CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

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TENTATIVE

ORDER NO. R4-2017-XXXX
FILE NO. 06-189
CI NO. 9259

WASTE DISCHARGE REQUIREMENTS FOR CITY OF SANTA PAULA (SANTA PAULA WATER RECYCLING FACILITY)

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) finds:

PURPOSE OF ORDER

1. The City of Santa Paula (City or Discharger) is the owner of the Santa Paula Water Recycling Facility (SPWRF), a Publicly-Owned Treatment Works (POTW), located at 920 Corporation Street in Santa Paula, California (Figure 1). The SPWRF, currently operated by American Water, discharges tertiary-treated wastewater to groundwater via three percolation ponds adjacent to the facility.

2. The City was previously regulated under Waste Discharge Requirements (WDRs) contained in Order No. R4-2007-0028, adopted by this Regional Board on May 3, 2007. The Regional Board amended Order No. R4-2007-0028 three times as follows:

   A. Order No. R4-2010-0074, adopted by this Regional Board on May 6, 2010, required that effluent discharged to percolations ponds shall not exceed 2.6 million gallons per day (MGD).

   B. Order No. R4-2007-0028-R02, adopted by this Regional Board on February 2, 2012, incorporated pretreatment program requirements and corresponding monitoring requirements.

   C. Order No. R4-2007-0028-R03, adopted by this Regional Board on April 6, 2017, extended the expiration date of Order No. R4-2007-0028 from May 3, 2010 to December 15, 2017 or upon future issuance of new or revised WDRs.

3. On October 1, 2015, the Regional Board directed the City to submit a Report of Waste Discharge (ROWD) for application of renewal of the City's WDRs to discharge treated wastewater from the SPWRF to the percolation pond. On December 5, 2015, the City filed its ROWD for the SPWRF.

4. To verify the information provided in the ROWD, Regional Board staff conducted inspections of the SPWRF on December 8, 2015 and December 28, 2016, including the wastewater treatment processes, percolation ponds, and groundwater monitoring wells.

5. The purpose of this Order is to renew WDRs for the City's SPWRF. This Order includes updates to effluent limitations, groundwater limitations, and Monitoring and Reporting Program (MRP) CI No. 9259 to ensure that the City's discharge of waste complies with water quality objectives set forth in the *Water Quality Control Plan for the Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan) and is protective of beneficial uses.

BACKGROUND

6. Before 2010, the City's wastewater was treated at the Santa Paula Wastewater Reclamation Plant (Plant), which discharged the treated wastewater to the Santa Clara River. That discharge was regulated by a National Pollutant Discharge Elimination System (NPDES) permit. Due to the age of the Plant, which was built in 1939, the City was unable to comply with the effluent limitations for biological oxygen demand (BOD), total suspended solids (TSS), turbidity, bacteria, residual chlorine, nitrate-nitrite, sulfate, and toxicity, as set forth in its NPDES permit. More than 3,000 violations at the Plant lead the Regional Board to engage in settlement discussions with the City, resulting in a Stipulated Consent Judgment and Final Order in 2007. The City chose to build a new treatment plant, the SPWRF, to discharge to groundwater through percolation ponds. The City was required to complete construction of the new SPWRF by September 15, 2010 and be in full compliance with WDRs set forth in Order No. R4-2007-0028 by December 15, 2010.

7. Construction of the SPWRF began in July 2008 and was completed in December 2009. The SPWRF began accepting partial flow in April 2010 and then accepted all flow from the City in May 2010. The Plant built in 1939 was thereafter decommissioned.

8. According to the United States Census Bureau, approximately 19% of the population in the City have income levels below the poverty line, and approximately 25% of area in the City is categorized as a disadvantage community (less than 80% of the State's median household income) or a severely disadvantaged community (less than 60% of the State's median household income). The average sewer fee assessed for a single family was about $88, based on the City's *2014 Water and Sewer Rate Study Results*.

9. Drinking water supplied to the City is produced from deep wells including Well 1-B, Well 11, Well 12, Well 13, and Well 14, which are owned and operated by the Water Division of the City and produce up to 10.6 MGD. Water produced at all five wells between 2010 and 2016 complied with all primary state and federal drinking water standards. Table 1 summarizes drinking water test results for total dissolved solids (TDS), sulfate, chloride, and boron from the City's 2010-2016 Annual Water Quality Reports, as compared to the groundwater quality objectives (GWQOs) set forth in the Basin Plan.

Table 1 – Drinking Water Quality (milligrams/Liter, mg/L)

Period	TDS	Sulfate	Chloride	Boron
2010	941	440	43	0.53
2011	918	428	41	0.54
2012	964	442	42	0.52
2013	693	208	47	0.52
2014	975	420	42	0.54

Table 1 – Drinking Water Quality (milligrams/Liter, mg/L)				
Period	**TDS**	**Sulfate**	**Chloride**	**Boron**
2015	941	405	44	0.47
2016	981	440	48	0.55
GWQOs	**2000**	**800**	**110**	**1.0**

CURRENT FACILITY AND TREATMENT PROCESS DESCRIPTION

10. **SPWRF and Vicinity**

A. The SPWRF (34^{o} 19' 56.3" N, 119^{o} 04' 57.2" W) is sited on a 50-acre parcel along Calpipe Road and Todd Lane in Santa Paula, California (Figure 1). The SPWRF is approximately 1,200 feet southeast of Highway 126, approximately 1,000 southwest of Shell Road, and approximately 1,300 feet northwest of the Santa Clara River.

B. The SPWRF is located over the Santa Clara-Santa Paula Groundwater Basin (DWR Basin No. 4-4) (Figure 2).

11. **SPWRF Treatment**

A. The SPWRF treats wastewater generated within the City and is designed for a flow of 4.2 MGD. Based on the discharge records between July 2010 and June 2017, the effluent discharged from the SPWRF ranged between 1.36 and 2.44 MGD, with an average of 1.86 MGD.

B. The wastewater treatment process at the SPWRF (See Figure 3 for process flow schematic) consists of preliminary treatment (coarse and fine mechanical screening and grit removal at the Influent Lift Station), flow equalization (two flow equalization tanks), secondary treatment (three aeration tanks with nitrification and denitrification activated sludge), tertiary treatment (six biomembrane reactors, providing further carbonaceous oxidation, nitrification/denitrification and solids removal to meet the limits of the WDRs), and disinfection (UV). Treated and disinfected effluent is discharged to three percolation ponds (Figure 4). The returned activated sludge is treated at two of three aerobic digesters (one aerobic digester is for backup) after being thickened at two thickeners. The solids generated at the aerobic digesters receive final dewatering at the screw dewatering press. Final solids meeting the United States Environmental Protection agency (USEPA) Class B reuse standards are sent to the Ventura County Regional Bio-Solids facility.

C. The SPWRF was not designed to remove chloride. Since the SPWRF has no ability to remove chloride, chloride is passed through to the effluent and then groundwater via discharges to the percolation pond.

D. The City owns and operates the sewer collection system, which conveys domestic, commercial, and industrial wastewater to the SPWRF. Two industrial users within the City are Aurora Casting (metal foundry) and Saticoy Lemon (lemon packing house). The City is required to implement a Pretreatment Program and to comply with requirements for operation and maintenance of the sewer collection system. The City

has been implementing an industrial wastewater Pretreatment Program for the SPWRF, which has been approved by the USEPA and the Regional Board.

E. Percolation Ponds

i. The three percolation ponds were built on approximately 34 acres of agriculture land (Figure 4) and are located along Todd Lane in the Santa Clara-Santa Paula Groundwater Basin area.

ii. The Regional Board classified the discharge to the percolation pond as a discharge of treated wastewater to land that is subject to WDRs.

iii. A hydrologic model completed by the City in 2008 indicated that the percolation pond have a maximum discharge capacity of 2.6 MGD during wet years. Therefore, the allowable discharge of the SPWRF was reduced from 8 MGD to 2.6 MGD in Order No. R4-2010-0074 (amending Order No. R4-2007-0028).

GROUNDWATER DEPTH AND MONITORING WELLS

12. Depth to groundwater at the site ranges from approximately 15 to 41 feet below ground surface. Groundwater gradients generally appear to parallel the ground surface, gently sloping downward to the southwest. During wet years, groundwater may rise to within ten to eleven feet below ground surface in the southwest area (along the Santa Clara River).

13. The City owns and currently samples eight (8) groundwater monitoring wells, including MW-1, MW-2a, MW-3, MW-4, MW-5, MW-6, MW-7, and MW-8 (shown on Figure 4). Per Section IV.C.3 of the Monitoring and Reporting Program (MRP) (Attachment E), the City will be proposing a modified groundwater monitoring network. Upon approval by the Executive Officer, the modified groundwater monitoring network will be used to determine compliance with the groundwater limitations in this Order, demonstrate that the discharge via percolation ponds does not cause mounding of groundwater, and to generally monitor the change of groundwater quality to ensure that the discharge does not cause adverse impacts to groundwater.

COMPLIANCE HISTORY

14. Based on data collected from July 2010 to June 2017, the City had the following number of exceedances recorded in the effluent and groundwater at the SPWRF, which are identified in Table 2.

Table 2 – Number of Exceedances Recorded in Effluent and Groundwater

Pollutants	Effluent	Groundwater
Chloride	84	174
Di(2-ethyl)phthalate	1	---
Dioxin	1	---
Total nitrogen	1	---
Nitrate plus nitrite	---	1

Table 2 – Number of Exceedances Recorded in Effluent and Groundwater		
Pollutants	**Effluent**	**Groundwater**
Sulfate	---	1
chromium	---	5
Aluminum	---	10
Nickel	---	1
Boron	---	1

Multiple effluent and groundwater limitations were exceeded during the period between the 2nd quarter of 2010 and the 3rd quarter of 2011. Beginning with the 4th quarter of 2011, the City had met all effluent limitations except for chloride. As previously noted, the SPWRF was not designed to remove chloride. The monthly effluent chloride concentration ranged from 125 to 166 mg/L and continuously exceeded the effluent chloride monthly average of 110 mg/L. Table 3 summarizes the annual average chloride concentrations in the SPWRF effluent.

Table 3 – Annual Average Chloride Concentrations[1] (mg/L) in SPWRF Effluent	
2010	156
2011	153
2012	149
2013	155
2014	145
2015	134
2016	137
2017 (Jan – Jun)	141
Range[2]	**144.4 ± 8.2**

Table Notes:

[1] All data collected from grab samples.

[2] Data range is based on one standard deviation.

