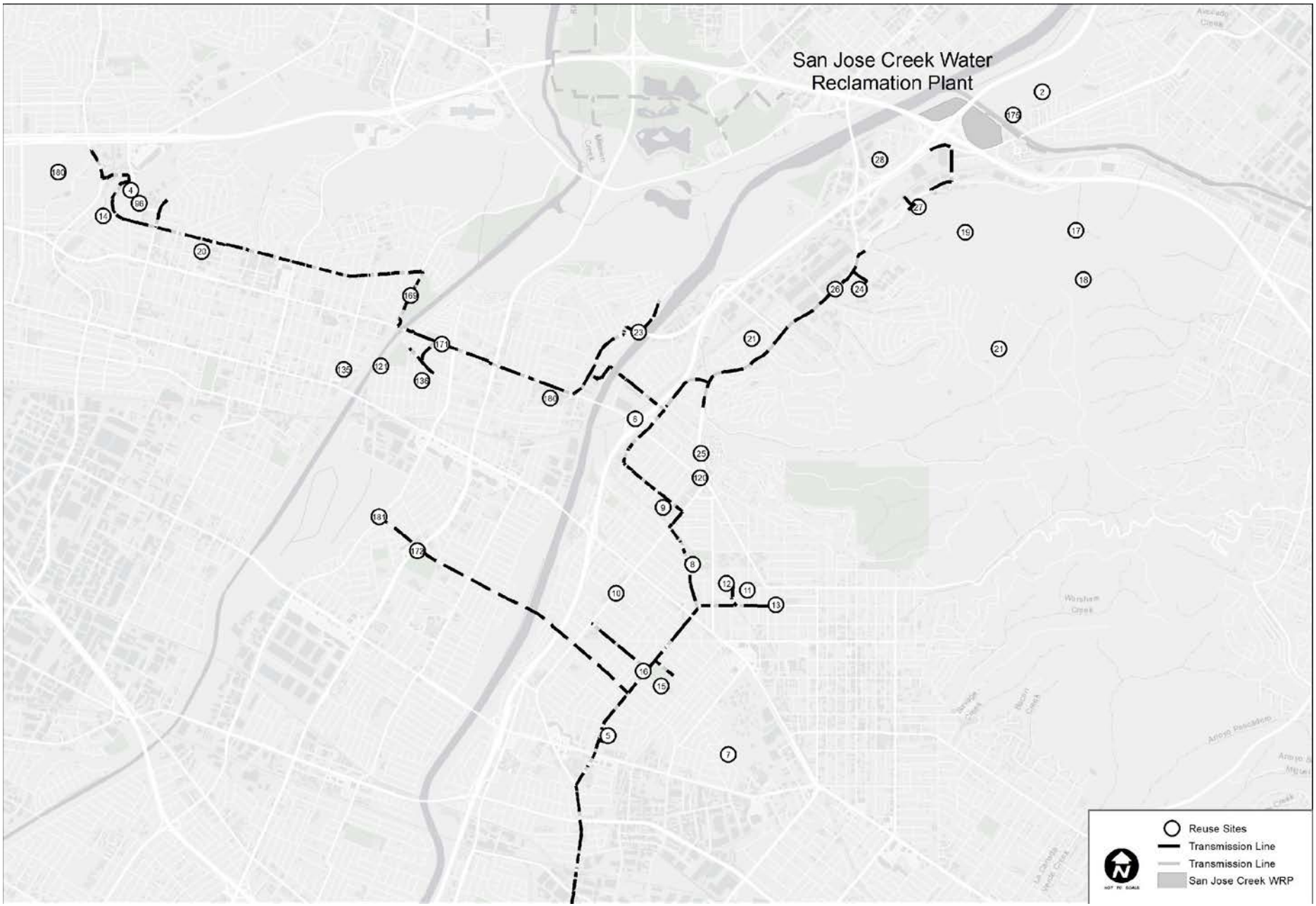


FIGURE 13-B
SAN JOSE CREEK WRP EASTERN REUSE SITES

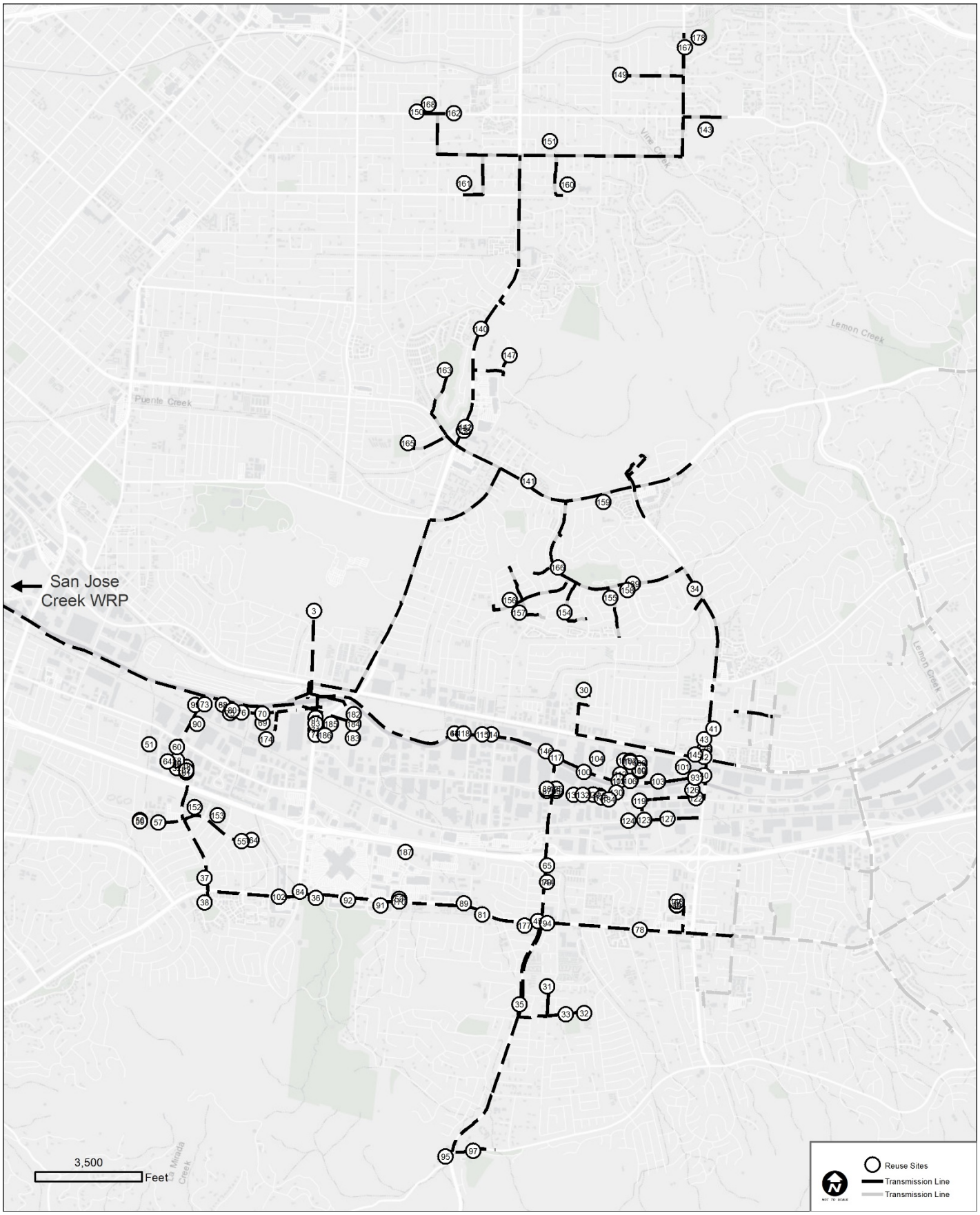


TABLE 15
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
SAN JOSE CREEK WRP
(PAGE 1 OF 4)

Reuse Site (City) (Figure 13 A/B No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Water Replenishment District (1)	Jun 71	--	R	29.375	32,917
California Country Club (Industry) (2)	Jun 78	120	L,P	0.360	404
Industry Hills Recreation Area (Industry) (3)	Aug 83	600	L,P	0.899	1,008
Washington Elementary School (Whittier) (5)	Sep 94	5	AF,L	0.007	8
605 Freeway at Beverly (Whittier) (6)	Sep 94	30	L	0.00005	0.1
Sorenson Elementary School (Whittier) (7)	Oct 94	4	AF,L	0.004	4
Palm Park West (Whittier) (8)	Nov 94	5	L	0.011	12
Orange Grove School (Whittier) (9)	Apr 95	6.6	AF,L	0.018	20
Katherine Edwards Middle School (Whittier) (10)	Sep 95	19	AF,L	0.040	45
Longfellow Elementary School (Whittier) (11)	Sep 95	4.5	AF,L	0.007	8
Walter Dexter Middle School (Whittier) (12)	Sep 95	15.5	AF,L	0.017	19
Founders Memorial Park (Whittier) (13)	Jan 96	4	L	0.022	24
Sorenson Park (Whittier) (15)	May 96	10.7	L	0.017	19
Puente Hills Landfill irrigation (Industry) (17)	Nov 97	320	L	0.394	442
Puente Hills Gas-to-Energy Facility (Industry) (19)	Nov 97	--	I	0.546	612
Rose Hills Memorial Park (Whittier) (21)	Jun 98	772.5	L	1.541	1,727
River Ridge Golf Course (Pico Rivera) (23)	Jul 02	21.3	L	0.031	35
Rio Hondo College (Whittier) (24)	Jun 03	85	AF,L	0.015	17
Mill Elementary School (Whittier) (25)	Jun 03	15	AF,L	0.011	12
Gateway Pointe (Whittier) (26)	Jan 05	8	L	0.021	23
Puente Hills Materials Recovery Facility (Industry) (27)	Feb 05	2.4	L	0.080	90
Jose Munoz Nursery (Industry) (28)	Apr 06	5	O	0.012	13
Sunshine Park (L.A. County) (30)	Jul 09 (May 86)	4	L	0.007	7
Rowland Elementary School (Rowland Hts.) (31)	Jul 09 (May 86)	3	AF,L	0.007	8
Southland Schools (Rowland Heights) (32)	Jul 09 (May 86)	4	AF,L	0.002	2
Farjardo Park (Rowland Heights) (33)	Jul 09 (May 86)	4	L	0.005	5
Nogales High School (L.A. County) (34)	Jul 09 (Jun 86)	11	AF,L	0.021	24
Queen of Heaven Cemetery (Rowland Hts.) (35)	Jul 09 (Jun 86)	35	L	0.063	71
Schabarum Regional County Park (L.A. Co.) (36)	Jul 09 (Sep 86)	233	L	0.043	48
Pepperbrook Park (Hacienda Heights) (37)	Jul 09	4.4	L	0.006	7
Countrywood Park (Hacienda Heights) (38)	Jul 09	5.4	L	0.006	7
Rowland Heights Golf Center (Rowland Heights) (39)	Jul 09	8	L	0.008	9
Medians at 755 Nogales (Industry) (40)	Jul 09	0.1	L	0.0004	0.5
Nogales Med. Plaza, 4115-½ Nogales (West Covina) (41)	Jul 09	0.1	L	0.004	4
Medians at 2654-½ Valley Blvd. (West Covina) (42)	Jul 09	0.2	L	0.00001	0.01
Tsai Lien Liao, 4111 Nogales (West Covina) (43)	Jul 09	0.5	L	0.0003	0.4
GMP Products, 788 Phillips Dr. (Industry) (44)	Jul 09	0.1	L	0.0005	1
JJ Plaza, 18253 Colima Road (Rowland Heights) (45)	Jul 09	0.1	L	0.0001	0.1
New World RTCI-LP, 18958 Daisetta (Rowland Hts.) (46)	Jul 09	0.1	L	0.00004	0.05
Battery Technology, 16651 Johnson Dr. (Industry) (47)	Jul 09	0.1	L	0.0002	0.2
Super Max Corp., 16685 Johnson Dr. (Industry) (48)	Jul 09	0.1	L	0.0004	0.4
Ancillary Provider 16664 Johnson Dr. (Industry) (49)	Jul 09	0.1	L	0.0003	0.3
Ancillary Provider 16666 Johnson Dr. (Industry) (50)	Jul 09	0.2	L	0.001	1
Vonnic Inc., 16610 Gale Ave. (Industry) (51)	Jul 09	0.2	L	0.0004	0.4
Blue Pacific, 1354 Marion Ct. (Industry) (52)	Jul 09	0.2	L	0.001	1
Romano's Macaroni Grill, 17603 Colima (Row. Hts.) (53)	Jul 09	0.1	L	0.0004	0.4
Wedgeworth Elementary School (Hacienda Heights) (55)	Aug 09	2.5	AF,L	0.003	3
Wilson High School (Hacienda Heights) (56)	Aug 09	18.3	AF,L	0.056	63
Bixby Elementary School (Hacienda Heights) (57)	Sep 09	6.1	AF,L	0.008	9
Jade Fashion, 1350 Bixby Dr. (Industry) (58)	Sep 09	0.1	L	0.001	1
Gonzalez Nursery, 16411 Wedgeworth (Industry) (59)	Sep 09	4	O	0.008	9
Seibon International, 1215 Bixby Dr. (Industry) (60)	Dec 09	0.1	L	0.001	1
Laido International, 16710-12 Johnson (Industry) (61)	Dec 09	0.1	L	0.0003	0.3

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

TABLE 15
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
SAN JOSE CREEK WRP
(PAGE 2 OF 4)

