CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2015-0006

WASTE DISCHARGE REQUIREMENTS
AND
MASTER RECYCLING PERMIT

FOR

CITY OF LATHROP
LATHROP CONSOLIDATED TREATMENT FACILITY
SAN JOAQUIN COUNTY

The California Regional Water Quality Control Regional Board, Central Valley Region, (hereafter Central Valley Water Board) finds that:

1. On 21 March 2014, the City of Lathrop submitted a Report of Waste Discharge (RWD) and a Title 22 Engineering Report to apply for revised Waste Discharge Requirements (WDRs) for its Consolidated Treatment Facility to treat and dispose of domestic wastewater generated in the City of Lathrop. Additional information to supplement or amend the RWD was submitted between 28 August 2014 and 20 October 2014.

2. The City of Lathrop (hereafter "Discharger") owns and operates the Consolidated Treatment Facility (CTF) and is responsible for compliance with these Waste Discharge Requirements (WDRs). These WDRs include a Master Reclamation Permit pursuant to Water Code section 13523.1(b)(1).

3. The CTF is located at 18800 Christopher Way in Lathrop in Section 35, TS1S, R6E, and Section 2, TS2S, R6E, MDB&M. The location of the CTF is shown on Attachment A, which is attached hereto and made part of this Order by reference.

4. San Joaquin County Assessor's parcel numbers for the Consolidated Treatment Facility and existing City-owned storage ponds are summarized below. The CTF and its associated effluent and emergency storage ponds are shown on Attachment B, which is attached hereto and made part of this Order by reference.

Description	Acres	Assessor's Parcel Numbers
Consolidated Treatment Facility (Including Ponds S4 [1] and S5)	33	198-130-35, 198-130-36, 198-130-45, 198-130-46, 198-130-47, 198-130-48,
Pond S1	13	191-190-32
Pond S2	7	191-190-33
Pond S3	10	198-130-035
Pond S6	34	198-060-16, 198-060-17

[1] Pond S4 will be converted to an emergency storage basin.

5. Recycled water is currently discharged for agricultural irrigation to approximately 172.35 acres of Use Areas as tabulated below. For the purpose of this Order, 'Use Area(s)' as used herein means an area with defined boundaries where recycled water is used or discharged, as defined by California Code of Regulations, title 22 ("Title 22"), section 60301.920.

Land Development Area and Use Area Designation	Assessor's Parcel Numbers	Total Area (Acres)	Irrigated Area (Acres)
Mossdale: A23	191-190-49	12	12
River Islands: A28	213-300-07, 213-300-08, 213-300-09, 213-300-11	34	31
River Islands: A30	213-210-06	295	35
River Islands: A31	213-110-03	151	95

6. The locations of existing and planned recycled water Use Areas are depicted on Attachment C, which is attached hereto and made part of this Order by reference. Information on the size and ownership of the existing and planned recycled water storage ponds and Use Areas is also presented in the Information Sheet, which is attached hereto and made part of this Order by reference.

7. WDRs Order R5-2006-0094, adopted by the Central Valley Water Board on 22 September 2006, prescribes requirements for the CTF, which was previously known as Water Recycling Plant No. 1 (WRP-1). Order R5-2006-0094 allows an average dry weather influent flow of up to 0.75 million gallons per day (MGD). Order R5-2006-0094 also allows treatment, storage and disposal capacity expansions to be made in increments of 0.75 MGD or greater after a report documenting completion of appropriate improvements has been approved by the Executive Officer.

8. The Discharger proposes to increase treatment capacity at the CTF, add additional recycled water storage ponds, and add additional recycled water Use Areas to accommodate growth of the community. Therefore, Order R5-2006-0094 will be rescinded and replaced with this Order, which includes a Master Recycling Permit.

Existing Facility and Discharge

9. The CTF was built in early 2004, and treats domestic wastewater from three existing and planned development areas within the City of Lathrop: Central Lathrop Specific Plan (CLSP), Mossdale, and River Islands. The three development areas comprise approximately 8,400 acres of residential and commercial development with a current population of approximately 7,000 residents.

10. There are approximately 1,850 residential connections to the local sewer system that discharge domestic wastewater to the CTF. Although there are no significant industrial operations that discharge to the CTF, there are a small number of commercial facilities that discharge wastewater to the CTF.

11. Raw wastewater from the municipal sewer system is pumped to the CTF through one existing pumping station located at McKee Boulevard and River Island Parkway. Four other lift stations are planned as the sewer system is expanded.