15. Table 4 summarizes the groundwater annual average chloride concentration before and after the SPWRF began discharging via the percolation pond. The annual average chloride groundwater concentration was 108 mg/L at the downgradient water supply Well 03N21W21G03S prior to initiation of discharge at the percolation pond in 2010. After the SPWRF began discharging to the percolation pond, the annual average chloride groundwater concentration increased to 135 mg/L at Well 03N21W21G03S. Monitoring data from the upgradient groundwater monitoring Well MW-3 indicates an annual average chloride groundwater concentration of 100 mg/L. This information suggests that the background groundwater chloride concentration was around 100 mg/L. Groundwater chloride concentrations at the downgradient groundwater monitoring Well MW-5 have been recorded between 135 and 155 mg/L, with an average of 142 mg/L. This data closely

aligns with the SPWRF's effluent chloride concentration of approximately 144 mg/L (Table 3). The groundwater and effluent data indicate that the chloride discharges from the SPWRF have impacted, and continue to impact, the receiving groundwater quality in the vicinity of the SPWRF.

Table 4 – Annual Average Chloride Concentration[1] in Groundwater (mg/L)

Period	Downgradient MW-5[2]	Downgradient 03N21W21G03S[3]	Upgradient MW-3[4]
Prior to Discharge from SPWRF			
2003	---	113	---
2004	---	111	---
2005	---	117	---
2006	---	112	---
2007	---	110	---
2008	---	100	---
2009	---	92	---
Range[5]	---	**107.9 ± 8.6**	---
After Discharge from SPWRF			
2010 (Jul – Dec)	145	138	93
2011	145	146	112
2012	153	135	87
2013	155	136	103
2014	135	129	115
2015	136	129	108
2016	135	134	103
2017 (Jan – Jun)	121	131	82
Range[5]	**142.4 ± 17.6**	**134.0 ± 6.7**	**100.2 ± 15.2**

Table Notes:

[1] All data collected from grab samples.

[2] Data were averaged from samples collected at the City-owned groundwater monitoring Well MW-5 with screen intervals of 42 to 62 feet, located approximately 50 feet downgradient from Percolation Pond 3.

[3] Water supply Well 03N21W21G03S is owned and operated by a private entity. This well is located approximately 300 feet southwest of Well MW-5. The screen intervals of Well 03N21W21G03S are from 80 to 120 below surface grade. Water produced at this well is used for agricultural irrigation only.

[4] Data were averaged from samples collected at the City-owned groundwater monitoring Well MW-3 with screen intervals of 25 to 45 feet, located approximately 1,800 feet upgradient from Percolation Pond 1.

[5] Data range is based on one standard deviation.

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16. The Regional Board issued three Notices of Violation (NOVs) to the City, dated November 3, 2011, December 30, 2014, and March 20, 2017, for exceedances of the chloride effluent and groundwater limitations in Order No. R4-2007-0028. These NOVs required the City to implement corrective and preventative actions to bring the City's discharge to full compliance with the chloride effluent limitation and receiving water requirements specified in Order No. R4-2007-0028.

PLAN FOR CHLORIDE COMPLIANCE

17. The City's efforts to reduce the chloride concentration in the influent to the SPWRF are summarized below:

    A. The City identified that the influent to the SPWRF contains brine with high chloride concentration from Self-Regenerating Water Softeners (SRWS). There are approximately 1,250 residential SRWS used in the City.

    B. On September 5, 2006, the City established Ordinance No. 1160 prohibiting the installation or replacement of residential SRWS.

    C. On June 22, 2015, the City adopted Resolution No. 6918 approving a SRWS Buyback and Incentive Program. This program offers a financial incentive to residents to voluntarily remove SRWS. A Kick-Off SRWS Buyback event was held on September 19, 2015. The removal of SRWS under this program began in October 2015. As of June 30, 2017, 244 of the approximately 1,250 SRWS have been removed. Table 5 summarizes the progress of SRWS removal by comparing the monthly average chloride concentration in the effluent compared to the accumulated number of SRWS removed. A reliable decreasing trend for chloride has not been observed in the effluent.

Table 5 – Monthly Average Chloride Concentration[1] in Effluent Compared to Accumulated Number of SRWS Removed

Period	Accumulated Number of SRWS Removed	Effluent (mg/L)
October 2015	23	132
November 2015	46	133
December 2015	58	129
January 2016	74	146
February 2016	83	139
March 2016	96	138
April 2016	106	137
May 2016	115	138
June 2016	122	138
July 2016	125	134
August 2016	135	125
September 2016	158	133
October 2016	166	142

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Table 5 – Monthly Average Chloride Concentration[1] in Effluent Compared to Accumulated Number of SRWS Removed		
Period	**Accumulated Number of SRWS Removed**	**Effluent (mg/L)**
November 2016	196	140
December 2016	200	141
January 2017	220	146
February 2017	228	157
March 2017	233	143
April 2017	236	131
May 2017	243	134
June 2017	244	134
Monthly Range[2]	**---**	**137.6 ± 7.0**

Table Notes:

[1] All data collected from grab samples.

[2] Data range is based on one standard deviation.

18. To address the City's chloride exceedances in the effluent and groundwater, the Regional Board required the City to submit a Chloride Reduction Workplan. Board staff also met with the City on several occasions to discuss the City's chloride exceedances. A summary of these events are as follows:

    A. On December 19, 2013 and May 11, 2015, the Regional Board met with the City to discuss its Chloride Reduction Workplan. The City's Chloride Reduction Workplan includes the following tasks:

        i. Prohibit SRWS installations or replacements;

        ii. Implement a SRWS Buyback Program;

        iii. Implement a Recycled Water Program to reduce effluent discharged to the three percolation ponds; and

        iv. Implement Supplemental Strategies, if needed, including advanced treatment (e.g. reverse osmosis) and disposal of brine.

    B. On January 28, 2016, Regional Board staff discussed with the City the necessary actions to reduce the chloride concentration in the effluent, which included the SRWS Buyback Program. The City also proposed to explore application of recycled water at locations other than identified groundwater hot spots and to conduct groundwater impact investigation and remediation activities. The City was notified that detailed schedules and milestones were required for all actions.

    C. On March 8, 2016 and September 14, 2016, the City met with Regional Board staff to provide an update of its SRWS Buyback Program efforts. The City noted that five City

employees were deployed to conduct door-to-door visits to encourage participation in the SRWS Buyback Program among 7,500 dwellings within the City.

D. On October 31, 2016, the City met with Regional Board staff to provide an update on the following topics:

i. Status of implementing the chloride compliance strategy and potential for reduction of effluent discharged to the three percolation ponds via the City's Recycled Water Program;

ii. Assimilative capacities for chloride at different groundwater locations beneath the City based on the Salt and Nutrient Management Plan for the Lower Santa Clara River Basin; and

iii. Groundwater hot spots (i.e., chloride-impaired areas with no assimilative capacity for recycled water applications) in the City.

19. On July 9, 2015, the Regional Board adopted Resolution No. R15-007, an amendment to the Basin Plan that incorporated stakeholder-developed groundwater quality management plan for salts and nutrients in the Lower Santa Clara River groundwater basins. Groundwater quality management measures were developed by stakeholders as part of the Salt and Nutrient Management Plan (SNMP) for the Lower Santa Clara River Basins in Ventura County. Such plans are a requirement of the State Water Resources Control Board's (State Water Board) Recycled Water Policy and are intended to maintain high quality waters and to protect the beneficial uses of groundwater while promoting recycled water use throughout the state. The SNMP utilized a groundwater quality model that characterized the water quality in the Santa Paula Basin and examined the degree of impairment to water quality in the Basin. The model shows there is available assimilative capacity for salts and nutrients, including chloride, in most areas of the Santa Paula Basin to allow for recycled water projects consistent with the Recycled Water Policy. As described below, the City is planning to recycle effluent that is currently discharged to the percolation pond.

20. The City developed and utilized a simple spreadsheet mixing model, the *Groundwater Chloride Transportation Model* (Chloride Model), to analyze the effect of future effluent discharges on groundwater over time at various distances from the percolation pond. The City's modelling assumed some degradation of groundwater with respect to chloride within a limited range of mixing zone radius below and adjacent to the SPWRF, measured from the boundaries of the percolation pond. This distance is the shortest where SPWRF effluent disposed to the percolation pond can mix with groundwater and result in receiving water chloride concentrations of 110 mg/L or less. Groundwater within the mixing zone will exceed the chloride GWQO of 110 mg/L. Mass-volume balance calculations along with Darcy's Law are used to account for travel in porous media. The mixing model simulates instantaneous and complete mixing of ambient groundwater with effluent seepage reaching the water table from the percolation pond using SPWRF data for flow and chloride effluent concentrations. It was conservatively assumed that any effluent discharge to the percolation pond would infiltrate into the underlying aquifer and not be diverted for other uses. Groundwater parameters within the spreadsheet model were selected based on recent monitoring reports in order to be representative of average conditions within the vicinity of the SPWRF. The mixing model assumes an initial volume of groundwater underlying the ponds possessing background chloride concentrations of 136 mg/L. The volume of the existing groundwater

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body is calculated as the product of the radius of interest (150-1200 feet), an assumed saturated thickness of potentially impacted groundwater (50 feet), and the porosity of the underlying sediments (assumed to be 0.2) based on the low end of published literature values for a sand and gravel mixture. Based on the regional groundwater quality data documented in the SNMP, regional groundwater inflow is assumed to have a chloride concentration of 91 mg/L.

On December 14, 2016, Regional Board staff met with the City to discuss the results of the Chloride Model, which evaluated compliance with the groundwater quality objectives beneath and adjacent to the three percolation ponds, for various discharge scenarios. Based on Regional Board staff's comments, the City revised the Chloride Model, which was discussed in meetings held on February 8, 2017, February 17, 2017, July 24, 2017, and August 7, 2017.

21. The revised Chloride Model simulated chloride concentrations in the receiving groundwater resulting from chloride mass loading reduction in the three percolation ponds. The Model predicted GWQOs being achieved at 150 feet away from the percolation pond, a sufficient distance to allow mixing in the groundwater, when the total mass of chloride in the effluent is significantly reduced. The initial mass of chloride is calculated based on the average chloride effluent concentration of 135 mg/L and the discharge rate of 2.2 MGD [95 percentile of monthly average effluent flows, resulting from data recorded between October 2015 (beginning of the SRWS Buyback Program) and June 2017], which results in 2,479 pounds total mass of chloride discharged per day. The reduction of chloride mass discharged to the percolation pond can be achieved by improving the effluent chloride concentration (e.g., source control or treatment), or diverting a significant amount of flow for recycled water uses, or a combination of both in order to protect water supply Wells 03N21W21G01S, 03N21W21G02S, and, 03N21W21G03S, approximately 150, 150, and 300 feet, respectively, away from percolation ponds. Water produced from these wells is primary for agricultural irrigation use.