Reuse Site (City) (Figure 13 A/B No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Bolt Products, 16725 Johnson Dr. (Industry) (62)	Dec 09	0.1	L	0.0003	0.3
Ily Enterprise, 783 Phillips Dr. (Industry) (63)	Jan 10	0.1	L	0.001	1
Superior Profiles, 1325 Bixby Dr. (Industry) (64)	Jan 10	0.2	L	0.001	1
60 Freeway, Countrywood & Fullerton (Industry) (65)	Jan 10	5	L	0.004	4
Harmoni International Spice, 881 Azusa (Industry) (67)	Jan 10	0.1	L	0.001	1
East Group Prop., 855 Anaheim-Puente (Industry) (68)	Mar 10	0.6	L	0.002	3
So. Cal. Air Condition, 16950 Chestnut (Industry) (69)	Mar 10	2	L	0.001	1
USACD, 16900 Chestnut St. (Industry) (70)	Mar 10	0.3	L	0.001	1
Azusa Ave. medians (Industry) (71)	Mar 10	0.2	L	0.0005	1
L.A. Co. ISD building, 16610 Chestnut (Industry) (73)	Apr 10	0.5	L	0.001	1
Azusa Property Co., 885 Azusa Ave. (Industry) (74)	Apr 10	0.2	L	0.001	1
Golden West Footwear, 16750 Chestnut (Industry) (75)	Apr 10	0.3	L	0.00001	0.01
Teledyne Instruments, 16830 Chestnut (Industry) (76)	Apr 10	0.4	L	0.002	2
Medians, 18927 Daisetta St. (Rowland Heights) (77)	Apr 10	0.2	L	0.0002	0.2
Colima Road medians (L.A. County) (78)	Apr 10	0.1	L	0.002	2
Medians, 1442 Fullerton Rd. (Industry) (79)	Apr 10	0.3	L	0.0001	0.2
Teledyne Picco, 16800 Chestnut St. (Industry) (80)	May 10	0.4	L	0	0
East Group Prop., 16700 Chestnut St. (Industry) (82)	Jun 10	0.6	L	0.001	2
Harmoni International Spice, 883 Azusa (Industry) (83)	Jun 10	0.1	L	0.001	1
New Age Kaleidoscope, 7 Colima Rd. (Industry) (84)	Jun 10	0.6	L	0.003	3
Min Maw Intl. Inc., 18350 San Jose Ave. (Industry) (85)	Jun 10	0.7	L	0.001	1
Hot Topic, 18305 San Jose Ave. (Industry) (86)	Jul 10	0.6	L	0.002	2
FedEx, 1081 Fullerton Road (Industry) (87)	Jul 10	0.6	L	0.001	1
Port Logistics Group, 18215 Rowland (Industry) (88)	Sep 10	0.6	L	0.002	3
New Age Kaleidoscope, 5 Stoner Creek (Industry) (89)	Oct 10	1.4	L	0.004	5
GBT Inc., 1020 Bixby Dr. (Industry) (90)	Oct 10	0.1	L	0.0004	0.5
Centro Watt Operating, 17518A Colima (Industry) (91)	Oct 10	0.4	L	0.002	3
Centro Watt Operating, 17414 Colima (Industry) (92)	Oct 10	0.5	L	0.003	3
Nogales Dist. Center, 717 Nogales St. (Industry) (93)	Oct 10	0.5	L	0.002	2
Walgreens, 18308 Colima Road (Industry) (94)	Dec 10	0.1	L	0.0002	0.2
RWD Office, 3021 S. Fullerton Road (Industry) (95)	Dec 10	0.3	L	0.0004	0.4
Pathfinder Park (Rowland Heights) (97)	May 11	29	L	0.011	13
Quest Nutrition, 18551 Arenth Ave. (Industry) (100)	May 11	0.7	L	0.002	2
Nogales Dist. Center, 18961 Arenth Ave. (Industry) (101)	May 11	0.5	L	0.002	2
Kimco Realty, 17100 Colima Road (Industry) (102)	May 11	3	L	0.004	5
Acme Trading Group, 18895 Arenth, (Industry) (103)	May 11	0.9	L	0.004	4
Winit America, 18501 Arenth Ave. (Industry) (104)	May 11	0.6	L	0.002	3
BMS Motorsports, Inc., 18701 Arenth (Industry) (105)	May 11	0.4	L	0.001	1
Design International, 755 Epperson Dr. (Industry) (106)	Jul 11	0.1	L	0.001	1
Design International, 745 Epperson Dr. (Industry) (107)	Jul 11	0.1	L	0.001	1
Siegfried & Parsifal Inc., 18689 Arenth (Industry) (108)	Aug 11	0.4	L	0.002	2
HT Window Fashions, 770 Epperson (Industry) (109)	Aug 11	0.1	L	0.001	1
HT Development, 780 Epperson Dr. (Industry) (110)	Aug 11	0.1	L	0.002	2
HD Technology, 738 Epperson Dr. (Industry) (111)	Aug 11	0.2	L	0.001	1
Walnut Creek Energy Park, 911 Bixby (Industry) (99)	Aug 11	--	I	0.116	130
Guardian Life Insurance, 710 Epperson (Industry) (112)	Sep 11	0.2	L	0.002	2
Blue Giant Investments, 18701 Arenth (Industry) (113)	Sep 11	0.1	L	0.001	2
K-1 Printing, 17989 Arenth Ave. (Industry) (114)	Oct 11	0.2	L	0.001	1
K-1 Printing, 17979 Arenth Ave. (Industry) (115)	Oct 11	0.2	L	0.001	1
Private Label PC Inc., 748 Epperson (Industry) (116)	Nov 11	0.2	L	0.0004	0.4
Penske Truck Leasing, 18305 Arenth (Industry) (117)	Nov 11	0.6	L	0.001	2
Schurr High School (Montebello) (96)	Nov 11	11	AF,L	0.020	22
Commercial Cooling, 17855 Arenth (Industry) (118)	Dec 11	0.4	L	0.0003	0.3

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

TABLE 15
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
SAN JOSE CREEK WRP
(PAGE 3 OF 4)

Reuse Site (City) (Figure 13 A/B No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Forever Link, 18738 San Jose Ave. (Industry) (119)	Dec 11	0.4	L	0.001	1
Beverly Blvd. medians (Pico Rivera) (120)	Jan 12	1.5	L	0.001	1
Rio Hondo Park (Pico Rivera) (121)	Jan 12	8	L	0.038	43
Brook Furniture, 18960 San Jose Ave. (Industry) (122)	Jan 12	0.4	L	0.0002	0.2
Real Good Food, 18901 Railroad (Industry) (123)	Feb 12	0.4	L	0.0003	0.3
CWCI Insulation, 18825 Railroad St. (Industry) (124)	Feb 12	0.2	L	0.001	1
Hot Topic, 18385 San Jose Ave. (Industry) (125)	Feb 12	0.8	L	0.002	3
Ko Amex, 18965 San Jose Ave. (Industry) (126)	Feb 12	0.5	L	0.002	2
Lincoln Products, 18825 San Jose Ave. (Industry) (127)	Feb 12	0.3	L	0.002	2
MA Labs Inc., 18755 San Jose Ave. (Industry) (128)	Feb 12	0.4	L	0.001	2
8 Net Inc., 18691 San Jose (Industry) (129)	Mar 12	0.3	L	0.002	2
8 Net Inc., 18601 San Jose (Industry) (130)	Mar 12	0.6	L	0.002	2
Torrid LLC, 18501 San Jose Ave. (Industry) (131)	Mar 12	0.6	L	0.002	3
Mailroom Global Inventory, 18591 San Jose (Ind.) (132)	Mar 12	0.6	L	0.002	2
Shoe Magnate Inc., 18560 San Jose (Industry) (133)	Mar 12	0.4	L	0.001	1
Pinky Footware Shoes, 18600 San Jose (Industry) (134)	Mar 12	0.8	L	0.001	2
La Merced Elementary School (Montebello) (135)	Jun 12	10	AF,L	0.018	20
Montebello Gardens Elementary (Pico Rivera) (136)	Jun 12	1	AF,L	0.003	3
Home Depot, 2320 Azusa Ave. (West Covina) (137)	Jul 12	0.2	L	0.0002	0.2
The Heights Shopping Center (West Covina) (138)	Jul 12	12.5	L	0.009	10
Nogales Ave. medians (West Covina) (139)	Jul 12	0.6	L	0.00003	0.03
Azusa Ave. medians (West Covina) (140)	Jul 12	3.1	L	0.003	3
Amar Road medians (West Covina) (141)	Jul 12	2.1	L	0.007	8
BKK Landfill (West Covina) (142)	Jul 12	220	L	0	0
South Hills Country Club (West Covina) (143)	Aug 12	100	L	0.275	308
Medians, 2357 Fullerton Road (L.A. County) (144)	Aug 12	0.4	L	0.002	2
McDonalds, 2623 Valley Blvd. (Industry) (145)	Sep 12	0.2	L	0.0004	0.5
Whitewave Foods, 18275 Arenth Ave. (Industry) (146)	Oct 12	2.6	L	0.003	4
Big League Dreams (West Covina) (147)	Oct 12	21	AF,L	0.067	75
Pearl of the East, 18888 Labin Ct. (Industry) (148)	Feb 13	0.5	L	0.001	1
Beverly Blvd. medians (Pico Rivera) (171)	Feb 13	1.5	L	0.004	4
Walnut Creek Energy Park, 911 Bixby (Industry) (99)	Apr 13	0.3	L	0.0004	0.5
Cortez Elementary School (West Covina) (149)	Aug 13	6.2	AF,L	0.023	26
Cameron Elementary School (West Covina) (150)	Aug 13	3.9	AF,L	0.016	18
Vine Elementary School (West Covina) (151)	Aug 13	3.8	AF,L	0.016	18
Countrywood Park I, (Rowland Heights) (152)	Nov 13	17	L	0.008	9
Countrywood Park II, (Rowland Heights) (153)	Nov 13	15	L	0.010	11
Shadow Oak Paseo A (West Covina) (154)	Jan 14	8.1	L	0.024	27
Shadow Oak Paseo B (West Covina) (155)	Jan 14	6.9	L	0.020	23
Shadow Oak Paseo C (West Covina) (156)	Jan 14	1.6	L	0.005	6
Shadow Oak Paseo D (West Covina) (157)	Jan 14	1.8	L	0.006	7
Shadow Oak Paseo F (West Covina) (158)	Jan 14	1.5	L	0.001	1
Shadow Oak Paseo G (West Covina) (159)	Jan 14	8.1	L	0.005	6
Hollencrest Middle School (West Covina) (160)	Jan 14	10.8	AF,L	0.036	40
Merced Elementary School (West Covina) (161)	Jan 14	7.6	AF,L	0.027	30
West Covina High School (West Covina) (162)	Jan 14	9.7	AF,L	0.031	35
Woodgrove Park (West Covina) (163)	Feb 14	10	L	0.017	19
Smith Park (Pico Rivera) (172)	Apr 14	16	L	0.034	38
Pico Rivera Public Library (Pico Rivera) (173)	Apr 14	0.6	L	0.004	5
Rimgrove Park (West Covina) (165)	Jun 14	7.1	L	0.019	21
Shadow Park Center (West Covina) (166)	Jun 14	9.6	L	0.019	21
Cortez Park (West Covina) (167)	Jul 14	14	L	0.045	50
Cameron Park (West Covina) (168)	Jul 14	4.2	L	0.014	16

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

TABLE 15
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
SAN JOSE CREEK WRP
(PAGE 4 OF 4)

Reuse Site (City) (Figure 13 A/B No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Pheasant Ridge Apartments (Rowland Heights) (170)	Sep 14	25	L	0.015	16
Maverick Field (West Covina) (178)	Jan 15	2.5	AF	0.009	10
South Hills High School (West Covina) (179)	Jul 15	5.9	AF,L	0.015	17
Bruce Kolstad, 1601 Rolling Greens (Whittier) (175)	Sep 15	1	L	0.002	2
Universal Warehouse, 888 Kearn Creek (Industry) (174)	Dec 15	0.7	L	0.001	1
Valley Nogales LLC, 4141 Nogales (W. Covina) (176)	Mar 16	0.2	L	0.001	1
Prince RH Property, 18156 Colima (Rowland Hts.) (177)	Oct 16	0.5	L	0.0004	0.4
Pico Park (Pico Rivera) (180)	Feb 18	17	L	0.015	17
Henry Acuna Park (Montebello) (20)	Apr 18	7.1	L	0.021	23
Grand JK&C, Ltd., 17333 Freedom Way (Industry) (182)	Apr 18	0.7	L	0.002	2
Rio Hondo Spreading Grounds (Montebello) (181)	May 18	0.02	L	0.001	2
Sun Hing Foods Inc., 908 Curl Court (Industry) (183)	Jun 18	0.6	L	0.0005	1
Johnson Wilshire, 17343 Freedom Way (Industry) (184)	Jun 18	0.3	L	0.001	1
Forever Chestnut LLC, 888 Azusa Ave. (Industry) (186)	Jul 18	1.1	L	0.003	4
Cali Cabinets, 880 Azusa Ave. (Industry) (187)	Jul 18	0.8	L	0.004	5
Moon Valley Nursery (Montebello) (4)	Oct 18	20	O	0.017	19
Palm Growers Nursery (Montebello) (14)	Oct 18	20	O	0.014	15
JCC Calif. Prop. LLC, 17640 Castleton (Industry) (187)	Dec 18	0.6	L	0.007	7
WRD's ARCAWTF (Pico Rivera)	Feb 19	--	R	9.685	10,852
Montebello Golf Course (Montebello) (188)	May 19	120	L	0.249	279
San Gabriel River Parkway (Pico Rivera) (189)	Oct 19	0.6	L	0	0
WRD's ARCAWTF, 4330 SGR Parkway (P. Rivera) (190)	Oct 19	1.1	L	0.004	5
JP Morgan Bank, 17427 Colima Road (Industry) (191)	Jan 20	0.2	L	0.0004	0.5
Taylor Ranch Park (Montebello) (192)	Aug 20	1.2	L	0.006	6
Montebello Blvd. medians (Montebello) (193)	Aug 20	0.5	L	0.001	1
Toll Brothers Montebello Hills (Montebello) (194)	Jan 21	--	I	0.109	122
Superior Equipment, 1085 Bixby Dr. (Industry) (195)	Feb 21	0.2	L	0.0001	0.1
TOTALS		**3,733.6**		**44.933**	**50,349**

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

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 system includes a 13,500-gpm pump station at the San Jose Creek WRP, 36,960 feet of 36-inch pipe following the San Jose Creek Channel and a 2 million gallon reservoir with a 3,400 gpm booster pump station at Anaheim-Puente Road. From this point, a 16-inch pipe with a second, 3,300 gpm booster pump station brings recycled water into the 600-acre reuse site for landscape irrigation of two 18-hole golf courses and an equestrian center and as a source of supply for eight ornamental lakes and storage impoundments. In addition, construction was completed in 2012 on an expansion of the City's pump station at San Jose Creek WRP East 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 FY20-21, 0.899 MGD (1,008 AFY), or 1.7% of recycled water produced at this plant, was delivered through a total of 44,350 feet of pipeline and used at this site, a 12.0% increase over 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. These systems are discussed in the **Sections 2.5.4** and **2.5.9**, respectively.