12. Wastewater treatment processes include secondary treatment, tertiary filtration, and disinfection prior to storage and discharge. The wastewater treatment process is shown schematically on Attachment D, which is attached hereto and made part of this Order by reference.

13. The CTF currently has two Membrane Bioreactor (MBR) treatment trains with a treatment capacity of 0.375 mgd each. This provides a combined treatment capacity of 0.75 mgd as an average dry weather flow (ADWF). Incoming wastewater from the influent pump station is distributed evenly to the two treatment trains via a splitter box.

14. Each MBR includes an anoxic basin, recirculation mixers, an aeration basin, anoxic pumps, aeration and membrane blowers and diffusers, membrane modules, a membrane tank, mixed liquor recycle pumps (RAS pumps), and filtrate pumps. The treatment system includes the following features:

    a. A 950,000 gallon steel tank provides diurnal flow equalization and short-term emergency storage. Wastewater in the tank is automatically returned to the influent pump station as treatment capacity becomes available.

    b. Denitrification and initial biological oxygen demand (BOD) reduction occurs in two anoxic basins. Mixers within the basins keep the solids suspended.

    c. Additional BOD removal, nitrification, and denitrification takes place in two aeration basin tanks, which are aerated to provide oxygen to treat the waste and mixing to keep solids in suspension.

    d. Solids separation, final BOD removal, and nitrification take place in the membrane basins. Aeration in the membrane basins provides mixing to keep contact surfaces from fouling.

    e. Filtration pumps draw water through the membranes and convey the tertiary treated effluent to the disinfection system. These pumps are also used to backwash the membranes and keep the membrane surfaces clean.

    f. Activated sludge is withdrawn from the aeration basins of each MBR treatment train and combined into a common pipeline. Waste activated sludge (WAS) is separated out and sent to the solids holding tank and is returned to the splitter box.

g. Tertiary effluent is disinfected using sodium hypochlorite solution in a chlorine contact tank that provides more than 90 minutes of modal contact time. Sodium hypochlorite is stored in two 5,000-gallon tanks. Two metering pumps (one operating and one backup) provide for chemical disinfection; a third dosing pump supplies sodium hypochlorite for membrane cleaning and Clean in Place (CIP) use. If disinfection fails, the effluent is rerouted back to the emergency storage basin and retreated.

h. Disinfected effluent is discharged into Pond S5 for immediate storage, and is then transferred to off-site Ponds S1, S2 or S6. Pond S3 is available for use, but it is currently out of service. Recycled water is pumped from the ponds as needed and conveyed to recycled water Use Areas.

i. Waste activated sludge (WAS) generated from the CTF is pumped to a solids handling facility at the neighboring Crossroads Wastewater Treatment Facility (WWTF). The solids handling facilities include a 190,000 gallon aerobic sludge storage tank, one existing 600 lbs/hour belt filter press, and a concrete pad used for supplemental air drying of dewatered sludge when conditions permit. Only sludge from the CTF is sent to the solids storage tank. Dewatered cake is then transferred either to a sludge haul truck or to a concrete pad for supplemental drying when conditions permit. Air-dried sludge is temporarily stored on the drying pad until a sufficient volume has accumulated to warrant transporting the material to the City of Merced for land application.

j. The CTF is equipped with an electronic management and control system (SCADA) that provides remote monitoring, alarms, and notifications to prevent bypass or failure of the treatment processes. The alarms have backup power provided by a standby generator and an uninterruptable power supply. In general, alarms are activated if any mechanical equipment fails, if liquid levels in tanks or basins reach preset minimums or maximums, if monitored quality of treated wastewater approaches or exceeds preset values, or if diversion to the emergency storage pond occurs.

15. The CTF currently has a design treatment capacity of 0.75 mgd monthly average flow. The monthly average flow rate for 2009 through 2013 was 0.27 mgd. Design parameters for the current treatment system are summarized below.