    To achieve the chloride GWQO of 110 mg/L in groundwater at least 150 feet away from the percolation pond, the City provided various effluent chloride concentration and allowable flow combinations (Table 6). Based on the hydrology and hydrogeologic condition at the SPWRF percolation ponds area, the higher the concentration of chloride in the effluent, the less volume and mass can be discharged to percolation ponds to comply with the chloride GWQO in the Basin Plan. For example, if the chloride concentration in the effluent is 135 mg/L, only 0.07 MGD, which is equivalent to 79 pounds of chloride per day, could be discharged to the percolation pond to achieve the chloride GWQO of 110 mg/L at 150 feet away from the percolation pond. If the chloride concentration in the effluent is reduced to 120 mg/L, then more flow (0.2 MGD) can be discharged to the percolation pond and achieve the chloride GWQO 150 feet away from the percolation pond.

Table 6 – Groundwater Chloride Transportation Model - Continuous Discharge

Chloride Effluent Concentration	Flow to Percolation Ponds (% of 2.2 MGD)	Allowable Effluent Mass Load to Groundwater (Daily)	Chloride Groundwater Concentration at 150 feet
135 mg/L	0.07 MGD (3.2%)	79 pounds (lbs)	110 mg/L

Table 6 – Groundwater Chloride Transportation Model - Continuous Discharge			
Chloride Effluent Concentration	**Flow to Percolation Ponds (% of 2.2 MGD)**	**Allowable Effluent Mass Load to Groundwater (Daily)**	**Chloride Groundwater Concentration at 150 feet**
130 mg/L	0.1 MGD (4.5%)	108 lbs	110 mg/L
125 mg/L	0.13 MGD (5.9%)	135 lbs	110 mg/L
120 mg/L	0.2 MGD (9.1%)	200 lbs	110 mg/L
115 mg/L	0.4 MGD (18.2%)	384 lbs	110 mg/L

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22. To achieve compliance with the chloride GWQO in this Order and to conserve potable water, the City plans to reduce the volume of effluent, and thus a reduction of the chloride mass discharged to the percolation pond by providing recycled water for various local uses. The Regional Board has evaluated the planned recycle projects and has determined that they will be consistent with the State Water Board's Recycled Water Policy and will still preserve available assimilative capacity within the Santa Paula Basin consistent with the SNMP. The mass-based effluent limitation for chloride in this Order reflects the City's chosen compliance option. The groundwater limitations are based on the GWQOs in the Basin Plan.

23. On December 22, 2015, the City submitted the Recycled Water Program Technical Report and Notice of Intent with the Title 22 Engineering Report to the State Water Board's Division of Drinking Water (DDW) for approval. DDW conditionally approved the Title 22 Engineering Report on August 19, 2016. On June 14, 2017, the Regional Board enrolled the City's recycled water program under separate *Water Reclamation Requirements for Recycled Water Use*, Order WQ 2016-0068-DDW, issued by the State Water Board on June 7, 2016.

24. In the City's report, *Chloride Load Reduction Milestones*, submitted to the Regional Board on March 14, 2017, the City included the construction of reverse osmosis treatment at the SPWRF as an option (under Supplemental Strategies), if needed, in order to comply with the chloride groundwater quality objective of 110 mg/L. The City will continue its source control efforts to remove SRWSs and will first focus on recycling most of its effluent in order to bring the groundwater back into compliance with GWQOs. Progress with these efforts will be assessed at Year 2022 and determination will be made as to whether advanced treatment will be required to meet the chloride GWQO at Year 2027. If advanced treatment is required, effluent limits will be applied in a way to ensure protection of all beneficial uses, including salt-sensitive crops.

25. Due to the following reasons, the City cannot immediately comply with the chloride effluent and groundwater limitations prescribed in this Order: (1) high chloride concentrations in the influent, (2) the wastewater treatment process not currently designed to remove chloride out of the waste stream, and (3) time needed to construct recycled water pipelines to deliver recycled water to users. In addition, the current progress of the City's SRWS Buyback Program does not reliably ensure that the SPWRF will comply with the chloride effluent and groundwater limitations. Therefore, the Regional Board has determined that issuance of an accompanying CDO is appropriate and necessary to put the City on the path towards compliance with the effluent and groundwater limitations for chloride set forth in this Order.

The CDO requires the City to comply with interim chloride effluent and groundwater limitations and implement actions pursuant to a prescribed time schedule.

By the end of the CDO schedule, there will be permitted degradation of groundwater with respect to chloride within a limited mixing zone radius downgradient and adjacent to the SPWRF percolation ponds, measured from the boundaries of the percolation pond to 150 feet. This distance is the shortest distance where SPWRF effluent disposed to the percolation pond can mix with groundwater and result in receiving water chloride concentrations of 110 mg/L or less. Groundwater within the 150-foot mixing zone will exceed the chloride GWQO of 110 mg/L. Based on the available data, there are no water supply wells within the 150-foot mixing zone. The City can arrange for alternative water supplies for any well owners in the mixing zone, if any are discovered.

GLOBAL WARMING AND CLIMATE CHANGE

26. The observed century-scale rise in the average temperature of the Earth's surface, oceans, and atmosphere, commonly recognized as the Global Warming, has resulted in extreme climate change, such as the extreme drought and extremely heavy rainfall. In Southern California, the predicted impacts of climate change are numerous. Annual average temperatures are expected to increase, coupled with a higher frequency of extreme heat days. A likely consequence of this warmer climate will be more severe drought periods, leading to an increase in the amount and intensity of fires and a longer fire season. In addition, precipitation patterns are likely to be modified. A decrease in snowfall, combined with warmer temperatures, will induce a decrease in the amount and duration of snowpack, an essential source of freshwater to the region. The increasing occurrence of extreme precipitation events will amplify the risk of flooding, which recently happened in Southern California.

    These impacts will affect water quality in multiple ways, including changes in stream flow, aquatic habitats, surface water temperature, pollutant levels, sedimentation, algal growth, and salinity levels and acidification in coastal areas. For permitted facilities such as Publically Owned Treatment Works (POTWs), specific impacts could include, but are not limited to, an increase in the concentration of pollutants entering the facility, an increase in the temperature of effluents and receiving waters, an increase in storm water inflow and infiltration, increase in flooding/inundation of facilities, sewer overflows, power outages, pump maintenance issues, and onsite or nearby hillside destabilization.

    Executive Order B-30-15, issued on April 29, 2015, recognizing the challenges posed by climate change, directed state agencies to take climate change into account in their planning decisions, guided by the following principles: Priority should be given to actions that both build climate preparedness and reduce greenhouse gas emissions; where possible, flexible and adaptive approaches should be taken to prepare for uncertain climate impacts; actions should protect the state's most vulnerable populations; and natural infrastructure solutions should be prioritized.

    This Order contains provisions to require planning and actions to address climate-related impacts that can cause or contribute to violations of this Order and/or degradation of waters of the state.

27. The SPWRF was designed to include protection from a 100-year storm event in the Santa Clara River. The SPWRF buildings and percolation ponds are located behind a dike that

has an elevation above the elevation anticipated as the result of a 100-year storm event. The design documents and potential flood flow assessment is contained in files in the City's Building & Safety Department. The elevation of the dike at the SPWRF is 23 feet higher than the Santa Clara River located at approximately 1,300 feet southeast. This elevation separation provides additional protection from a possible flood overflow from the Santa Clara River caused by the climate change. It should also be noted that the SPWRF is located outside of the Santa Clara River floodway defined by the Federal Emergency Management Agency and the Ventura County Watershed Protection District. Lastly, the SPWRF is equipped with a backup generator that is capable of operating the SPWRF through power outages and other emergencies.

Climate change may also increase drought and related impacts such as reduced potable water supply and/or changing water supplies, which may be of less quality.

APPLICABLE LAWS, PLANS, POLICIES, AND REGULATIONS

28. This Order serves as WDRs pursuant to Division 7, Chapter 4, Article 4 of the California Water Code (commencing with section 13260). WDRs have been established because discharges from the SPWRF have the potential to affect the quality of the waters of the State, to impact the beneficial uses of those waters, and/or to cause a nuisance. The Regional Board developed the requirements of this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information.

29. Water Quality Control Plan for the Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan) - On June 13, 1994, the Regional Board adopted a comprehensive revision to the Basin Plan. The Basin Plan: (i) designates beneficial uses for surface and groundwater, (ii) establishes narrative and numeric water quality objectives that must be attained or maintained to protect the designated beneficial uses, and (iii) sets forth implementation programs to achieve those objectives for all waters addressed through the Basin Plan. The Basin Plan also incorporates State Water Board Resolution No. 68-16 (see finding below for detail). In addition, the Basin Plan incorporates applicable State and Regional Board plans and policies and other pertinent water quality policies and regulations. The Basin Plan has been amended occasionally since 1994, including recent administrative updates. The requirements in this Order implement the Basin Plan.

30. Beneficial Uses - The SPWRF overlies the Santa Clara-Santa Paula Groundwater Basin (DWR Basin No. 4-4). The Basin Plan identifies beneficial uses for regional waters, including those based on State Water Board Resolution No. 88-63 ("Sources of Drinking Water Policy"), which established state policy that all surface and ground waters of the State, with certain exceptions, are considered suitable or potentially suitable for municipal or domestic water supply. Beneficial uses applicable to the receiving groundwater are as follows:

Table 7 – Basin Plan Beneficial Uses of Groundwater

Receiving Water	Beneficial Use(s)
Santa Clara-Santa Paula Groundwater (DWR Basin No. 4-4)	Existing: Municipal and domestic supply (MUN); industrial service supply (IND), industrial process supply (PROC), and agricultural supply (AGR).

31. Title 22, California Code of Regulations (CCR) - To protect sources of drinking water, the Basin Plan (Chapter 3) incorporates the primary and secondary maximum contaminant levels (MCLs) for inorganic, organic, and radioactive contaminants in drinking water as water quality objectives. These MCLs are codified in CCR, Title 22, Division 4. This incorporation by reference is prospective including future changes to the incorporated provisions as the changes take effect. The primary MCLs (see Attachments A-1 to A-6) are applicable water quality objectives for a receiving water to protect beneficial uses when that receiving water is designated as municipal and domestic supply. The Basin Plan also specifies that "Ground waters shall not contain taste or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses." Therefore, the secondary MCLs, which are limits based on aesthetic, organoleptic standards, are applicable water quality objectives for a receiving water to protect beneficial uses when that receiving water is designated as municipal and domestic supply. These water quality objectives are implemented in this Order to protect the designated beneficial uses.