2.5.4 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 FY20-21, RWD connected one new reuse site to its distribution system. The landscaping around the Superior Equipment (1085 Bixby Dr.) in the City of Industry was connected in February 2021.

During FY20-21, RWD delivered 0.527 MGD (591 AFY), or 1.0% of the recycled water produced at the San Jose Creek WRP to 118 sites serving 931.2 acres listed in **Table 15** and shown on **Figure 13-B**. This was a 30.7% decrease from the preceding fiscal year. RWD purchased the recycled water from the City of Industry, retailing it at 67% of its "Zone I" elevation potable rate of $1,511.53/AF, or $1,014.95/AF.

2.5.5 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. 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 FY20-21, 0.012 MGD (13 AFY) was delivered to this site for the irrigation of ornamental plants for commercial resale. In September 2015, recycled water service was extended to the Kolstad property (1601 Rolling Greens Way) using the transmission line serving the California Country Club, with 0.002 MGD (2 AFY) being used during FY20-21 for residential landscape irrigation. (Note: this site ceased receiving recycled water in March 2021 as the owner sold the property and the recycled water meter was pulled by SGVWC.) Together, this was 0.02% of recycled water produced at this plant and a 14.2% increase over the preceding fiscal year. SGVWC resold the recycled water to these two sites for $1,292.75/AF, a 15% discount from its potable water rate of $1,521.11/AF.

2.5.6 CENTRAL BASIN MUNICIPAL WATER DISTRICT (RIO HONDO SYSTEM)

CBMWD continues to develop its second regional distribution 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 distribution system originating from the Los Coyotes WRP would allow for a looped system (if and when the western connection from Vernon is ever completed) served by both treatment plants for additional reliability and system pressures. Both the Century and Rio Hondo distribution systems can be partially supplied with recycled water from either the Los Coyotes WRP or either side of the San Jose Creek WRP individually or in combination 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 facilities is reported in water reuse reports as coming from the San Jose Creek WRP and from the Century facilities 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 Blvd. 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 distribution system (**Section 2.3.5**). Recycled water is used at 27 sites shown on **Figure 13-A**, along with the distribution system and listed in **Table 15**. A narrative description of the layout of the Rio Hondo recycled water distribution system is contained in **Appendix I**.

During FY20-21, CBMWD delivered 0.776 MGD (869 AFY), or 1.5% 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 landscape and athletic field irrigation on approximately 385.4 acres at the 31 sites. This represents a 50.1% increase over 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. Three new sites were connected to the Rio Hondo recycled water distribution system during FY20-21. In August 2020, Taylor Park and the medians along Montebello Blvd. in the City of Montebello were connected. 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 completed, recycled water use at this site will be for landscape irrigation.

In FY20-21, CBMWD wholesaled the recycled water to its customers, the retail water purveyors, on a fixed rate schedule of $790/AF. This is 61% of the rate of $1,302/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.

2.5.7 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 and to Rose Hills Memorial Park. 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 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 FY20-21, the Puente Hills/Rose Hills distribution system delivered 2.562 MGD (2,871 AFY), or 4.9% of the recycled water produced at this plant, through 8,900 feet of pipeline to six users (two inactive) on approximately 1,094.9 acres, an increase of 24.2% over the preceding fiscal year. Recycled water is used for landscape irrigation of slopes and for minimal dust control at the MRF, for 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.

2.5.8 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 distribution 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 Memorial Park; 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 15**.

During FY20-21, the USGVMWD distribution system delivered 0.047 MGD (52 AFY), or 0.1% of the recycled water produced at this plant, through 11,020 feet of pipeline to three users on 108 acres, an increase of 23.2% over 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.

2.5.9 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 Sanitation Districts' 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 packages, consisting of a pump station, storage reservoir and approximately 15.1 miles of 6- to 24-inch pipeline. The first package pipeline was completed in December 2010 and connects to the 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 package, a new reservoir was completed in December 2011. The second package pipeline was completed in August 2011 and continues north along Azusa Avenue to the South Hills Country Club.

The third package consists 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 Package 2 recycled water main installed in Azusa Avenue and Vine Avenue. The fourth package 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 packages 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 15**.

During FY20-21, the USGVMWD distribution system delivered 0.709 MGD (795 AFY), or 1.4% of the recycled water produced at this plant, through 71,360 feet of pipeline to 27 users on 485.9 acres. This was a 22.9% increase over 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 $1,244.47 to $1,313.33/AF (depending on pressure zone), or 85% of its corresponding potable water rates of $1,440.96 to $1,545.07/AF. The second retail purveyor for this system, VHWC, resold the recycled water to its customers at its tariff rate of $1,019.30/AF, or 60-80% of its corresponding potable water rates of $1,287.20 to $1,716.26/AF.

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 8.34 MGD (9,343 AFY) of coagulated, filtered, disinfected tertiary recycled water produced during FY20-21 (2.4% of the effluent produced in the JOS) at an O&M cost of $581/AF, 8.251 MGD (9,246 AFY) was actively reused. Recycled water production decreased 4.6% from the preceding fiscal year, while the amount reused decreased 3.9% and was essentially all the plant's production.

Recycled water quality for FY20-21 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** and listed in **Table 16**. Use of recycled water from this facility is permitted under SWRCB General Order No. WQ-2016-0068-RB4 for direct, non-potable applications and Order

WHITTIER NARROWS WRP FACTS	
Plant capacity:	15 MGD
Water produced:	8.34 MGD 9,343 AFY 4.6% FY decrease
FY20-21 O&M:	$581/AF
Water reused (including recharge):	8.251 MGD 9,246 AFY 3.9% FY decrease 99.0% of production
Delivery systems:	1 49,770 ft. of pipe
No. of reuse sites:	33 995.0 acres

FIGURE 14
WHITTIER NARROWS WRP REUSE SITES

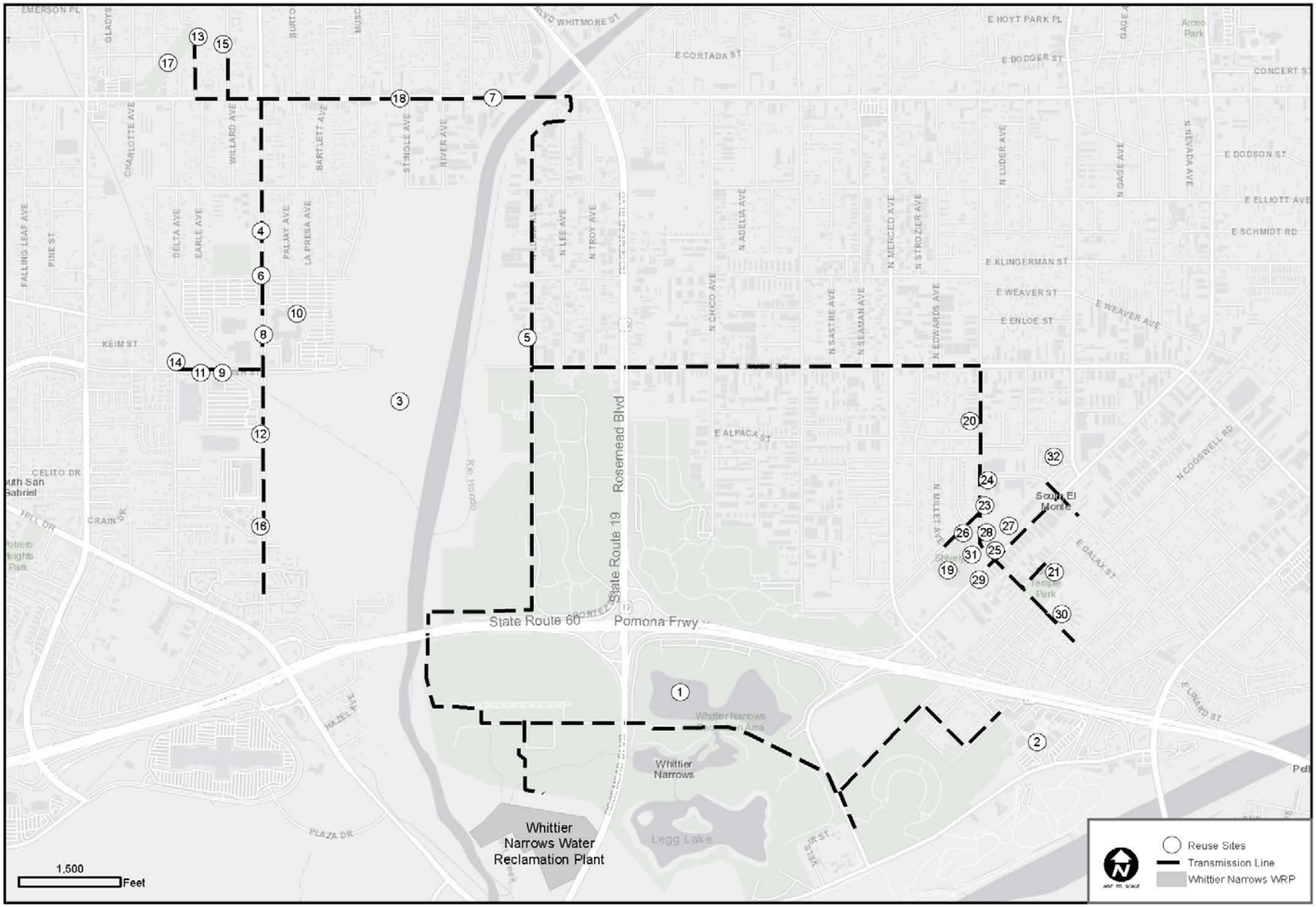


TABLE 16
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
WHITTIER NARROWS WRP

Reuse Site (Figure 14 No.)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Water Replenishment District	Aug 62	--	R	6.860	7,687
Whittier Narrows Recreation Area (1)	Sep 06	568	L	0.687	769
South El Monte High School (2)	Aug 07	16.1	AF, L	0.074	83
Whittier Narrows Golf Course (3)	Dec 09	260	L	0.438	490
Sanchez Elementary/Temple Middle School (4)	Aug 11	12.8	AF, L	0.005	6
Loma Elementary School (5)	Aug 11	1.9	AF, L	0.005	6
Jess Gonzales Sports Park (6)	Oct 11	4	L	0.017	20
Southern California Edison corporate offices (10)	Oct 11	53	L	0.041	45
Eldridge Rice Elementary School (14)	Oct 11	8.3	AF, L	0.013	14
Garvey Avenue medians (7)	Dec 11	0.1	L	0.00004	0.05
Walnut Grove Avenue medians (8)	Dec 11	0.1	L	0.001	1
Rush Street medians (9)	Dec 11	0.1	L	0.001	2
Sunshine Nursery, 8448 Dorothy St. (13)	Dec 11	4.6	L	0.003	3
WalMart, 1827 Walnut Grove Ave. (11)	Dec 11	17.7	L	0.001	1
Panda Restaurant Group, 1683 Walnut Grove Ave. (12)	Dec 11	8.9	L	0.016	18
Willard Elementary School (15)	Jan 12	6	AF, L	0.0004	0.4
University of the West, 1409 Walnut Grove Ave. (16)	Feb 12	0.4	L	0.002	2
Zapopan Park (17)	Apr 12	7	L	0.002	2
Garvey Avenue medians (18)	Apr 12	0.2	L	0	0
Shively Park (19)	Mar 19	5.9	L	0.016	18
Mary Van Dyke Park (20)	Apr 19	1.5	L	0.002	3
New Temple Park (21)	Apr 19	8.2	L	0.021	24
S. El Monte Aquatics Center, 1500 Central Ave. (22)	Apr 19	1	L	0.003	4
S. El Monte Community Center, 1530 Central Ave. (23)	Apr 19	0.7	L	0.002	2
S. El Monte Senior Center, 1556 Central Ave. (24)	Apr 19	0.8	L	0.001	1
S. El Monte City Hall, 1415 Santa Anita Ave. (25)	May 19	0.7	L	0.003	3
Shively Middle School (26)	May 19	1	AF, L	0.011	12
L.A. Co. Services Center, 1441 Santa Anita Ave. (27)	May 19	0.1	L	0.001	1
S. El Monte Co. Library, 1430 Central Ave. (28)	May 19	0.3	L	0.001	1
Santa Anita Avenue medians (29)	Jun 19	1.3	L	0.0001	0.1
New Temple Elementary School, 11033 Central (30)	Jul 19	3.4	AF, L	0.015	17
Shively Preschool, 1431 Central Ave. (31)	Jul 19	0.2	AF, L	0.002	2
AHMC Healthcare Inc., 1701 Santa Anita (32)	Nov 19	0.7	L	0.008	9
TOTALS		**995.0**		**8.251**	**9,246**

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

Nos. 91-100 and R4-2009-0048 for groundwater replenishment (see **Section 2.5.1** for a discussion on the amended groundwater recharge permit).