32. Domestic Water Quality – In compliance with California Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring discharges to meet MCLs implemented by the Basin Plan that are designed to protect human health and ensure that water is safe for domestic use.

33. Impaired Water Bodies on Clean Water Act Section 303(d) List/Total Maximum Daily Loads (TMDLs) – The Santa Clara River is listed on the Clean Water Act Section 303(d) List as impaired by ammonia in Reach 3 and by nitrate plus nitrite in Reach 7. To address this impairment, the Regional Board established the Santa Clara River Nitrogen Compounds TMDL on August 7, 2003 by Regional Board Resolution No. 2003-011. The State Water Board approved the TMDL on November 19, 2003 (Resolution No. 2003-0073) and OAL approved it on February 27, 2004. The TMDL became effective upon approval of the U.S. Environmental Protection Agency on March 18, 2004. Concentration-based loads for nitrogen compounds are allocated for nonpoint sources. The Discharger is subject to the following assigned load allocation for nonpoint sources:

Table 8 – Nonpoint Source Load Allocation for Santa Clara River Nitrogen Compounds TMDL	
Combined Ammonia, Nitrate, Nitrite (NH_3-N + NO_2-N + NO_3-N) Loads as Nitrogen	Monthly Average: 10 mg/L

34. California Water Code section 13263 requires that the Regional Board, when prescribing waste discharge requirements, take into consideration the factors in section 13241. The Regional Board has considered those factors in establishing the WDRs in this Order.

35. State Water Board Resolution No. 68-16, Antidegradation Policy – State Water Board Resolution No. 68-16 "Statement of Policy with Respect to Maintaining High Quality of Waters in California" (also called the "Antidegradation Policy") requires the Regional Board, in regulating the discharges of waste, to maintain high quality waters of the state unless it is demonstrated that any change in quality is consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the State Water Board's policies (e.g., quality that exceeds water quality objectives). Further, any activity that produces waste must meet waste discharge

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requirements that will result in the best practicable treatment or control (BPTC) of the discharge necessary to assure that (a) pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

Excepting chloride (discussed below), the SPWRF's discharge is high quality, tertiary-treated effluent meeting groundwater quality objectives in the Basin Plan and MCLs for drinking water. The Regional Board finds that the discharge, as allowed in this Order, is consistent with Resolution No. 68-16 since this Order: (1) requires compliance with the requirements set forth in this Order, including the use of best practicable treatment and control of the discharges, (2) requires implementation of a Monitoring and Reporting Program (MRP); and (3) requires that the discharges comply with effluent limits to meet water quality objectives. This Order establishes limitations and requirements that will not unreasonably threaten present and anticipated beneficial uses or result in receiving ground water quality that exceeds water quality objectives set forth in the Basin Plan. This means that where the stringency of the limitations for the same waste constituent differs according to beneficial use, the most stringent limit applies as the governing limitation for that waste constituent, unless otherwise justified. This Order contains tasks for assuring that BPTC and the highest water quality consistent with the maximum benefit to the people of the State will be achieved.

The discharge of chloride authorized by this Order will cause some limited and localized groundwater degradation in the immediate vicinity of the SPWRF percolation ponds. Untreated discharges of chloride over the last 10 years have resulted in elevated concentrations of chloride in the effluent and groundwater. The groundwater quality objective for chloride is 110 mg/L and the average effluent chloride concentration in 2016 was 137 mg/L. To comply with the chloride groundwater limitations in this Order, which are based on the chloride groundwater quality objective, the City intends to implement recycled water projects to reduce flow to the percolation pond, and thus reduce the mass loading of chloride to the groundwater. This will greatly shrink the area of influence of the wastewater and largely restore the impaired groundwater zone adjacent and downgradient to the percolation pond. However, implementation of recycled water projects in the Santa Paula area will take time to fully implement, which will result in continued localized degradation. Based on the results of the Chloride Model, after the mass reductions occur through recycling, the City proposes to degrade groundwater with respect to chloride within a 150-foot mixing zone radius of the percolation pond. While groundwater within the mixing zone will exceed the chloride groundwater quality objective, this Order imposes limits on flow and chloride mass loading in the effluent to ensure receiving groundwater beneficial uses will be maintained and supported. Beneficial uses will be maintained as all wells utilized for crop irrigation will be located outside the mixing zone.

In order to more immediately reduce the chloride concentration in the effluent and groundwater to 110 mg/L at the percolation pond, the City would need to install a Reverse Osmosis (RO) system to treat all or a portion of the effluent. The cost for the City to install a RO system is estimated at $3.4 million with annual operating and maintenance costs of $670,000, including brine waste disposal. These costs would be passed on to the ratepayers, who already pay one of the highest sewer rates in the State. The City is also a small low-income community. Rather than install costly RO at this time, the requirements in this Order provide the City with the opportunity to first pursue recycling efforts and source reduction through the SRWS Buyback Program to meet groundwater quality objectives. If these efforts are deemed unsuccessful, the City may need to implement RO technology as an additional treatment mechanism in the future.

Incorporating an approach that utilizes a recycled water approach and has limited groundwater degradation within the immediate vicinity of the percolation pond for chloride at levels that are above the groundwater quality objective is justified considering the socio-economic conditions of this small community that already has one of the highest sewage rates in the state, and is consistent with State Water Board Resolution No. 68-16 in that the resulting water quality constitutes the highest water quality that is reasonable, considering all demands placed on the waters, economic and social considerations, and other public interest factors. Together, these factors are consistent with the maximum benefit to the people of the State.

36. California Water Code section 13267 authorizes the Regional Board to require the City to submit monitoring and technical reports as necessary to investigate the impact of a waste discharge on waters of the state. The monitoring and reporting requirements established in this Order are necessary to characterize the discharge, evaluate compliance with this Order, and evaluate groundwater quality and the extent of degradation, if any, caused by the discharge.

37. Publicly Owned Treatment Works (POTW) – The term POTW means a treatment works as defined by section 212 of the federal Clean Water Act, which is owned by a State or municipality (as defined by section 502(4) of the Act). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW treatment facility. The term also means the municipality as defined in section 502(4) of the Clean Water Act, which has jurisdiction over the indirect discharges to and the discharges from such treatment works. (40 C.F.R. section 403.3(q)). The SPWRF meets all of the above criteria and therefore is considered a POTW.

38. Pretreatment – The City is required to implement a Pretreatment Program and to comply with requirements for operation and maintenance of its sewer collection system. Pursuant to CCR, Title 23, section 2233 and Title 40, Code of Federal Regulations (C.F.R.), Part 403, the City has been implementing an approved industrial wastewater Pretreatment Program for the SPWRF since February 2012. The Regional Board finds it appropriate to require the City to continue to implement its approved Pretreatment Program.

39. Endangered Species Act Requirements - This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C. §§ 1531 to 1544). This Order requires compliance with effluent limits, groundwater quality objectives, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

40. California Environmental Quality Act - This Order involves the renewal of WDRs for an existing facility. Therefore, this action to prescribe WDRs is exempt from the provisions of CEQA (Public Resources Code section 21000 et seq.) in accordance with California Code of Regulations, Title 14, section 15301.

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41. The Regional Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations.

42. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

43. Any person aggrieved by this action of the Regional Board may petition the State Water Board to review the action in accordance with California Water Code section 13320 and California Code of Regulations, title 23, section 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the Regional Board's action, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions will be provided upon request or may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality

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IT IS HEREBY ORDERED that, in order to meet the provisions contained in Division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, the City of Santa Paula shall comply with the following requirements, including all attachments, in all operations and activities at the SPWRF:

I. INFLUENT LIMITATIONS AND REQUIREMENTS

Influent wastewater shall be limited to wastewater generated within the jurisdiction of the City.

II. EFFLUENT LIMITATIONS

A. Discharges from the SPWRF shall not exceed the maximum effluent volume of 4.2 MGD and the quarterly average effluent volume of 2.6 MGD.

B. Tertiary-treated effluent shall not exceed the effluent limits in Table 9 below.

Table 9 – Effluent Limits

Constituents	Units	Monthly Average	Daily Maximum
Oil and grease	mg/L	10[1]	15[1]
Total suspended solids	mg/L	10[1]	15[1]
	% removal	≥ 85[2]	---
$BOD_{5@20^oC}$	mg/L	10[1]	15[1]
	% removal	≥ 85[2]	---
Ammonia-N + Nitrate-N + Nitrite-N	mg/L	10[3]	---
Nitrite-N	mg/L	1	
Total Dissolved Solids	mg/L	2,000[4]	---
Sulfate	mg/L	800[4]	---
Boron	mg/L	1.0[4]	---

Table 9 – Effluent Limits			
Constituents	**Units**	**Monthly Average**	**Daily Maximum**
Chloride	lbs/day	79[5]	---

Table Notes:

[1] Limit is based on best professional judgment. Limits adopted by this Regional Board exist in the permits for tertiary-treated wastewater treatment plants.

[2] Limit is based on secondary treatment requirements, 40 C.F.R. section 133.102.

[3] Limit is based on the Load Allocations for nonpoint sources set forth in the Santa Clara River Nitrogen Compounds TMDL, Resolution No. 2003-011.

[4] Limit based on Basin Plan Groundwater Quality Objective.

[5] This mass-based effluent limit is derived from the City's Chloride Model and Chloride Load Reduction Milestones, which is based on an allowable flow to the percolation pond of 0.07 MGD and chloride effluent concentration at 135 mg/L in order to meet the chloride groundwater quality objective of 110 mg/L at 150 feet from the percolation pond.

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C. The pH of effluent discharged shall at all times be within the range of 6.5 to 8.5. Excursion from this range shall not be considered a violation provided the duration is not more than 10 minutes in a 24-hour period, and pH shall at all times be within 6 to 9.

D. Effluent shall, at all times, be adequately disinfected and oxidized and shall not exceed total coliform requirements as follows:

1. A 7-day median of 2.2 most probable number (MPN) per 100 milliliters for two consecutive days;

2. 23 MPN per 100 milliliters in more than one sample in any 30-day period; and

3. 240 MPN per 100 milliliters in any sample.

Samples shall be collected at a time when wastewater flow and characteristics are most demanding on treatment facilities and disinfection processes.