2.6.1 Water Replenishment District of Southern California

The majority of recycled water actively used from this plant went to recharge the Central Basin aquifer. In FY20-21, 6.860 MGD (7,687 AFY) was used to replenish the groundwater supply, an 8.3% decrease from the preceding fiscal year and 82.3% of the plant's production.

The total amount of recycled water delivered from the Whittier Narrows WRP to recharge the Central Basin aquifer, was essentially split evenly between the Rio Hondo Spreading Grounds and the San Gabriel Coastal Spreading Grounds during this fiscal year (50.4% and 49.6%, 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 totals recharged and bypassed is attributed to differences in metering between the Sanitation Districts and the LACDPW.

2.6.2 Upper San Gabriel Valley Municipal Water District (Phase II-A Extension) – Whittier Narrows Recreation Area

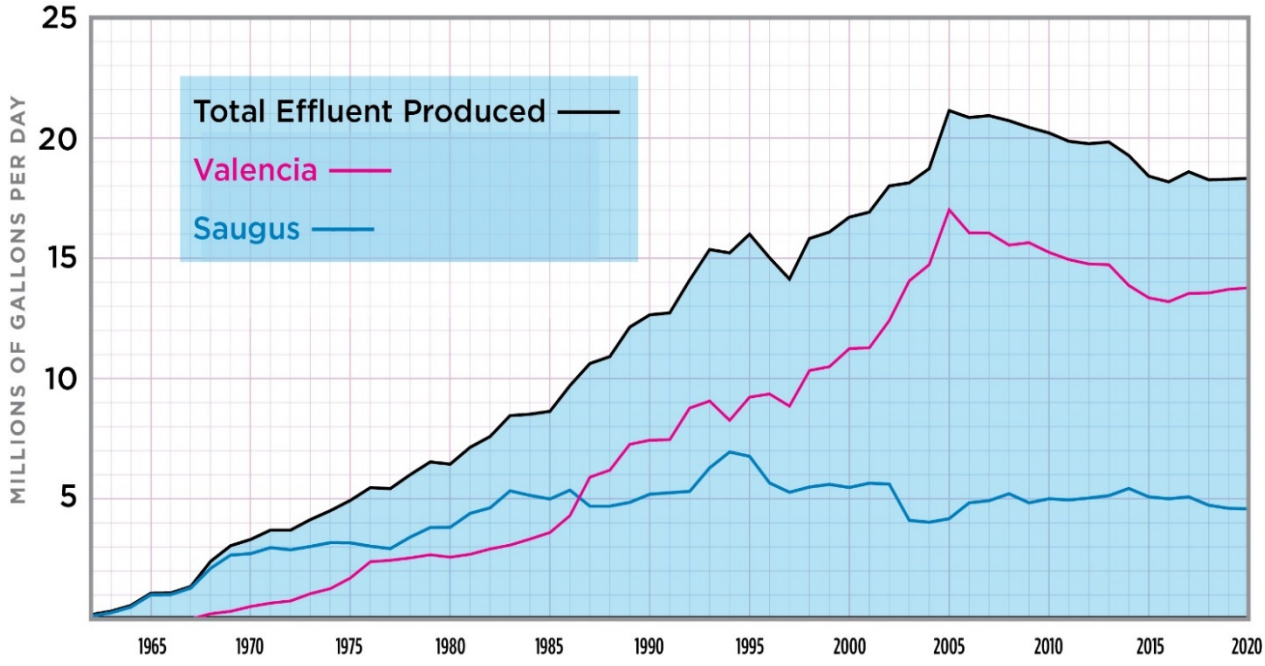
This project, designated Phase II-A by USGVMWD, began deliveries of recycled water to the Los Angeles County Department of Parks and Recreation's Whittier Narrows Recreation Area, adjacent to the Whittier Narrows WRP, in September 2006, followed by South El Monte High School in July 2007 and the Whittier Narrows Golf Course in December 2009. The $9 million project was constructed with the help of a $2.1 million Prop. 50 grant from the 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. The 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 Prop. 84 and Prop.1 grant funds. Construction of 14,140 of pipeline for Package 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 FY20-21, the USGVMWD distribution system delivered 1.391 MGD (1,559 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 16**. This was 16.7% of the recycled water produced at this plant and a 25.8% increase over the preceding fiscal year. No new sites were added to the system by the SGVWC on its South El Monte Extension during FY20-21.

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 $1,292.75/AF, 85% of the potable water rate of $1,521.11/AF.

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 FY20-21, these plants produced 18.17 MGD (20,364 AFY) of recycled water available for reuse, a 0.9% decrease from the preceding fiscal year. **Figure 15** illustrates recycled water production from Valencia and Saugus WRPs from 1962 through the end of 2020. 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 0.439 MGD (492 AFY), or 2.4% of the total amount of recycled water produced in the SCVJSS, being delivered from the Valencia WRP during FY20-21. This was a 1.6% decrease from the preceding fiscal year.

FIGURE 15
SANTA CLARITA VALLEY JOINT SEWERAGE SYSTEM RECYCLED WATER PRODUCTION
1962-2020



3.1 VALENCIA WRP

The Valencia WRP, located at 28185 The Old Road, Valencia, CA 91355, was completed in 1967. Following several expansions, the construction of a 4.4 million gallon flow equalization tank in February 1995, a solids handling expansion in August 2002 and the construction of additional aeration tanks for NDN in May 2003, the Valencia WRP now has a capacity of 21.6 MGD. In FY20-21, the plant produced an average of 13.49 MGD (15,111 AFY) of recycled water, a 1.8% decrease from the preceding fiscal year and 74.2% of the effluent produced in SCVJSS. The FY20-21 O&M cost to produce this water was approximately $824/AF, which does not include solids processing for both the Saugus and Valencia WRPs. Recycled water quality for FY20-21 is presented in **Table B-7** of **Appendix B**.

Use of recycled water from this facility is permitted under LARWQCB Order Nos. 87-48 and 97-072. During FY20-21, 0.439 MGD (492 AFY), or 3.3% of the recycled water produced was actively reused, a 1.6% decrease from the preceding year.

VALENCIA WRP FACTS	
Plant capacity:	21.6 MGD
Water produced:	13.49 MGD 15,111 AFY 1.8% FY decrease
FY20-21 O&M:	$824/AF
Water reused:	0.439 MGD 492 AFY 1.6% FY decrease 3.3% 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 17**.

During FY20-21, 0.439 MGD (492 AFY), or 3.3% of the recycled water produced at the Valencia WRP was delivered through 16,490 feet of pipeline, a 1.6% decrease from the preceding fiscal year. No new reuse sites were added during FY20-21.

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 FY20-21, the Valencia Water Division sold the recycled water at $686.94/AF, or 86% of its corresponding potable water rate of $801.07/AF.

SAUGUS WRP FACTS	
Plant capacity:	6.5 MGD
Water produced:	4.69 MGD 5,253 AFY 1.7% FY increase
FY20-21 O&M:	$970/AF
Water reused:	none

3.2 SAUGUS WRP

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. No future conventional expansions are possible due to space limitations on the site; any increase in plant capacity would have to be in some form of compact treatment technology, such as membrane bioreactors (MBRs). In FY20-21, the plant produced an average of 4.69 MGD (5,253 AFY) of recycled water, which was a 1.7% increase over the preceding fiscal year and 25.8% of the effluent produced in SCVJSS, at an O&M cost of $970/AF. Recycled water quality for FY20-21 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 FY20-21.

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
RECYCLED WATER DISTRIBUTION SYSTEM

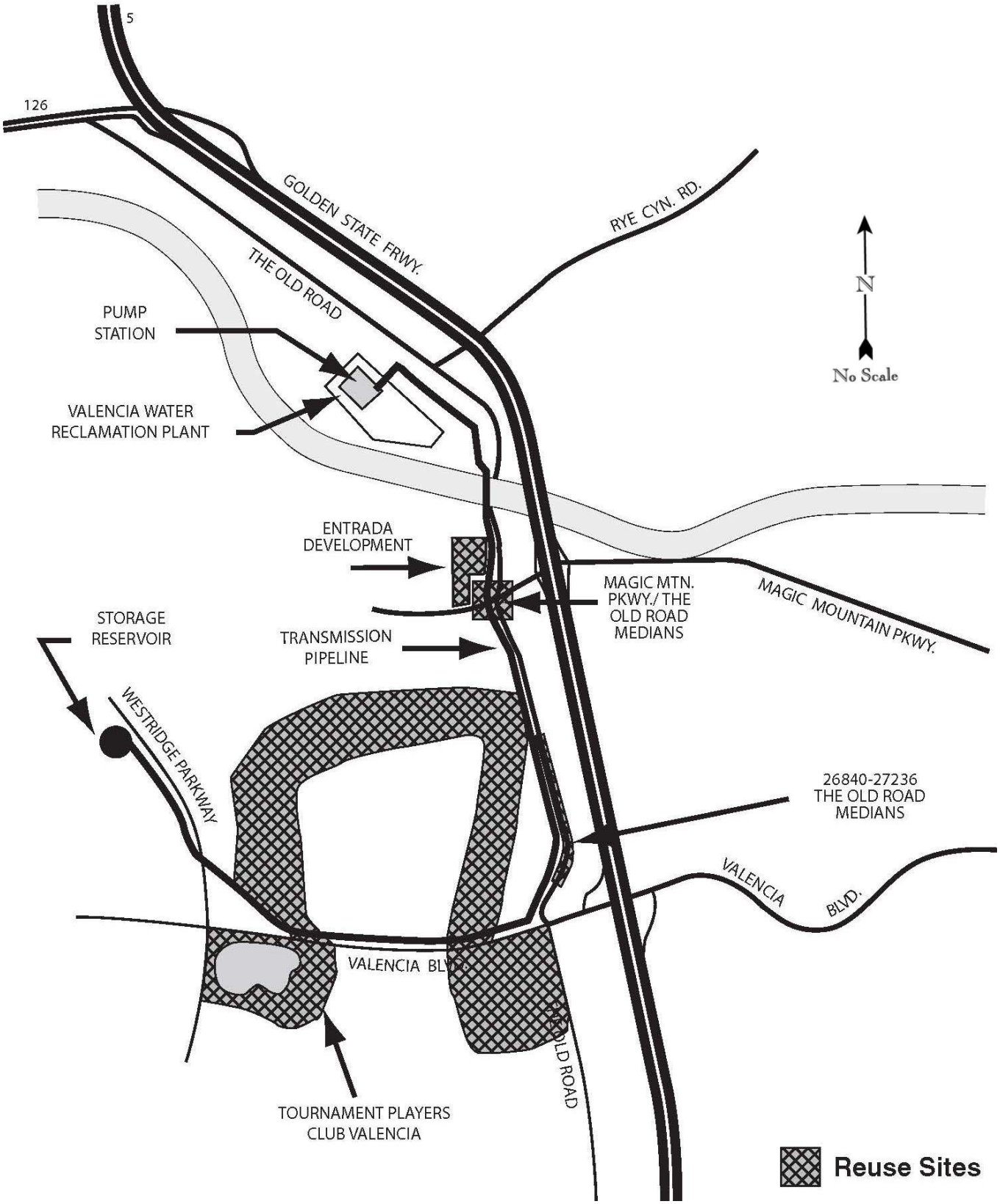


TABLE 17
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
VALENCIA WRP

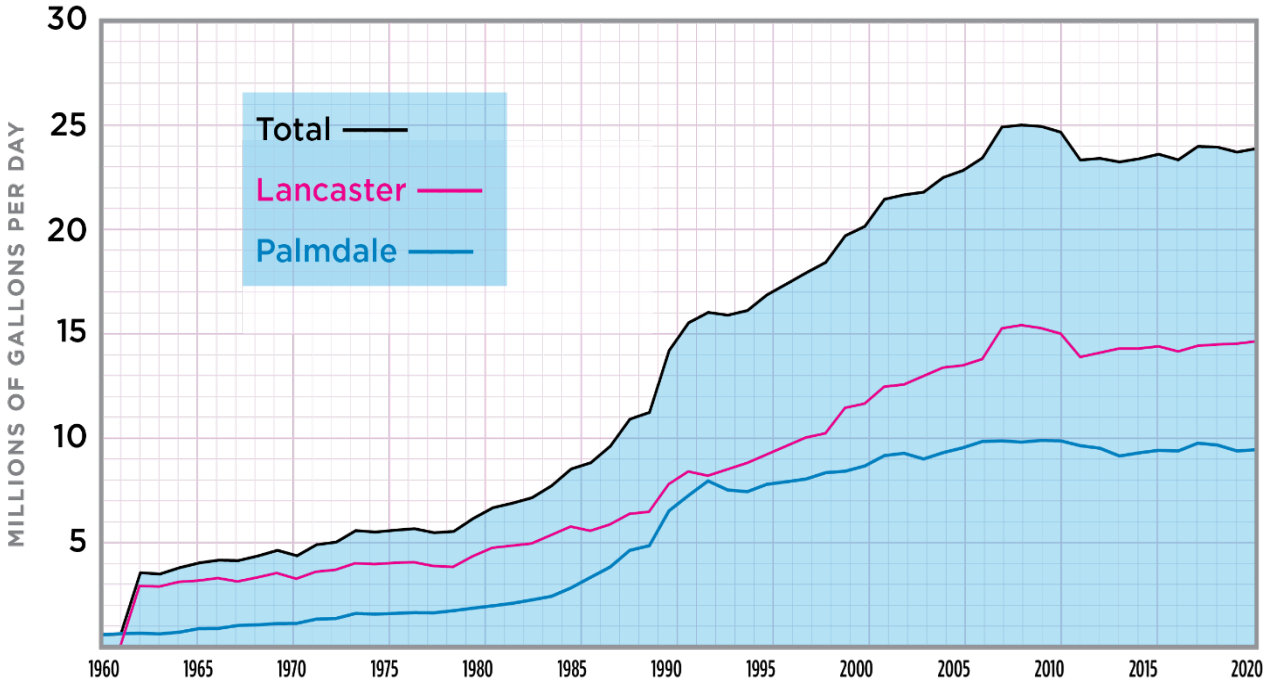
Reuse Site	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Tournament Players Club at Valencia	Aug 03	120	L	0.370	414
The Old Road medians, 26840-27236 The Old Road	Aug 03	5.8	L	0.025	28
The Old Road/Magic Mountain Parkway medians	Nov 10	2.8	L	0.015	16
Entrada, 27640 Media Center Drive	Jun 15	1.4	L	0.006	7
Entrada, 27780 Entertainment Drive	Jun 15	0.7	L	0.010	11
Entrada, 27770 Entertainment Drive	Jun 15	0.7	L	0.014	15
TOTALS		**130.6**		**0.439**	**492**

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

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 FY20-21, these plants produced 22.12 MGD (24,782 AFY) of effluent available for reuse, an increase of 1.6% 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 2020. 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 FY20-21, 19.81 MGD (22,195 AFY), or 89.6% of the recycled water produced, was actively reused, a 5.6% increase over 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
1960-2020



LANCASTER WRP FACTS	
Plant capacity:	18 MGD
Water produced:	13.79 MGD 15,452 AFY 1.4% FY increase
FY20-21 O&M:	$589/AF
Water reused:	11.749 MGD 13,165 AFY 3.3% FY increase 100% of production
Delivery systems:	5
No. of reuse sites:	15 (11 temporary) 3,126.8 acres

4.1 LANCASTER WRP

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 million gallons (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.

This plant produced an average of 13.79 MGD (15,452 AFY) of recycled water in FY20-21, or a 1.4% increase over the preceding fiscal year. The FY20-21 O&M cost to produce tertiary effluent was approximately $589/AF (not including solids processing). During FY20-21, 11.749 MGD (13,165 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 18** (there had been 49 previous hauled users). This was a 3.3% increase over the preceding fiscal year.

4.1.1 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 Game, 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 FY20-21, 3.632 MGD (4,070 AFY) was delivered to Piute Ponds, a slight decrease of 0.5% from the preceding fiscal year. This reuse constitutes 26.3% of the recycled water produced at this facility.

4.1.2 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 Sanitation Districts' 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

FIGURE 18
LANCASTER WATER RECLAMATION PLANT FACILITIES

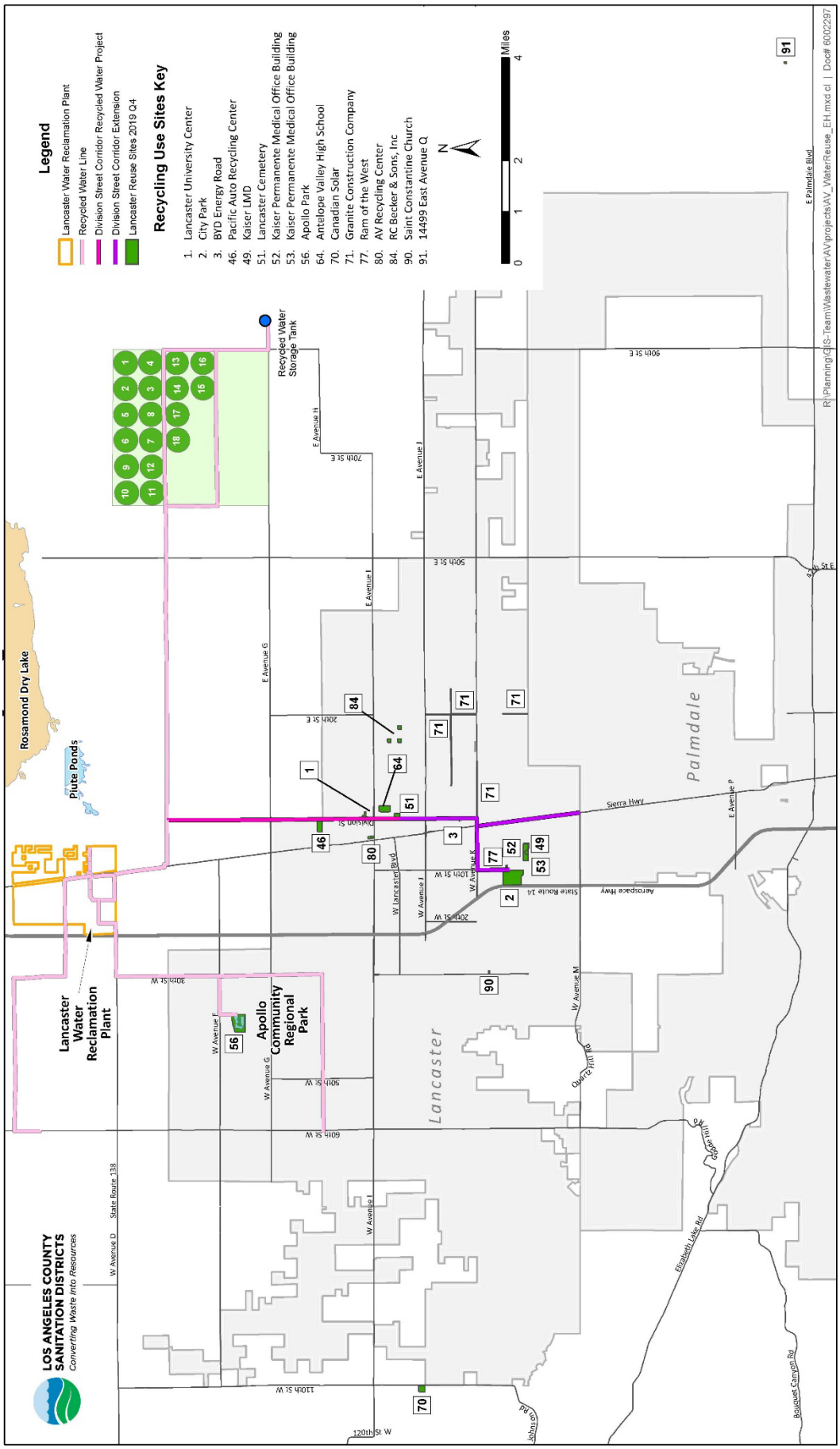


TABLE 18
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
LANCASTER WRP

Reuse Site (City)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Apollo Lakes Community Regional Park (Lancaster)	Jun 69	56	L,P	0.229	256
Piute Ponds (Lancaster)	May 81	400	E	3.632	4,070
Eastern Agricultural Site (Lancaster)	Dec 06	2,600	AG	7.611	8,528
Public Works Dept. sewer flushing (Lancaster)	Jan 09	--	I	0.001	1
Public Works Dept. street sweeping (Lancaster)	Feb 09	--	I	0.0003	0.3
Lancaster University Center (Lancaster)	May 09	2	L	0.008	9
Owens Memorial (Lancaster City) Park (Lancaster)	Mar 14	36	L	0.158	177
BYD Energy Road landscaping (Lancaster)	Jan 15	0.1	L	0.0004	0.4
Kaiser Medical Office (Lancaster)	Jan 16	8.2	L,I	0.011	12
Lancaster Cemetery (Lancaster)	Apr 16	5.3	L	0.028	32
Kaiser Landscape Maintenance Dist. (Lancaster)	Apr 16	0.1	L	0.0002	0.2
Pacific Auto Recycling Center (Lancaster)	Apr 16	1.5	L	0.001	1
Antelope Valley High School (Lancaster)	Oct 16	16	AF,L	0.063	70
Canadian Solar (Lancaster)	Mar 17	0.4	L	0.001	1
Four Acres, 1449 E. Ave. Q (Lancaster)	May 17	--	I	0.0003	0.4
Viper Enterprises (Dodge Ram of the West) (Lancaster)	Oct 18	0.7	L	0.001	1
AV Recycling (Lancaster)	Aug 19	--	I	0.00002	0.02
PJD Marble, 610 E. Ave. L (Lancaster)	Jun 20	--	I	0.0004	0.5
Taft Electric, 45034 Sierra Highway (Lancaster)	Jun 20	--	I	0.00001	0.01
C.A. Rasmussen (10th St. W/Bikeway) (Lancaster)	Aug 20	--	I	0.0004	0.5
Phoenix Renewable Service (Greenskies Proj.) (Lancaster)	Sep 20	--	I	0.00003	0.03
Sully Miller (Lancaster Spring 2020 PMP) (Lancaster)	Sep 20	--	I	0.001	1
Mike Prlich & Sons (PWCP 20-002 Sewer Rehab) (Lanc.)	Sep 20	--	I	0.00004	0.04
C.S. Legacy (PWCP 20-010 Sidewalk Proj.) (Lancaster)	Mar 21	--	I	0.00001	0.01
Granite Construction (PWCP 21-003) (Lancaster)	Apr 21	--	I	0.002	2
C.A. Rasmussen Inc. (PWCP 21-007) (Lancaster)	Apr 21	--	I	0.0003	0.4
TOTALS		**3,126.8**		**11.749**	**13,165**

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

was delivered by means of 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 and decommissioned and was later dismantled, with recycled water produced by the Lancaster plant being delivered for use at Apollo Park instead.

In FY20-21, 0.229 MGD (256 AFY) of recycled water was delivered through 23,800 feet of pipeline to maintain 26 acres (80 million gallon) of lakes at the park to make up for evaporative losses and for irrigation water withdrawn from the lakes for use on the park, an increase of 23.1% over the preceding fiscal year. This reuse constitutes 1.7% of the recycled water produced at this plant.

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 L**.

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 newly 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 FY20-21, 7.611 MGD (8,528 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 15 of the 18 center pivots. Reuse at this site constitutes 55.2% of the recycled water produced at this plant and an increase of 3.0% over the preceding fiscal year.

4.1.4 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 FY20-21, a total of 0.277 MGD (311 AFY) was delivered through 29,800 feet of pipeline, an 86.7% increase over the preceding fiscal year, which constitutes 2.0% 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-six construction or temporary use sites hauled recycled water by truck at various times from this system (17 sites were active during FY20-21), with seven new hauled use customers starting up during the year.

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 8.33 MGD (9,329 AFY) of recycled water in FY20-21, or a 1.8% increase over the preceding fiscal year. The O&M cost to produce this water was approximately $944/AF (not including solids processing).

During FY20-21, 8.059 MGD (9,030 AFY), or 96.8% of the plant's production, was actively reused on 1,777 acres at 6 fixed permanent sites and 14 active hauled uses (there had been 36 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 9.2% increase in reuse over the preceding fiscal year. The area receiving recycled water is shown on **Figure 19**. The reuse sites are listed in **Table 19**.

PALMDALE WRP FACTS	
Plant capacity:	12 MGD
Water produced:	8.33 MGD 9,329 AFY 1.8% FY increase
FY20-21 O&M:	$944/AF
Water reused:	8.059 MGD 9,030 AFY 9.2% FY increase 96.8% of production
Delivery systems:	2
No. of reuse sites:	6 (14 temporary) 1,777.0 acres

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 City of Los Angeles World Airports (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.