E. A filtered wastewater shall be an oxidized wastewater that has been passed through a membrane so that the turbidity of the filtered wastewater does not exceed any of the following:

1. 0.2 Nephelometric Turbidity Unit (NTU) more than 5 percent of the time within a 24-hour period; and

2. 0.5 NTU at any time.

F. Maximum Contaminant Levels: The effluent shall not contain trace, toxic and other constituents in concentrations that exceed the applicable maximum contaminant levels for drinking water established by the State Water Board's Division of Drinking Water (DDW) in sections 64431, 64442, 64443, 64444, 64449, and 64533 of CCR, Title 22,

Division 4, or subsequent revisions, or at levels that adversely affect the beneficial uses of receiving groundwater. The effluent shall, at all times, not exceed the following MCLs (Attachment A). In the event of a violation of any primary or secondary MCL, the City shall notify and submit a report in accordance with Provision VI.F. of this Order.

1. Primary MCLs specified in CCR, Title 22, Division 4, Chapter 15 (Domestic Water Quality and Monitoring Regulations):

   i. Inorganic chemicals in CCR, Title 22, Division 4, Chapter 15, Section 64431, Table 64431-A, except for nitrogen compounds (Attachment A-1 of this Order);

   ii.. Radionuclides in CCR, Title 22, Division 4, Chapter 15, Section 64442, Table 64442 (Attachment A-2 of this Order) and Section 64443, Table 64443 (Attachment A-3 of this Order); and

   iii. Organic chemicals in CCR, Title 22, Division 4, Chapter 15, Section 64444, Table 64444-A (Attachment A-4 of this Order).

2. Secondary MCLs specified in CCR, Title 22, Division 4, Chapter 15 (Domestic Water Quality and Monitoring Regulations), Section 64449, Table 64449-A (Attachment A-5 of this Order).

3. Primary MCLs for disinfection byproducts specified in CCR, Title 22, Division 4, Chapter 15.5 (Disinfectant Residuals, Disinfection Byproducts, and Disinfection Byproduct Precursors) Article 2, Section 64533, Table 64533-A (Attachment A-6 of this Order).

III. GROUNDWATER LIMITATIONS

A. The City is prohibited from negatively altering the quality or elevation of the underlying groundwater.

B. Groundwater shall not exceed the following groundwater limitations in Table 10 below. Except for chloride, compliance with the groundwater limitations will be determined by the groundwater samples collected from monitoring wells located within or on the boundary of the percolation pond. Compliance with the chloride groundwater limitation will be determined by the groundwater samples collected from monitoring wells located 150 feet away from the percolation pond. The specific monitoring well locations will be determined through the Monitoring and Reporting Program (MRP) (Attachment E). Per Section IV.C.3 of the MRP, the City is required to submit a work plan proposing a modified groundwater monitoring network by March 1, 2018.

Table 10 – Groundwater Limitations

Constituents	Units	Monthly Average
Nitrate-N + Nitrite-N	mg/L	10[1]
Nitrite-N	mg/L	1[1]
Total Dissolved Solids	mg/L	2,000[1]

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Table 10 – Groundwater Limitations		
Constituents	**Units**	**Monthly Average**
Sulfate	mg/L	800[1]
Chloride	mg/L	110[1]
Boron	mg/L	1.0[1]
Total coliform	MPN/100mL	1.1[1]
Fecal coliform	MPN/100mL	1.1[1]

Table Note:

[1] Limit based on Basin Plan Groundwater Quality Objective.

C. Groundwater shall not exceed the MCLs specified in Attachments A-1 to A-6.

D. The minimum vertical separation between the bottom of the percolation pond and groundwater table shall be five feet.

IV. GENERAL REQUIREMENTS

A. The SPWRF and areas where any potential pollutants are stored shall be adequately protected from inundation and damage by storm flows and runoff.

B. Adequate facilities shall be provided to protect the SPWRF, treatment system devices, sewer collection system and recycling/disposal facilities from damage by storm flows and run-off or run-on generated by a 100-year return storm/24 hour duration.

C. The SPWRF and the collection system that is a part of the treatment and disposal system shall be maintained in such a manner that prevents sewage from surfacing or overflowing at any location.

D. A minimum of two feet of freeboard shall be maintained in the percolation/evaporation ponds at all time to ensure that direct rainfall will not cause overtopping.

E. No disposal areas with treated wastewater shall be located within 600 feet of any domestic water supply well unless all of the following conditions have been met:

1. A geological investigation demonstrates that an aquitard exists at the well between the uppermost aquifer being drawn from and the ground surface;

2. The well contains an annular seal that extends from the surface into the aquitard;

3. The well is housed to prevent any treated wastewater spray from coming into contact with the wellhead facilities;

4. The ground surface immediately around the wellhead is contoured to allow surface water to drain away from the well; and

5. The owner of the well approves of the elimination of the buffer zone requirement.

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F. There shall be no storage or impoundment of treated wastewater within 600 feet of any domestic water supply well.

G. No disposal of sludge, waste, and treated wastewater shall take place within 600 feet of any reservoir or stream used as a source of domestic water.

H. Any wastes that do not meet the foregoing requirements shall be held in impervious containers and discharged at a legal point of disposal.

I. Percolation ponds shall be maintained to ensure that percolation rate at the pond bottom shall not decrease over time.

V. PROHIBITIONS

A. Any discharge of wastewater from the SPWRF (including the wastewater collection system) at any point other than specifically described in this Order is prohibited.

B. There shall be no waste overflows or discharge of untreated or partially-treated waste from the SPWRF's treatment, storage or disposal facilities to adjacent drainage or water ways, adjacent properties, or to waters of the State at any time. The discharge of any wastewater to surface waters or surface water drainage courses is prohibited without a NPDES permit.

C. Industrial wastewater subject to the Prohibited Discharge Standards in 40 C.F.R. section 403.5 shall not be accepted by the SPWRF.

D. Wastes discharged shall not contain tastes, odors, color, foaming, any materials, or other objectionable characteristics in concentrations that would:

1. Affect human, animal, or plant life;

2. Cause nuisance or adversely affect any beneficial uses and quality of the receiving groundwater; and

3. Impact the Santa Clara River that may be in hydraulic connection with groundwater.

E. Odors originating at the SPWRF, including of sewage origin, shall not be perceivable any time outside the boundary of the SPWRF property owned by the City.

F. The percolation pond shall not contain floating materials, including solids, foams, or scum in concentrations that cause nuisance, adversely affect beneficial uses, or serve as a substrate for undesirable bacterial or algae growth or insect vectors. The wastewater treatment shall not result in nuisance conditions caused by breeding of mosquitoes, gnats, midges, or other pests.

G. Discharge of waste classified as "hazardous waste," as defined in CCR, Title 23, section 2521(a), is prohibited. Discharge of waste classified as "designated waste," as defined in California Water Code section 13173, in a manner that causes violation of receiving water limits is prohibited.

H. The percolation/evaporation ponds, drying beds, and the berms surrounding the ponds shall not contain plants, shrubs, or bushes that may damage the berms and the ponds.

I. The percolation pond shall not be altered without the approval by the Regional Board.

J. There shall be no onsite disposal of sludge. Sludge-drying activities are allowed, but only as an intermediate treatment prior to offsite disposal. Any offsite disposal of wastewater or sludge shall be made only to a legal point of disposal. For purposes of this Order, a legal disposal site is one for which requirements have been established by USEPA, and which is in full compliance therewith. Any wastewater or sludge handling shall be in such a manner as to prevent its reaching surface waters or watercourses.

K. Bypass (the intentional diversion of waste streams from any portion of the SPWRF) is prohibited. The Regional Board may take enforcement action against the City for bypass, unless:

1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the SPWRF that cause it to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass.

2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance.

3. Notice

i. Anticipated bypass: If the City knows in advance of the need for a bypass, it shall submit written notice to the Regional Board, if possible at least 10 days before the date of the bypass.

ii. Unanticipated bypass: The City shall provide verbal notice to the Regional Board Executive Officer of an unanticipated bypass within 24 hours from the time the City becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the City becomes aware of the circumstances.

VI. PROVISIONS

A. This Order includes "Attachment B - Standard Provisions Applicable to Waste Discharge Requirements" (Standard Provisions). If there is any conflict between provisions stated herein and the Standard Provisions, the provisions stated herein prevail.

B. The City shall operate and maintain facilities, treatment operations, associated collection systems and outfalls in ways that preclude adverse impacts to surface or groundwater from impacts predicted to occur due to climate change.

C. The City shall submit a Climate Change Effects Vulnerability Assessment and Management Plan (Climate Change Plan) no later than 12 months after adoption of this Order. Submittal of the Climate Change Plan is required pursuant to California Water Code section 13267. As required by this provision, a regional board may require a person to submit technical or monitoring program reports that the regional board requires. The Climate Change Plan is needed in order to assess and manage climate change related-effects associated with City operations that may affect water quality.

The Climate Change Plan shall include an assessment of short and long term vulnerabilities of the facility(ies) and operations as well as plans to address vulnerabilities of collection systems, facilities, treatment systems, and outfalls for predicted impacts in order to ensure that facility operations are not disrupted, compliance with permit conditions is achieved, and receiving waters are not adversely impacted by discharges. Control measures shall include, but are not limited to, emergency procedures, contingency plans, alarm/notification systems, training, backup power and equipment, and the need for planned mitigations to ameliorate climate-induced impacts including, but not limited to, changing influent and receiving water quality and conditions, as well as the impact of rising sea level (where applicable) storm surges and back-to-back severe storms that are expected to become more frequent.

D. The City shall comply with MRP No. CI-9259 (Attachment E), which is part of this Order, and any revisions thereto as ordered by the Executive Officer. The submittal dates of Discharger self-monitoring reports shall be no later than the submittal date specified in the MRP. If there is any conflict between the provisions stated herein and the MRP, the provisions stated herein prevail.

E. The City shall file with the Regional Board, under penalty of perjury, annual and quarterly reports on self-monitoring work performed according to the detailed specifications contained in the MRP attached hereto and incorporated herein by reference, as directed by the Executive Officer. The results of any monitoring done in addition to what is required or done more frequently than required at the location and/or times specified in the MRP shall be reported to the Regional Board. The City shall comply with all of the provisions and requirements of the MRP.

F. The City shall notify this Regional Board by telephone or electronic means within 24 hours of knowledge of any discharge exceeding the effluent limits prescribed in this Order from the SPWRF; written confirmation shall follow within 5 working days from date of notification, unless otherwise specified in this Order. The report shall include, but is not limited to, the following information, as appropriate:

1. Nature and extent of the violation;

2. Date and time: when the violation started, when compliance was achieved, and when injection was suspended and restored, as applicable;

3. Duration of violation;

4. Cause(s) of violation;

5. Corrective and/or remedial actions taken and/or will be taken with a time schedule for implementation to prevent future violations; and

6. Impact of the violation.

G. This Order does not exempt the City from compliance with any other laws, regulations, or ordinances that may be applicable; they do not legalize the recycling and use facilities; and they leave unaffected any further constraint on the use of recycled water at certain site(s) that may be contained in other statutes or required by other agencies.

H. This Order does not alleviate the responsibility of the City to obtain other necessary local, state, and federal permits to construct facilities necessary for compliance with this Order; nor does this Order prevent imposition of additional standards, requirements, or conditions by any other regulatory agency. Expansion of the recycled water distribution facility shall be contingent upon issuance of all necessary requirements and permits, including a conditional use permit.

I. After notice and opportunity for a hearing, this Order may be modified, revoked and reissued, or terminated for cause, that includes, but is not limited to: failure to comply with any condition in this Order, endangerment of human health, adverse impacts on water quality and/or beneficial uses of the receiving water resulting from the permitted activities in this Order, obtaining this Order by misrepresentation or failure to disclose all relevant facts, and acquisition of new information that could have justified the application of different conditions if known at the time of Order adoption.

The filing of a request by the City for modification, revocation and reissuance, or termination of this Order; or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

J. The City shall furnish, within a reasonable time, any information that the Regional Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The City shall also provide the Regional Board, upon request, with copies of records required to be kept under this Order for at least three (3) years.

K. Spill Clean-Up Contingency Plan (SCCP) Requirements – The City is required to periodically submit an updated and revised SCCP, which describes the activities and protocols to address clean-up of spills, overflows, and bypasses of untreated or partially treated wastewater from the City's collection system or treatment facilities. At a minimum, this SCCP shall include sections on spill clean-up and containment measures, public notification, and monitoring. The City shall review and amend this SCCP as appropriate after each spill from the SPWRF or in the service area of the SPWRF. The City shall include a discussion in the annual summary report of any modifications to the SCCP and the application of the SCCP to all spills during the year.

L. Construction, Operation, and Maintenance Requirements

1. The City shall, at all times, properly operate and maintain the SPWRF, including its wastewater collection, treatment, and disposal facilities (and related

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appurtenances) to ensure compliance with this Order, as well as provide adequate and reliable transport, treatment, and disposal of all wastewater from planned future wastewater sources under the City's responsibilities. Proper operation and maintenance includes, but is not limited to: effective performance, repairs and upgrades when needed, adequate funding, adequate operator staffing and training, adequate operator supervision, and adequate laboratory and process controls (including appropriate quality assurance/quality control procedures).

2. The SPWRF shall be supervised and operated by persons possessing certificates of appropriate grade in accordance with CCR, Title 23, Division 3, Chapter 26 and California Water Code sections 13625 - 13633.

3. The SPWRF shall be operated and maintained in accordance with the operation and maintenance manual prepared by the municipality through the Clean Water Grant Program. The City's Operation, Maintenance, and Monitoring Plan (OMM Plan) shall be available for reference and use by all applicable personnel. The City shall maintain, regularly review, and revise or update as necessary the OMM Plan in order for the document(s) to remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and revisions or updates shall be completed as necessary and submitted to the Regional Board on an annual basis.

4. The City shall maintain in good working order a sufficient alternate power source for operating the wastewater treatment and disposal facilities. All equipment shall be located to minimize failure due to moisture, liquid spray, flooding, and other physical phenomena. The alternate power source shall be designed to permit inspection and maintenance and shall provide for periodic testing. If such alternate power source is not in existence, the City shall halt, reduce, or otherwise control all discharges upon the reduction, loss, or failure of the primary source of power.

5. The City shall provide standby or emergency power facilities and/or sufficient storage capacity or other means so that in the event of plant upset, outage due to power failure or other cause, or heavy rainfall, discharge of raw or inadequately treated sewage does not occur and infiltration ponds do not exceed their hydraulic capacity.

M. Sludge Disposal Requirements

1. All sludge generated at the wastewater treatment plant shall be disposed of, treated, or applied to land in accordance with federal regulations contained in 40 C.F.R. Part 503. These requirements are enforceable by USEPA.

2. The City shall comply with requirements in State Water Board Order No. 2004-10-DWQ, *"General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural and Land Reclamation Activities"* for those sites receiving the City's biosolids that a regional water board has placed under this general order, and with the requirements in individual waste discharge requirements issued by a regional water board for sites receiving the City's biosolids.

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3. The City shall comply, if applicable, with WDRs issued by other regional water boards to which jurisdiction the biosolids are transported and applied.

4. The City shall provide this Regional Board with a copy of any report(s) submitted to USEPA, the State Water Board, or other regional water boards, with respect to municipal sludge or biosolids.

N. Collection System Requirements

The State Water Board adopted General WDRs for Sanitary Sewer Systems (Order No. 2006-0003-DWQ) on May 2, 2006, to provide a consistent and statewide approach to regulating sanitary sewer systems to prevent and/or reduce sanitary sewer overflows (SSOs). Order No. 2006-0003-DWQ requires public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all SSOs to the State Water Board's online SSO database. The City's collection system is part of the system that is subject to Order No. 2006-0003-DWQ. The City enrolled in Order No. 2006-0003-DWQ on July 27, 2006. As such, the City must properly operate and maintain its collection system. The City must also report any non-compliance and mitigate any discharge from the collection system in violation of this Order.

O. Spill Reporting Requirements

1. **Initial Notification –** Although State and Regional Board staff do not have duties as first responders, this requirement is an appropriate mechanism to ensure that the agencies that do have first responder duties are notified in a timely manner in order to protect public health and beneficial uses. For certain spills, overflows and bypasses, the City shall make notifications as required below:

   i. In accordance with the requirements of Health and Safety Code section 5411.5, the City shall provide notification to the local health officer or the director of environmental health with jurisdiction over the affected water body of any unauthorized release of sewage or other waste that causes, or probably will cause, a discharge to any waters of the state as soon as possible, but no later than two (2) hours after becoming aware of the release.

   ii. In accordance with the requirements of California Water Code section 13271, the City shall provide notification to the California Emergency Management Agency (Cal EMA) of the release of reportable quantities of hazardous substances or sewage that causes, or probably will cause, a discharge to any waters of the state as soon as possible, but not later than two (2) hours after becoming aware of the release. CCR, Title 23, section 2250 establishes 1,000 gallons or more as a reportable quantity of sewage. The phone number for reporting these releases to the Cal EMA is (800) 852-7550.

   iii. The City shall notify the Regional Board of any unauthorized release of sewage from the SPWRF that causes, or probably will cause, a discharge to a water of the state as soon as possible, but not later than two (2) hours after becoming aware of the release. This initial notification does not need

to be made if the City has notified Cal EMA and the local health officer or the director of environmental health with jurisdiction over the affected waterbody. The phone number for reporting these releases of sewage to the Regional Board is (213) 576-6683. The phone numbers for after hours and weekend reporting of releases of sewage to the Regional Board are (213) 305-2284 and (213) 305-2253.

At a minimum, the following information shall be provided to the Regional Board:

a. The location, date, and time of the release;

b. The water body that may be impacted by the discharge;

c. An estimate of the amount of sewage or other waste released and the amount that reached the receiving water at the time of notification;

d. If ongoing, the estimated flow rate of the release at the time of the notification;

e. The name, organization, phone number, and email address of the reporting representative; and

f. A certification that the State Office of Emergency Services and the local health officer or directors of environmental health with jurisdiction over the possibly affected water bodies have been notified of the discharge.

2. **Monitoring –** For spills, overflows and bypasses reported under Section VI.O.1., the City shall monitor as required below:

To define the geographical extent of the spill's impact, the City shall obtain grab samples (if feasible, accessible, and safe) for all spills, overflows or bypasses of any volume that reach any waters of the State (including surface and ground waters). The City shall analyze the samples for total and fecal coliforms, E. coli (if fecal coliform test shows positive), enterococcus, and relevant pollutants of concern, upstream and downstream of the point of entry of the spill (if feasible, accessible and safe). This monitoring shall be done on a daily basis from the time the spill is known until the results of two (2) consecutive sets of bacteriological monitoring indicate the return to the background level or the County Department of Public Health authorizes cessation of monitoring.

3. **Reporting –** The initial notification required under Section VI.O.1. shall be followed by:

i. As soon as possible, but not later than twenty-four (24) hours after becoming aware of an unauthorized discharge of sewage or other waste from its wastewater treatment plant to a water of the state, the City shall submit a statement to the Regional Board via email. If the discharge is 1,000 gallons or more, this statement shall certify that Cal EMA has been notified of the discharge in accordance with California Water Code section

13271. The statement shall also certify that the local health officer or director of environmental health with jurisdiction over the affected water bodies has been notified of the discharge in accordance with Health and Safety Code section 5411.5. The statement shall also include at a minimum the following information:

a. Agency, Order No., and MRP CI No.;

b. The location, date, and time of the discharge;

c. The water body that received the discharge;

d. A description of the level of treatment of the sewage or other waste discharged;

e. An initial estimate of the amount of sewage or other waste released and the amount that reached the impacted water body;

f. The Cal EMA control number and the date and time that notification of the incident was provided to Cal EMA; and

g. The name of the local health officer or director of environmental health representative notified (if contacted directly); the date and time of notification; and the method of notification (e.g., phone, fax, email).

ii. A written preliminary report shall be submitted to the Regional Board within five (5) working days after disclosure of the incident via the State Water Board GeoTracker database under Global ID WDR100000359. The final written report shall be included in the next quarterly monitoring report submitted to the GeoTracker database above. The written report shall document the information required in Section VI.O.4. below, monitoring results and any other information required in provisions of the Standard Provisions (Attachment B) including corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences.

iii. The City shall include a certification in the annual summary report (due according to the schedule in the MRP) that states that the sewer system emergency equipment, including alarm systems, backup pumps, standby power generators, and other critical emergency pump station components were maintained and tested in accordance with the City's preventive maintenance plan. Any deviations from or modifications to the preventive maintenance plan shall be approved by the Executive Officer.