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

FIGURE 19
PALMDALE WATER RECLAMATION PLANT FACILITIES

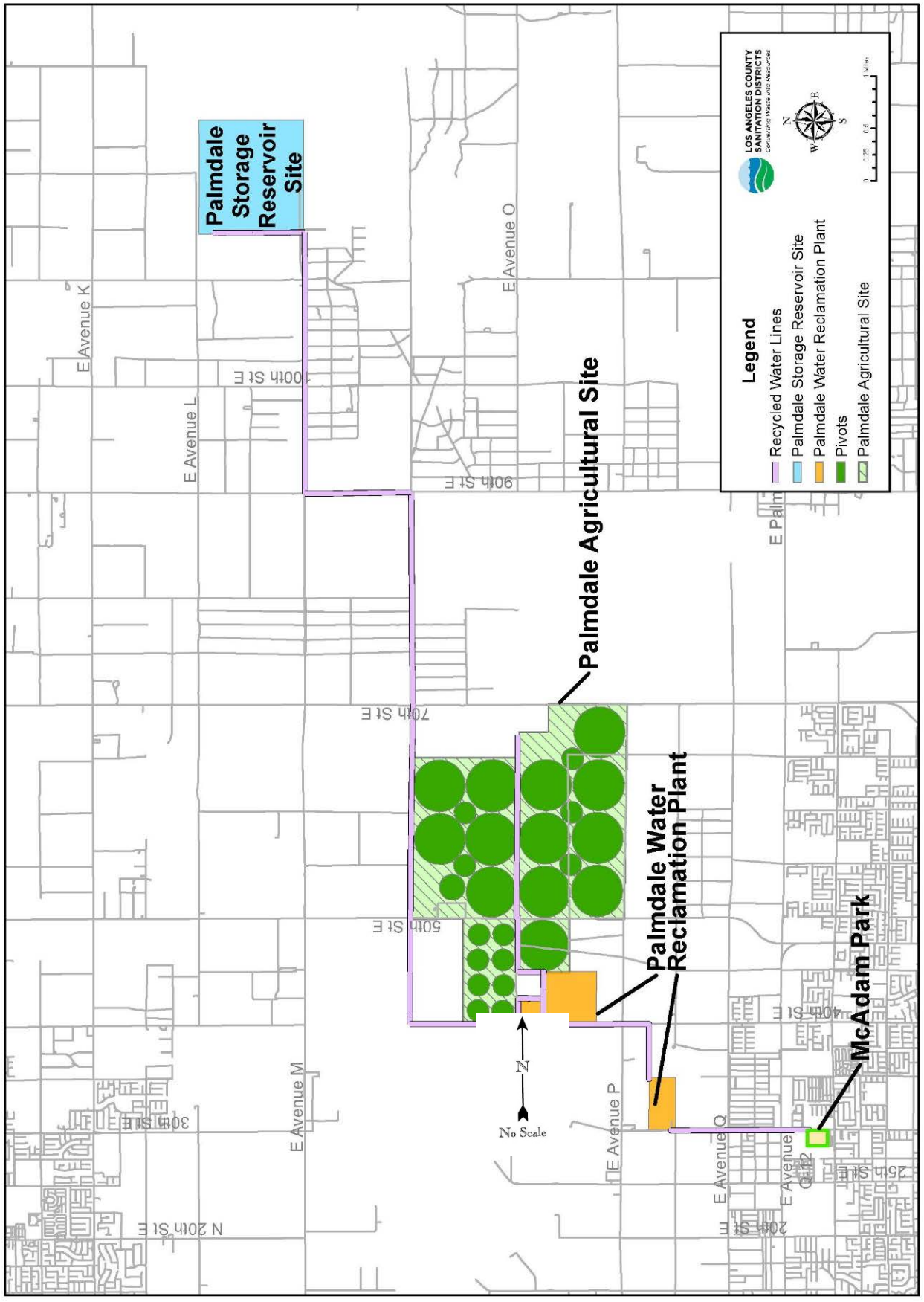


TABLE 19
SUMMARY OF FISCAL YEAR 20-21 RECYCLED WATER USAGE
PALMDALE WRP

Reuse Site (City)	Start-up Date	Acreage	Type of Use	Usage (MGD)	Usage (AFY)
Harrington Farms Pistachio Orchard (Palmdale)	Apr 85	23	AG	0.027	31
Tree Farm (Palmdale)	Feb 89	28	O	0	0
Antelope Valley Farms (Palmdale)	Mar 02	1,704	AG	7.825	8,768
CIMIS Weather Station (Palmdale)	Oct 12	1	L	0.002	2
McAdam Park (Palmdale)	Oct 12	15	L	0.166	186
Tree Barriers (Palmdale)	Jan 13	6	AG	0.020	22
Pro Energy Services Group, Angeles Forest (Palmdale)	Dec 15	--	I	0.0003	0.4
DR&G Services, RR tracks - Sierra Hwy. (Palmdale)	Mar 18	--	I	0.0001	0.1
Patriot Paving, Inc. (SCE Vincent Hill substation) (Palm.)	Jul 20	--	I	0.00005	0.1
JD Tuckman (SCE Angeles Forest Hwy substation) (Palm.)	Jul 20	--	I	0.0001	0.1
Atlas Underground (various sites) (Palmdale)	Aug 20	--	I	0.0003	0.3
Solar Maid (38250 Sierra Hwy & 3850 E. Ave. S) (Palm.)	Aug 20	--	I	0.000003	0.003
Pacific Comm. Builders (35th St. E and Ave. R) (Palm.)	Aug 20	--	I	0.014	16
DBI Services (RR ROW, Colton-Sierra Hwy) (Palmdale)	Nov 20	--	I	0.0001	0.1
Tricom Networks (400 E. Avenue Street) (Palmdale)	Jan 21	--	I	0.00001	0.01
Union Pacific Railroad (various along ROW) (Palmdale)	Feb 21	--	I	0.0001	0.1
Frontier Communities (E Palmdale and 70th St E) (Palm.)	Mar 21	--	I	0.003	3
Hylan West, Inc. (E Ave. Q and 9th St E) (Palmdale)	Mar 21	--	I	0.00003	0.03
EA Equestrian (E Avenue M and 100th St E) (Palmdale)	Apr 21	--	I	0.001	1
BC2 Environmental, LLC (W Ave. M-SR 14) (Palmdale)	Apr 21	--	I	0.0003	0.3
Maisons Palmdale, LP (E Avenue S and 65th St E) (Palm.)	Jun 21	--	I	0.0002	0.2
TOTALS		**1,777.0**		**8.059**	**9,030**

NOTES: AF = Athletic field irrigation, AG = Agricultural irrigation, D = Dual plumbing, E = Environmental enhancement, I = Industrial, L = Landscape irrigation, O = Ornamental plant irrigation, P = Impoundment, R = Groundwater replenishment.

In January 2001, in 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 0.049 MGD (55 AFY) during FY20-21, or 0.6% of the recycled water produced by the Palmdale WRP. This was a 33.7% 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 the Lahontan RWQCB 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 FY20-21, 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 FY20-21, this 2,062-acre site (1,971 irrigable acres of which a maximum 1,704 were under irrigation during the fiscal year) used 7.874 MGD (8,823 AFY), or 94.6% of the recycled water produced by the Palmdale WRP to grow livestock feed (oats and alfalfa). This was an 8.7% increase over 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 0.166 MGD (186 AFY) in FY20-21. In addition, recycled water was supplied to 51 hauled use sites for construction applications from this system at various times (15 active during FY20-21), using a total of 0.019 MGD (22 AFY) during the fiscal year. The total usage of 0.185 MGD (208 AFY) was a 219.4% increase from the preceding fiscal year and was 2.2% of the recycled water produced by the Palmdale WRP in FY20-21.

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 38,266 AFY of the remaining recycled water currently produced but not yet beneficially reused, with the possibility of another 16,600 AFY of effluent from JWPCP receiving additional treatment prior to reuse. These projects are listed in **Table 20** along with the WRP that would supply the recycled water, the estimated quantities of recycled water and the anticipated completion date. Not included in this table are "conceptual" water recycling projects, the most notable being approximately 168,000 AFY of advanced treated recycled water use from JWPCP through an MWD proposed project (see details in **Section 5.9.1**). Unsecured funding, institutional concerns and the absence of regulatory approval make the anticipated completion dates for several projects uncertain.

TABLE 20
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	236	TBD
CBMWD Disadvantaged Communities Project	Los Coyotes WRP	110	2023
Walnut Valley Water District	Pomona WRP	1,975	TBD
City of Pomona Master Plan (recommended projects)	Pomona WRP	1,500	2030
USGVMWD groundwater recharge project	San Jose Creek WRP	15,000	TBD
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
West Basin Municipal Water District	JWPCP	16,600	2025
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	2024
SCVWA Phase 2D West Ranch Project	Valencia/Saugus WRPs	221	2022
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		54,866	

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 (49,248 AFY in FY20-21). 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. At some point, it may be required to increase recycled water flows via sewer diversions, flow equalization, etc. if some of the proposed recycled water projects are to be fully developed.

In addition to the listed projects, there are several other potential reuse projects that are much more conceptual at this time that are described in **Section 5.9** below.

5.1 LONG BEACH WRP

5.1.1 LONG BEACH WATER DEPARTMENT MASTER PLAN

In August 2010, the 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 have been 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. The Design RFP for this project has been advertised and LBWD intends to start design phase in June 2022 with anticipated completion in February 2023. 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.

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 the 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 coordination with several agencies, purchase of land for a storage reservoir and successfully obtaining 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 is, however, proceeding with 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 will be completed by the end of 2021.

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. And while an eventual looping of the system for flow reliability, system pressure and to 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 cities of Bell Gardens, Lynwood and South Gate have been collaborating with CBMWD to expand CBMWD's existing system into their cities to supply an estimated 236 AFY of recycled water to irrigate a number of urban irrigation sites. Under a bundled project named the Gateway Water Management Authority (GWMA) Recycled Water Pipelines Project, the planning, design and environmental documentation for pipelines have been completed. CBMWD and its partnering agencies were awarded grant funding via Proposition 84; however, construction will not be able to proceed unless additional funding such as a Clean Water State Revolving Fund grant can be obtained.

City of Bell Gardens: This project consists of approximately 6,000 feet of recycled pipeline varying in diameter between 8 and 16 inches and is estimated to use 30 AFY. The proposed recycled pipeline will begin with a connection to the existing 16-inch recycled water pipeline in Garfield Avenue at Park Lane and will include approximately 3,000 feet of 16-inch diameter recycled water pipeline heading in a northerly direction along Garfield Avenue to Florence Place. At Florence Place the recycled water pipeline will be reduced to a 12-inch diameter pipe heading east for 2,400 feet along Florence Place from Garfield Avenue to Sudan Avenue. Prior to reaching Sudan Avenue, at the intersection of Florence Place and Emil Avenue, an 8-inch diameter recycled water pipeline will head in a northerly direction for 600 feet along Emil Avenue. The new recycled water pipeline will serve Veterans Park, the Bell Gardens Library, Garfield Elementary School and the Suva Elementary/Intermediate School Complex.

City of Lynwood: This project consists of approximately 9,400 feet of pipeline varying in diameter between 8 and 12 inches and is estimated to use 68 AFY. The proposed recycled water pipeline will connect to an existing 12-inch diameter pipeline in Wright Road and extend 6,100 feet in a westerly direction along Fernwood Avenue to Bullis Road. At Bullis Road the recycled water pipeline will proceed in a northerly direction along Bullis Road for approximately 2,055 feet to the Lynwood Civic Center Complex. There will be three 8-inch laterals extending south on Atlantic Avenue, Harris Avenue and Bullis Road for a total of 1,245 feet. This new recycled water pipeline will serve Ricardo Lara Linear Park along Fernwood Avenue, the Lynwood City Park, Lynwood City Hall Complex along Bullis Road and three CalTrans sites along the I-105 as part of the three, 8-inch lateral extensions.

City of South Gate: This project consists of the construction of approximately 11,800 feet of recycled pipeline varying in diameter between 4 and 12 inches and is estimated to use 138 AFY. The proposed recycled water pipeline will begin with a connection to the existing 18-inch recycled pipeline in Atlantic Avenue at Southern Avenue. Beginning at this point, the new recycled water pipeline will extend approximately 7,575 feet along Southern Avenue. At California Avenue, a 6-inch pipeline will head in a northerly direction approximately 2,275 feet to Ardmore Avenue, then west for approximately 1,100 feet. In addition, there will be approximately 850 feet of 4-inch service lateral pipelines. The new recycled water system extension will serve South Gate Park, South Gate Middle School, medians along Firestone Avenue, South Gate City Hall and South Gate High School.

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 Disadvantaged Communities (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 and Maywood Academy High School in Huntington Park, Bell High School in Bell, and Amelia Mayberry Park in Whittier. 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.

5.3 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 million gallons 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. 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 mid-2022 with a total anticipated demand of 66 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 million gallon 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 Prop. 84 and Prop.1 grant funds. Construction of Package 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 packages are projected to use a cumulative 550 AFY (including Package

1) but may only get to 150 AFY. The conceptual overview of the various phases also indicates a Package 2 connection at SJCWRP 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 WBMWD's 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 Carson Regional Water Recycling Facility (CRWRF) from 6 to 20 MGD. Their study of the options found that their pump station at the City of Los Angeles' Hyperion treatment plant that supplies its effluent for recycling and its distribution system would require extensive expansion to accommodate the additional flows from its El Segundo water recycling facility to serve reuse sites in the Carson and Palos Verdes areas. One option, which could prove more cost effective, would be to supply 20% of WBMWD's future needs, or up to approximately 16,600 AFY, from the Sanitation Districts' JWPCP. This option would also help WBMWD meet its contractual obligation of using recycled water of Sanitation Districts' origin for future expansions in exchange for capacity in the JWPCP ocean outfall for disposal of brine from the CRWRF. The recommended option was a new $187.8 million, 26 MGD treatment plant at JWPCP to augment WBMWD's Title 22 distribution system and supply advanced treated recycled water to such large reuse customers at the Dominguez Gap Seawater Intrusion Barrier and Tesoro's Carson refinery expansion, as well as for the Amoco and Watson cogeneration facilities. The option of using JWPCP effluent is expected to save WBMWD approximately $25 million in capital costs. The location of this new treatment plant could be at JWPCP, the CRWRF, or along the transmission line in route to a specific user or group of recycled water sites. Currently, plans for a major expansion of demands in the Carson and Harbor Area are being re-evaluated by WBMWD, along with the feasibility of a new treatment plant at the JWPCP. According to the Master Plan's recommended CIP, construction of the new treatment facilities is not scheduled until 2020-25.