4. **Records –** The City shall prepare and maintain a record of all spills, overflows or bypasses of raw or partially treated sewage from its collection system or the SPWRF. This record shall be made available to the Regional Board upon request and a spill summary shall be included in the annual report, as required in the MRP. The record shall contain:

i. The date and time of each spill, overflow, or bypass;

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ii. The location of each spill, overflow, or bypass;

iii. The estimated volume of each spill, overflow, or bypass including gross volume, amount recovered and amount not recovered, monitoring results as required by Section VI.O.2.;

iv. The cause of each spill, overflow, or bypass;

v. Whether each spill, overflow, or bypass entered a receiving water and, if so, the name of the water body and whether it entered via storm drains or other man-made conveyances;

vi. Any corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences; and

vii. The mandatory information included in Sanitary Sewer Overflows (SSO) online reporting for finalizing and certifying the SSO report for each spill, overflow, or bypass under State Water Board Order No. 2006-0003-DWQ.

5. **Activities Coordination –** The Regional Board expects that the City will coordinate their compliance activities for consistency and efficiency with other entitles that have responsibilities to implement: (i) this Order, and (ii) State Water Board Order No. 2006-0003-DWQ.

6. **Consistency with State Water Board Order No. 2006-0003-DWQ –** The requirements contained in this Order in Sections VI.K. (SCCP Requirements), VI.L. (Construction, Operation, and Maintenance Requirements), and VI.O. (Spill Reporting Requirements) are intended to be consistent with the requirements of Order No. 2006-0003-DWQ. The Regional Board recognizes that there may be some overlap between this Order and Order No. 2006-0003-DWQ. The requirements of Order No. 2006-0003-DWQ are considered the minimum thresholds (see Finding 11 of Order No. 2006-0003-DWQ). To encourage efficiency, the Regional Board will accept the documentation prepared by the City under Order No. 2006-0003-DWQ for compliance purposes, as satisfying the requirements in Sections VI.K., VI.L., and VI.O. provided the more stringent provisions enumerated in this Order have also been addressed.

P. Pretreatment Requirements

1. This Order includes the City's Pretreatment Program, as previously submitted to this Regional Board and specified in Order No. R4-2007-0028-R2, adopted by this Regional board on February 2, 2012. Any change to the Program shall be reported to the Regional Board in writing and shall not become effective until approved by the Executive Officer in accordance with procedures established in 40 C.F.R. section 403.18.

2. The City shall enforce the requirements under Sections 307(b), 307(c), 307(d), and 402(b) of the Federal Clean Water Act with timely, appropriate, and effective enforcement actions. The City shall require industrial users to comply with Federal Categorical Standards and shall initiate enforcement actions against those users who do not comply with the standards. The City shall require industrial users

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subject to the Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new industrial user, upon commencement of the discharge.

3. The City shall perform the pretreatment functions as required in 40 C.F.R. Part 403 including, but not limited to:

   i. Implement the necessary legal authorities as provided in 40 C.F.R. section 403.8(f)(1);

   ii. Enforce the pretreatment requirements under 40 C.F.R. sections 403.5 and 403.6;

   iii. Implement the programmatic functions as provided in 40 C.F.R. section 403.8(f)(2); and

   iv. Provide the requisite funding of personnel to implement the Pretreatment Program as provided in 40 C.F.R. section 403.8(f)(3).

4. The City shall submit an annual report of effectiveness of the City's Pretreatment Program. This annual report shall be submitted to the Regional Board, with copies to the State Water Board and USEPA Region 9, describing the City's pretreatment activities over the period and whether such activities have been effective. If the City is not in compliance with any conditions or requirements of this Order, the City shall include the reasons for noncompliance and shall state how and when the City will comply with such conditions and requirements.

5. The City shall be responsible and liable for the performance of all control authority pretreatment requirements contained in 40 C.F.R. Part 403, including subsequent regulatory revisions thereof. Where Part 403 or subsequent revision places mandatory actions upon the City as Control Authority, but does not specify a timetable for completion of the actions, the City shall complete the required actions within six months from the effective date of this Order or the effective date of Part 403 revisions, whichever comes later. For violations of pretreatment requirements, the City shall be subject to enforcement actions, penalties, fines, and other remedies by the Regional Board, USEPA, or other appropriate parties, as provided in the Federal Clean Water Act. The Regional Board or USEPA may initiate enforcement action against an industrial user for noncompliance with acceptable standards and requirements as provided in the Federal Clean Water Act and/or the California Water Code.

VII. REOPENER

The Regional Board will review this Order periodically and will revise requirements when necessary. The waste discharge requirements and monitoring and reporting requirements in this Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure compliance with them. If applicable laws and regulations change, including but not limited to, establishment of total maximum daily loads, or once new information is obtained that will change the overall discharge and its potential to impact waters of the state, it may be

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appropriate to reopen this Order. This Order may also specifically be reopened to make revisions consistent with an approved salt and nutrient management plan.

VIII. TERMINATION

Except for enforcement purposes, Order No. R4-2007-0028, adopted by the Regional Board on May 3, 2007, and amended on May 6, 2010, February 2, 2012, and April 6, 2017, is hereby terminated.

The Regional Board's termination of prior waste discharge requirements and/or monitoring and reporting requirements do not extinguish any violations that may have occurred during the time those requirements were in effect. The Regional Board reserves the right to take enforcement actions to address violations of prior prohibitions, limitations, specifications, requirements, or provisions of rescinded requirements as allowed by law.

IX. EFFECTIVE DATE

This Order becomes effective immediately upon its adoption.

I, Samuel Unger, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region on October 5, 2017.

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Samuel Unger, P.E.
Executive Officer

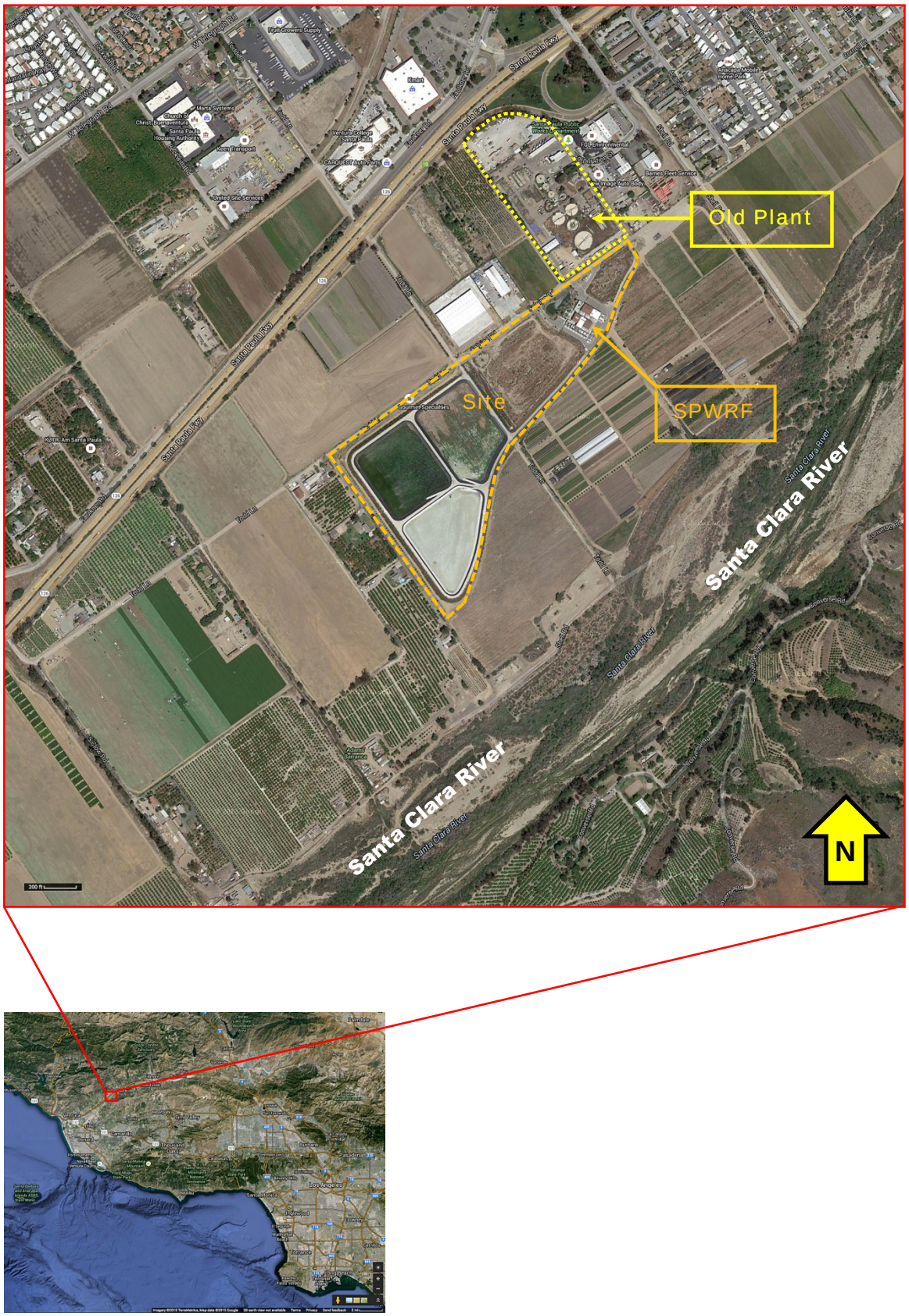

Figure 1 – The Vicinity of Santa Paula Water Recycling Facility (SPWRF)

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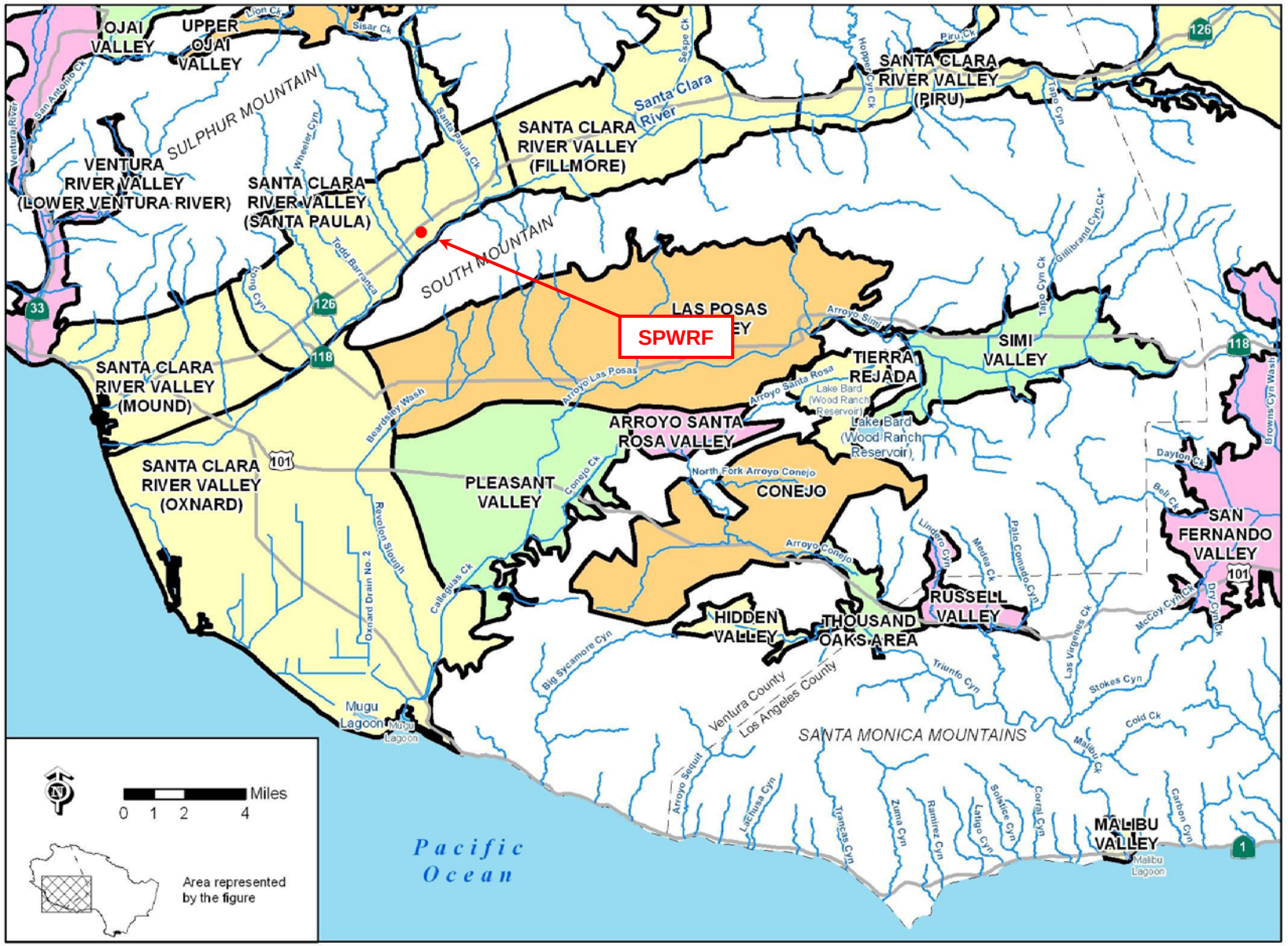

Figure 2 – Santa Paula Groundwater Basin

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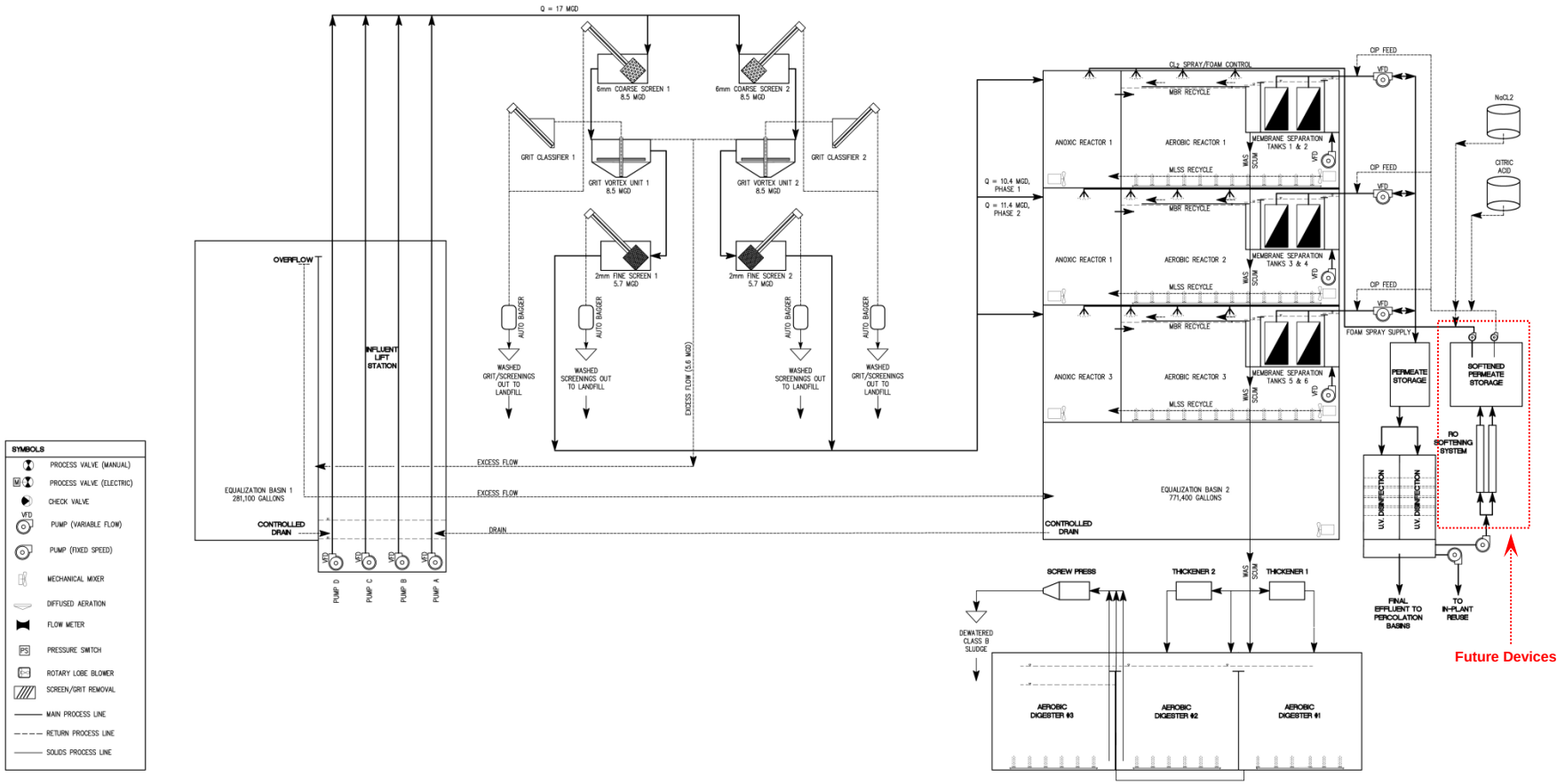

Figure 3 – Process Flow Schematic of Santa Paula Wastewater Recycling Facility

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Figure 4 – Locations of Groundwater Monitoring Wells

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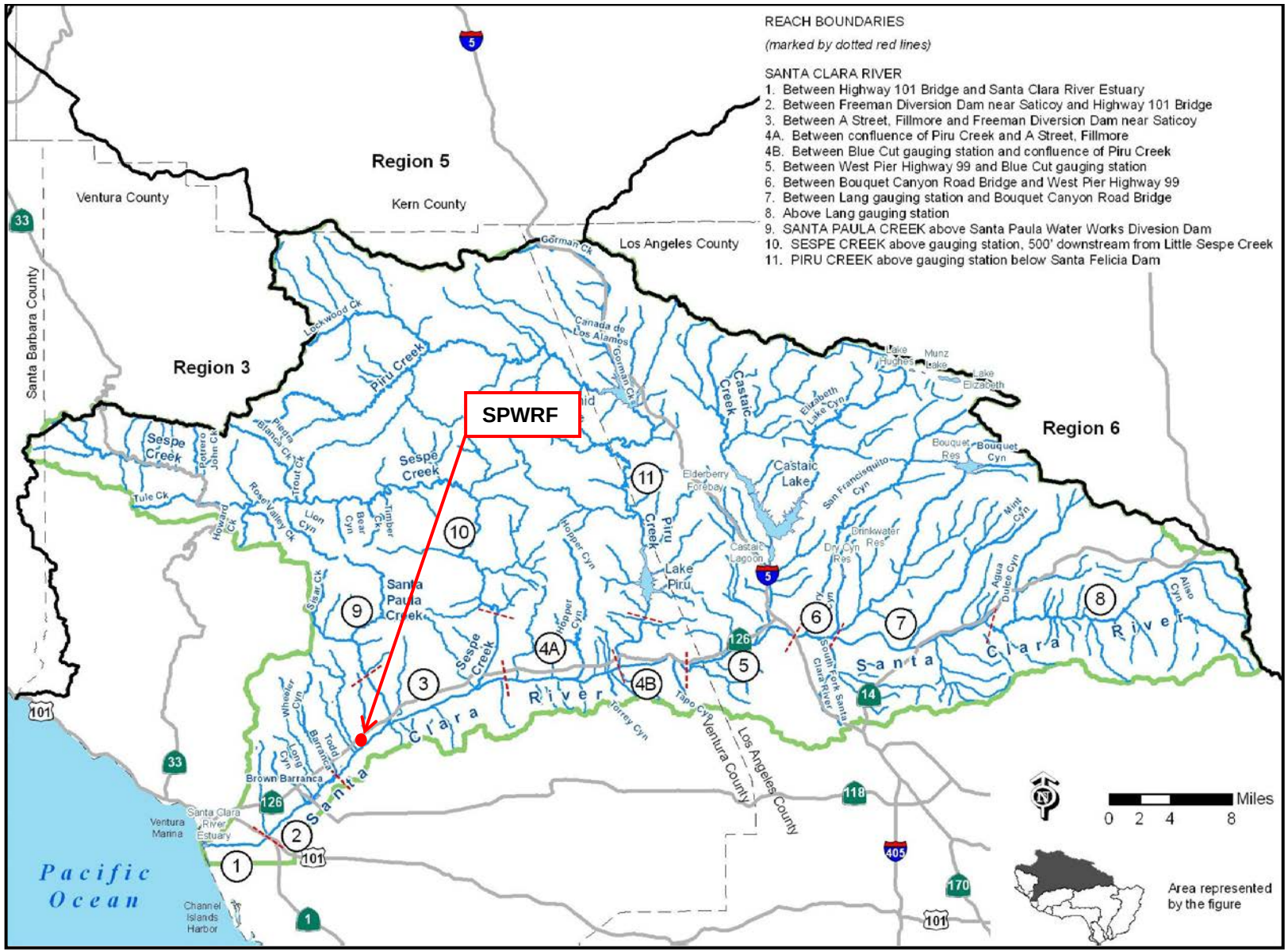

Figure 5 – Santa Clara River Watershed Surface Reaches

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