5.6.2 MWD PURE WATER SOUTHERN CALIFORNIA

In FY20-21, JWPCP provided primary and secondary treatment to approximately 248.33 MGD (278,266 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 the 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, the 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.

In 2016, SCVWA issued the Administrative Draft Recycled Water Management Plan. This plan outlines 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.

The 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 2022 with completion by 2024. And finally, construction of the $4 million Phase 2D West Ranch project was completed; however, DDW and the RWQCB 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 Los Angeles County 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 2022.

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 Blvd., then north on 10th St. 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 St. 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 St. East from the Palmdale WRP to Mc Adam Park, south to Avenue R-8 then east until 55th St. 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"). Several ambitious, large-scale water recycling projects involving groundwater replenishment continue to be investigated. The list of conceptual projects below is not meant to be exhaustive. Rather it is a listing of the most likely or ambitious projects the Sanitation Districts are currently tracking.

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

The cities of Downey and Cerritos had begun a joint investigation in 2009 of a potential project that would take 7.1 MGD (8,000 AFY) of effluent from the Los Coyotes WRP, 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 had been identified in the Downey 2015 UWMP as the "Downey Regional Water Reclamation and Groundwater Augmentation Project", it was absent from the Cerritos 2015 UWMP, which instead references the potential advanced treatment plant at JWPCP discussed in **Section 5.9.1** above. In addition to technical, financial and permitting obstacles, implementation of this project would require that the existing Basin Adjudication be significantly revised. No significant progress has been made on this project to date.

5.9.3 Scalping Plants

The Sanitation Districts have been contacted regarding scalping plants in both the JOS and SCV systems. 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.

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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	The Los Angeles RWQCB 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 acre-feet per year (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	The 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 acre-feet (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	The 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	The Lahontan RWQCB 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	The 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	The Lahontan RWQCB 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	The Lahontan RWQCB 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 the LARWQCB's new, region-wide non-irrigation reuse permit.
December 2011	The Palmdale WRP conversion to tertiary treatment is completed.
January 2012	The Lahontan RWQCB 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 million gallon 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 distribution system to serve recycled water for construction applications at the 488-acre Montebello Hills residential development. Once construction is completed, recycled water will be used for a variety of landscape irrigation uses.

APPENDIX B

RECYCLED WATER QUALITY FROM SANITATION DISTRICTS' TERTIARY WRPS

TABLE B-1
LONG BEACH WATER RECLAMATION PLANT
RECYCLED WATER QUALITY, FY 2020-21

Constituent	Units	Mean	Maximum	Minimum
pH		7.47	7.8	6.9
Turbidity	NTU	0.70	1.5	0.45
Total Coliform	org./100 ml	<1	24	<1
Fecal Coliform	org./100 ml	<1	<1	<1
Temperature	deg. F	78.7	85.2	71.2
Suspended Solids	mg/L	<2.5	3.0	<2.5
Settleable Solids	ml/L	<0.1	<0.1	<0.1
Total Dissolved Solids	mg/L	645	904	568
Total BOD	mg/L	<3.0	<3.0	<3.0
Total Organic Carbon	mg/L	6.14	6.16	6.11
Ammonia Nitrogen	mg/L	1.660	2.66	0.806
Organic Nitrogen	mg/L	<0.84	1.38	<0.20
Nitrate Nitrogen	mg/L	6.75	7.89	5.56
Nitrite Nitrogen	mg/L	0.250	0.556	0.055
Fluoride	mg/L	0.584	0.605	0.569
Boron	mg/L	0.34	0.38	0.31
Cyanide	µg/L	<3.26	<5.0	2.17
Chloride	mg/L	139	157	124
Sulfate	mg/L	92.2	98.8	80.8
Total Hardness	mg/L	189	210	169
Total Alkalinity	mg/L	196	207	179
Antimony	µg/L	0.59	0.63	0.54
Arsenic	µg/L	2.73	3.08	2.41
Barium	µg/L	50.1	52.3	47.8
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.20	<0.20	<0.20
Total Chromium	µg/L	0.55	1.29	0.24
Hexavalent Chromium	µg/L	<0.04	<0.05	0.02
Copper	µg/L	1.29	2.14	0.78
Lead	µg/L	0.04	0.05	0.03
Mercury	µg/L	0.0048	0.0088	0.0016
Nickel	µg/L	1.16	1.23	1.06
Total Phosphate	mg/L	0.40	1.47	0.204
Selenium	µg/L	0.31	0.37	0.23
Silver	µg/L	<0.20	<0.20	<0.20
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	0.74	0.95	0.70
Detergents (MBAS)	mg/L	<0.05	<0.10	0.03
Oil and Grease	mg/L	<4.0	<5.9	2.1

TABLE B-2
LOS COYOTES WATER RECLAMATION PLANT
RECYCLED WATER QUALITY, FY 2020-21

Constituent	Units	Mean	Maximum	Minimum
pH		7.52	7.8	7.3
Turbidity	NTU	0.71	1.40	0.40
Total Coliform	org./100 ml	<1	23	<1
Fecal Coliform	org./100 ml	<1	<1	<1
Temperature	deg. F	79.7	85.9	71.7
Suspended Solids	mg/L	<2.5	4.0	<2.5
Settleable Solids	ml/L	<0.1	<0.1	<0.1
Total Dissolved Solids	mg/L	911	1140	770
Total BOD	mg/L	<3.1	5.7	<3.0
Ammonia Nitrogen	mg/L	1.47	2.54	1.03
Organic Nitrogen	mg/L	1.63	2.2804	1.50
Nitrate Nitrogen	mg/L	5.26	7.86	3.66
Nitrite Nitrogen	mg/L	0.156	0.254	0.088
Fluoride	mg/L	0.419	0.455	0.381
Boron	mg/L	0.40	0.44	0.36
Cyanide	µg/L	4.18	<5.00	1.70
Chloride	mg/L	1871	208	170
Sulfate	mg/L	219	268	144
Total Hardness	mg/L	274	319	239
Antimony	µg/L	2.03	2.66	1.27
Arsenic	µg/L	1.05	1.40	0.55
Barium	µg/L	46.8	48.7	44.9
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.20	<0.20	<0.20
Total Chromium	µg/L	0.67	1.32	0.44
Hexavalent Chromium	µg/L	0.04	0.06	0.02
Copper	µg/L	3.72	5.42	1.85
Lead	µg/L	0.21	0.51	0.10
Mercury	µg/L	0.0053	0.0066	0.0036
Nickel	µg/L	2.56	3.06	2.10
Total Phosphate	mg/L	0.272	0.828	0.145
Potassium	mg/L	17.8	19.3	16.2
Selenium	µg/L	0.52	0.63	0.38
Silver	µg/L	<0.20	<0.20	<0.20
Sodium	mg/L	229	251	206
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	47.0	74.7	33.2
Detergents (MBAS)	mg/L	0.06	0.110	0.02
Oil and Grease	mg/L	<3.4	<5.8	1.6

TABLE B-3
POMONA WATER RECLAMATION PLANT
RECYCLED WATER QUALITY, FY 2020-21

Constituent	Units	Mean	Maximum	Minimum
pH		7.46	7.7	7.1
Turbidity	NTU	0.52	1.60	0.30
Total Coliform	org./100 ml	<1	1	<1
Fecal Coliform	org./100 ml	<1	<1	<1
Temperature	deg. F	77.9	86.9	69.9
Suspended Solids	mg/L	<2.5	2.7	<2.5
Settleable Solids	ml/L	<0.1	<0.1	<0.1
Total Dissolved Solids	mg/L	552	593	517
Total COD	mg/L	23.1	27.7	19.6
Total BOD	mg/L	<3.0	<3.0	<3.0
Total Organic Carbon	mg/L	6.78	9.80	5.86
Ammonia Nitrogen	mg/L	1.53	1.84	1.30
Organic Nitrogen	mg/L	1.64	2.21	0.528
Nitrate Nitrogen	mg/L	6.61	7.75	4.61
Nitrite Nitrogen	mg/L	0.073	0.121	0.037
Fluoride	mg/L	0.270	0.292	0.251
Boron	mg/L	0.29	0.35	0.26
Cyanide	µg/L	2.55	3.21	1.55
Chloride	mg/L	133	145	127
Sulfate	mg/L	74.5	81.0	61.6
Total Alkalinity	mg/L	161	169	153
Total Hardness	mg/L	203	221	195
Calcium	mg/L	58.8	60.5	57.5
Magnesium	mg/L	13.8	17.0	12.5
Antimony	µg/L	0.53	0.57	0.50
Arsenic	µg/L	0.98	1.18	0.81
Barium	µg/L	39.7	40.6	38.4
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.129	<0.20	0.046
Total Chromium	µg/L	0.95	1.14	0.78
Hexavalent Chromium	µg/L	0.08	0.10	0.04
Copper	µg/L	5.36	5.82	5.04
Iron	µg/L	23.5	26.4	20.5
Lead	µg/L	0.30	0.35	0.24
Manganese	µg/L	2.53	3.10	1.82
Mercury	µg/L	0.0029	0.0051	0.0012
Nickel	µg/L	1.63	2.11	1.24
Total Phosphate	mg/L	0.680	1.31	0.217
Potassium	mg/L	15.3	15.7	15.0
Selenium	µg/L	0.28	0.39	0.22
Silver	µg/L	<0.20	<0.20	<0.20
Sodium	mg/L	118	124	112
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	67.2	71.6	63.9
Detergents (MBAS)	mg/L	0.05	0..06	0.05978
Oil and Grease	mg/L	<3.6	<5.4	1.8

TABLE B-4
SAN JOSE CREEK WATER RECLAMATION PLANT EAST
RECYCLED WATER QUALITY, FY 2020-21

Constituent	Units	Mean	Maximum	Minimum
pH		7.29	7.6	6.9
Turbidity	NTU	0.72	1.0	0.40
Total Coliform	org./100 ml	<1	4	<1
Fecal Coliform	org./100 ml	<1	<1	<1
Temperature	deg. F	80.7	89.0	73.4
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	676	736	630
Total COD	mg/L	22.2	26.5	17.4
Total BOD	mg/L	<3.0	<3.0	<3.0
Total Organic Carbon	mg/L	6.45	7.22	5.57
Ammonia Nitrogen	mg/L	0.819	1.39	0.439
Organic Nitrogen	mg/L	1.31	1.82	0.344
Nitrate Nitrogen	mg/L	6.16	10.06	2.33
Nitrite Nitrogen	mg/L	<0.030	<0.030	<0.030
Fluoride	mg/L	0.412	0.428	0.349
Boron	mg/L	0.31	0.36	0.28
Cyanide	µg/L	2.48	3.24	1.72
Chloride	mg/L	152	159	145
Sulfate	mg/L	121	151	80.7
Total Alkalinity	mg/L	182	207	163
Total Hardness	mg/L	231	249	203
Calcium	mg/L	64.1	68.7	59.0
Magnesium	mg/L	18.1	19.2	16.7
Antimony	µg/L	0.58	0.62	0.52
Arsenic	µg/L	1.31	1.52	0.98
Barium	µg/L	82.9	92.6	75.4
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.14	<0.20	0.045
Total Chromium	µg/L	0.84	1.10	0.73
Hexavalent Chromium	µg/L	0.14	0.20	0.11
Copper	µg/L	3.53	4.69	3.00
Iron	mg/L	0.038	0.055	0.027
Lead	µg/L	0.25	0.45	0.14
Manganese	µg/L	11.83	17.4	5.23
Mercury	µg/L	0.0029	0.0052	0.0014
Nickel	µg/L	3.96	5.20	2.26
Total Phosphate	mg/L	0.369	0.610	0.167
Potassium	mg/L	17.3	17.5	17.1
Selenium	µg/L	0.37	0.48	0.21
Silver	µg/L	<0.20	<0.20	<0.20
Sodium	mg/L	144	160	133
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	57.9	71.8	45.2
Detergents (MBAS)	mg/L	<0.04	<0.10	0.02
Oil and Grease	mg/L	<2.9	<4.7	1.2

TABLE B-5
SAN JOSE CREEK WATER RECLAMATION PLANT WEST
RECYCLED WATER QUALITY, FY 2020-21

Constituent	Units	Mean	Maximum	Minimum
pH		7.33	7.8	7.0
Turbidity	NTU	0.61	1.30	0.35
Total Coliform	org./100 ml	<1	14	<1
Fecal Coliform	org./100 ml	<1	<1	<1
Temperature	deg. F	78.9	88.7	68.9
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	593	667	485
Total COD	mg/L	23.2	29.9	17.5
Total BOD	mg/L	<3.1	5.8	<3.0
Total Organic Carbon	mg/L	6.16	7.69	4.87
Ammonia Nitrogen	mg/L	1.45	3.30	109
Organic Nitrogen	mg/L	1.312	1.84	0.820
Nitrate Nitrogen	mg/L	4.79	8.72	2.05
Nitrite Nitrogen	mg/L	0.108	0.309	0.045
Fluoride	mg/L	0.583	0.689	0.465
Boron	mg/L	0.33	0.38	0.30
Cyanide	mg/L	2.05	3.12	1.33
Chloride	mg/L	120	131	108
Sulfate	mg/L	102.6	134	66.5
Total Alkalinity	mg/L	175	199	156
Total Hardness	mg/L	213	229	180
Calcium	mg/L	59.8	61.8	57.2
Magnesium	mg/L	17.3	18.7	16.0
Antimony	µg/L	0.60	0.65	0.49
Arsenic	µg/L	0.87	1.03	0.66
Barium	µg/L	54.5	58.9	46.2
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.20	<0.20	<0.20
Total Chromium	µg/L	1.04	1.89	0.60
Hexavalent Chromium	µg/L	0.10	0.22	0.04
Copper	µg/L	5.25	7.41	3.12
Iron	mg/L	0.091	0.24	0.040
Lead	µg/L	0.20	0.26	0.13
Manganese	µg/L	4.97	5.67	4.05
Mercury	µg/L	0.0042	0.0071	0.0016
Nickel	µg/L	2.73	3.81	1.68
Total Phosphate	mg/L	1.058	6.11	0.342
Potassium	mg/L	16.5	17.8	15.6.
Selenium	µg/L	0.38	0.56	0.25
Silver	µg/L	<0.20	<0.20	<0.20
Sodium	mg/L	124	141	112
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	51.9	63.0	44.1
Detergents (MBAS)	mg/L	0.03	0.05	0.03
Oil and Grease	mg/L	<4.1	<5.7	2.1

TABLE B-6
WHITTIER NARROWS WATER RECLAMATION PLANT
RECYCLED WATER QUALITY, FY 2020-21

Constituent	Units	Mean	Maximum	Minimum
pH		7.38	7.6	7.2
Turbidity	NTU	0.36	0.75	0.20
Total Coliform	org./100 ml	<1	1	<1
Fecal Coliform	org./100 ml	<1	<1	<1
Temperature	deg. F	78.2	86.8	69.1
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	605	688	530
Total COD	mg/L	<22.8	37.0	12.1
Total BOD	mg/L	<3.0	<3.0	<3.0
Total Organic Carbon	mg/L	5.18	5.72	4.61
Ammonia Nitrogen	mg/L	0.690	1.19	0.305
Organic Nitrogen	mg/L	<0.454	1.09	<0.200
Nitrate Nitrogen	mg/L	5.27	7.79	3.10
Nitrite Nitrogen	mg/L	<0.076	0.214	<0.030
Fluoride	mg/L	0.577	0.644	0.515
Boron	mg/L	0.27	0.30	0.25
Cyanide	µg/L	<4.38	6.33	2.54
Chloride	mg/L	119	130	95.9
Sulfate	mg/L	119	138	115
Total Alkalinity	mg/L	169	192	155
Total Hardness	mg/L	212	254	175
Calcium	mg/L	59.72	61.8	55.8
Magnesium	mg/L	19.1	24.2	16.6
Antimony	µg/L	0.43	0.46	0.39
Arsenic	µg/L	0.83	0.99	0.66
Barium	µg/L	30.9	50.0	16.2
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.18	<0.20	0.043
Total Chromium	µg/L	0.99	1.22	0.68
Hexavalent Chromium	µg/L	0.18	<1.0	0.01
Copper	µg/L	3.14	3.74	2.79
Iron	µg/L	68.2	135	25.9
Lead	µg/L	0.19	0.24	0.15
Manganese	µg/L	3.05	8.9	0.79
Mercury	µg/L	0.0017	0.0030	0.0008
Nickel	µg/L	4.85	14.5	1.66
Total Phosphate	mg/L	0.419	1.83	0.085
Potassium	mg/L	15.0	15.6	14.6
Selenium	µg/L	0.44	0.63	0.26
Silver	µg/L	<0.20	<0.20	<0.20
Sodium	mg/L	127	1326	123
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	55.1	63.1	46.4
Detergents (MBAS)	mg/L	<0.06	<0.10	0.04
Oil and Grease	mg/L	<3.5	<5.8	1.5

TABLE B-7
VALENCIA WATER RECLAMATION PLANT
RECYCLED WATER QUALITY, FY 2020-21

Constituent	Units	Mean	Maximum	Minimum
pH		7.32	7.6	7.1
Turbidity	NTU	0.86	1.90	0.45
Total Coliform	org./100 ml	<1	1	<1
Fecal Coliform	org./100 ml	<1	<1	<1
Temperature	deg. F	76.6	82.9	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	599	673	534
Total COD	mg/L	<23.2	327.0	17.6
Total BOD	mg/L	<3.4	11.7	<3.0
Total Organic Carbon	mg/L	6.08	6.26	5.89
Ammonia Nitrogen	mg/L	0.961	1.19	0.692
Organic Nitrogen	mg/L	1.44	2.26	0.48
Nitrate Nitrogen	mg/L	3.65	4.17	3.10
Nitrite Nitrogen	mg/L	<0.051	0.126	<0.030
Fluoride	mg/L	0.285	0.318	0.252
Boron	mg/L	0.41	0.49	0.35
Cyanide	µg/L	<4.10	6.33	2.54
Chloride	mg/L	117	131	109
Sulfate	mg/L	141	157	126
Total Alkalinity	mg/L	148	157	139
Total Hardness	mg/L	201	237	175
Antimony	µg/L	0.48	0.52	0.43
Arsenic	µg/L	0.67	1.02	0.42
Barium	µg/L	4.37	4.82	3.74
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.20	<0.20	<0.20
Total Chromium	µg/L	<0.33	<0.50	0.21
Hexavalent Chromium	µg/L	<0.03	<0.05	0.01
Copper	µg/L	1.75	2.74	1.10
Iron	µg/L	93.9	135	68.5
Lead	µg/L	0.03	0.04	0.02
Mercury	µg/L	0.0037	0.0071	0.00077
Nickel	µg/L	2.13	2.26	2.01
Total Phosphate	mg/L	1.32	1.83	0.825
Selenium	µg/L	0.28	0.38	0.20
Silver	µg/L	<0.20	<0.20	<0.20
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	20.2	19.2	16.9
Detergents (MBAS)	mg/L	0.07	0.09	0.05
Oil and Grease	mg/L	<3.9	<5.3	1.7

TABLE B-8
SAUGUS WATER RECLAMATION PLANT
RECYCLED WATER QUALITY, FY 2020-21

Constituent	Units	Mean	Maximum	Minimum
pH		7.49	7.8	7.2
Turbidity	NTU	0.96	1.60	0.45
Total Coliform	org./100 ml	<1	1	<1
Fecal Coliform	org./100 ml	<1	<1	<1
Temperature	deg. F	76.21	83.0	69.4
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	489	584	450
Total COD	mg/L	<23.9	36.8	14.8
Total BOD	mg/L	<4.5	17.2	<3.0
Ammonia Nitrogen	mg/L	0.845	1.02	0.764
Organic Nitrogen	mg/L	1.620	2.18	0.986
Nitrate Nitrogen	mg/L	4.09	5.14	2.91
Nitrite Nitrogen	mg/L	<0.070	0.421	<0.030
Fluoride	mg/L	0.189	0.196	0.183
Boron	mg/L	0.41	0.46	0.37
Cyanide	µg/L	<2.91	<5.00	1.63
Chloride	mg/L	105	114	95.2
Sulfate	mg/L	88.7	101	82.6
Total Hardness	mg/L	155	187	137
Antimony	µg/L	0.54	0.59	0.45
Arsenic	µg/L	1.00	1.26	0.57
Barium	µg/L	24.3	29.1	20.0
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.16	<0.20	0.05
Total Chromium	µg/L	0.46	0.63	0.24
Hexavalent Chromium	µg/L	0.04	0.05	0.03
Copper	µg/L	2.64	3.48	1.78
Iron	µg/L	15.4	16.9	14.1
Lead	µg/L	0.14	0.17	0.12
Mercury	µg/L	0.0031	0.0080	0.00066
Nickel	µg/L	1.13	1.52	0.85
Total Phosphate	mg/L	0.600	1.15	0.288
Selenium	µg/L	0.23	0.32	0.17
Silver	µg/L	<0.20	<0.20	<0.20
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	70.1	80.3	64.5
Detergents (MBAS)	mg/L	0.07	0.09	0.05
Oil and Grease	mg/L	<3.7	<5.9	1.6

TABLE B-9
LANCASTER WATER RECLAMATION PLANT
RECYCLED WATER QUALITY, FY 2020-21

Constituent	Units	Mean	Maximum	Minimum
pH		7.38	7.8	7.0
Turbidity	NTU	0.61	1.40	0.35
Total Coliform	org./100 ml	<1	6	<1
Temperature	deg. F	73.9	84.6	63.7
Suspended Solids	mg/L	<2.5	<2.5	<2.5
Total Dissolved Solids	mg/L	519	531	508
Total COD	mg/L	<20.2	27.6	12.7
Total BOD	mg/L	<3.0	3.1	<3.0
Total Organic Carbon	mg/L	5.47	5.82	5.09
Ammonia Nitrogen	mg/L	1.90	3.47	1.03
Nitrate Nitrogen	mg/L	4.74	6.20	2.24
Nitrite Nitrogen	mg/L	0.079	0.140	0.043
Cyanide	µg/L	<3.6	<5.0	2.19
Chloride	mg/L	129	141	118
Sulfate	mg/L	80.6	91.6	69.9
Calcium	mg/L	47.0	57.8	41.6
Magnesium	mg/L	8.3	11.0	6.2
Antimony	µg/L	0.57	0.59	0.54
Arsenic	µg/L	1.26	1.48	1.03
Barium	µg/L	24.2	27.1	21.3
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.20	<0.20	<0.20
Total Chromium	µg/L	0.80	0.93	0.66
Hexavalent Chromium	µg/L	0.05	0.07	0.03
Copper	µg/L	1.12	1.15	1.08
Iron	mg/L	0.08	0.10	0.06
Lead	µg/L	0.04	0.04	0.03
Manganese	µg/L	15.9	23.8	9.6
Mercury	µg/L	0.00059	0.00074	0.00043
Nickel	µg/L	0.911	0.98	0.84
Potassium	mg/L	14.8	15.0	14.5
Selenium	µg/L	0.63	0.82	0.44
Silver	µg/L	<0.20	<0.20	<0.20
Sodium	mg/L	122	130	117
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	79.5	104	54.9
Detergents (MBAS)	mg/L	0.10	0.13	0.06

TABLE B-10
PALMDALE WATER RECLAMATION PLANT
RECYCLED WATER QUALITY, FY 2020-21

Constituent	Units	Mean	Maximum	Minimum
pH		7.10	7.4	6.6
Turbidity	NTU	0.78	1.40	0.50
Total Coliform	org./100 ml	<1	1	<1
Temperature	deg. F	72.7	80.6	63.9
Suspended Solids	mg/L	<2.5	<2.5	<2.5
Total Dissolved Solids	mg/L	496	56	492
Total COD	mg/L	<14.0	<25.0	9.9
Total BOD	mg/L	<3.2	4.9	<3.0
Total Organic Carbon	mg/L	6.35	6.75	5.82
Ammonia Nitrogen	mg/L	1.73	5.27	0.907
Nitrate Nitrogen	mg/L	2.58	6.03	0.994
Nitrite Nitrogen	mg/L	0.121	0.390	0.036
Cyanide	mg/L	<5.0	<5.0	<5.0
Chloride	mg/L	155	163	143
Sulfate	mg/L	70.8	78.7	64.4
Fluoride	mg/L	0.1872	0.191	0.173
Total Alkalinity	mg/L	103	112	93
Calcium	mg/L	36.4	39.5	34.0
Magnesium	mg/L	8.9	9.7	8.2
Antimony	µg/L	0.52	0.54	0.50
Arsenic	µg/L	0.46	0.56	0.36
Beryllium	µg/L	<0.25	<0.25	<0.25
Cadmium	µg/L	<0.20	<0.20	<0.20
Total Chromium	µg/L	0.95	1.21	0.74
Hexavalent Chromium	µg/L	0.05	0.09	0.01
Copper	µg/L	1.33	1.35	1.30
Lead	µg/L	0.05	0.05	0.04
Mercury	µg/L	0.0017	0.0028	0.0006
Nickel	µg/L	1.14	1.25	1.03
Selenium	µg/L	0.29	0.35	0.22
Silver	µg/L	<0.20	<0.20	<0.20
Sodium	mg/L	121	125	119
Thallium	µg/L	<0.25	<0.25	<0.25
Zinc	µg/L	92.5	98.9	86.0
Detergents (MBAS)	mg/L	0.09	0.10	0.06
Oil & Grease	mg/L	<4.8	<5.2	<4.3

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 gallon per minute (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, then east along Murchison Avenue for a short distance before it terminates at a 4.5 million gallon 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 1994-95 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 1998-99 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 distribution system to Schedule 4 of the Century distribution 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 million gallon 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 a new 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

USGVMWD – PHASE II-A EXTENSION (WHITTIER NARROWS RECREATION 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 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 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 to Central Avenue. At Central, the pipeline turns south and runs 3,590 feet to a four-way junction at Santa Anita Avenue. Prior to reaching Santa Anita, 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, a 17-⅜-inch GWBR pipe runs northeast on Santa Anita 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 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 to its terminus at Epiphany Catholic School.

Also, an 8-⅝-inch GWBR pipe runs southwest on Santa Anita from the four-way junction on Santa Anita 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 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 is a T-section at Lidcombe Avenue. From this T-section, an 8-⅝-inch GWBR pipe runs northeast on Lidcombe for 570 feet to its terminus at a service to New Temple Park.

APPENDIX L

LANCASTER EASTERN AGRICULTURAL SITE

To deliver recycled water to this site, approximately 17.2 miles of transmission lines (terminating in a 2 million gallon 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.