Treatment System Design Basis	**Flow**
Monthly Average Flow	0.75 mgd
Peak Monthly Flow	0.94 mgd
Peak Daily Flow	1.13 mgd
Peak Hourly Flow	1.875 mgd

16. A summary of the influent flows into the CTF from 2009 through 2013 is provided in the table below.

Month	Average Influent Flow (MGD)				
	2009	**2010**	**2011**	**2012**	**2013**
October	0.25	-	0.26	0.27	0.28
November	0.23	0.25	0.27	0.28	0.29
December	0.23	-	0.27	0.28	0.30
January	0.24	0.26	0.28	0.28	0.31
February	0.25	0.26	0.27	0.27	0.30
March	0.26	0.25	0.29	0.27	0.29
April	0.25	0.25	0.30	0.29	0.30
May	0.24	0.25	0.29	0.23	0.28
June	0.23	0.24	0.27	0.27	0.29
July	0.25	0.24	0.28	0.28	0.30
August	0.23	0.26	0.28	0.28	0.32
September	0.23	0.25	0.28	0.28	0.32
Annual Total (MG)	**88**	**92**	**102**	**100**	**109**

These data indicate that flows have been steadily increasing over time and that precipitation dependent inflow and infiltration (I/I) is very low. The RWD stated that I/I increases typical wet weather flow rates to approximately eight percent above dry weather flow rates.

17. The average tertiary effluent water quality data from January 2011 through September 2013 are summarized in the table below.

Constituent	**Units**	**Minimum**	**Maximum**	**Average**
BOD	mg/L	<2.0	5.3	<2.3
Boron	mg/L	0.4	0.4	0.4
Chloride	mg/L	117	239	194
Iron	mg/L	<0.06	0.06	<0.06
Nitrate	mg/L	2.0	53	7.0
pH	Std. units	7.9	8.5	8.0
Sodium	mg/L	123	217	181
Sulfate	mg/L	44	55	49.5
TDS	mg/L	500	840	688
TKN	mg/L	< RL	12	1.0
Total Coliform Organisms	MPN/100 mL	<1.8	50 [1]	<2.0
Total Nitrogen	mg/L	2.0	53	8.0
TSS	mg/L	<1.0	<1.0	<1.0

[1] Total coliform organisms were detected at 50 MPN/100ml only once on 29 June 2013.

RL Laboratory reporting limit, which can vary between testing events.

18. The Discharger owns and maintains all potable water pipelines, recycled water pipelines, and sewer pipelines within the recycled water service area as well as recycled water pipelines, pump stations, and Use Areas within the Mossdale and River Islands land developments.

19. The Discharger's current water recycling system includes five lined recycled water storage ponds (S1, S2, S3, S5, and S6), which are lined with at least a 40-mil high-density polyethylene liner and provide a total of approximately 130 million gallons of storage capacity at two feet of freeboard. A sixth lined recycled water storage pond (S4) was recently converted for use as emergency influent storage. Below is a summary of the existing lined ponds.

Pond Number	Design Capacity (MG)	Current Use	Pond Location
S1	41	Recycled Water	Mossdale
S2	15	Recycled Water	Mossdale
S3	12	Out of Service	Mossdale
S4	11	Emergency Storage	MBR WWTF
S5	28	Recycled Water	MBR WWTF
S6	34	Recycled Water	Lathrop Road

20. The recycled water storage and distribution system is sized to meet irrigation demands for the existing agricultural and planned landscape Use Areas within the Mossdale and River Island developments.

21. Currently, the volume of available recycled water is not always adequate to meet irrigation demand of the Use Areas during years with low rainfall. Agricultural Use Areas have riparian water rights or are currently irrigated with groundwater from private wells as needed to supplement the use of recycled water.

Planned Changes in the Discharge

22. The Discharger is currently expanding the treatment capacity of the CTR from 0.75 mgd to 1.0 mgd, and plans future expansions up to 6.0 mgd as needed to accommodate growth of the community. Additional recycled water storage capacity and Use Areas will be added as needed.

23. The proposed CTF expansion, which is expected to be completed in February 2015, will include modifying the existing MBR system to accommodate increased flow, treatment, storage, and disposal. Facility upgrades include installing additional grit removal equipment, influent pumps, and flow meters; anoxic pumps and difussion equipment, aeration blowers, and additional MBR modules. Recycled water storage pond S4 was recently converted for use as an emergency influent storage basin.

24. The Discharger proposes adding additional recycled water storage ponds and Use Areas in the Mossdale and River Islands developments, CLSP, and Northern Lathrop. Landscape irrigation and ancillary recycled water uses include irrigation of parks; greenbelts; playgrounds; athletic fields; and street landscaping. Ownership and parcel numbers for each Use Area and for the recycled water storage ponds are presented in the Information Sheet. A summary of the current and planned Use Area acreage is provided below.

Land Development Area	Recycled Water Use Areas (Irrigated Acres)[1]		
	Agricultural Irrigation[2]		Public Landscape Irrigation Area (Planned)
	(Current)	(Planned)	
Northern Lathrop	--	638	--
CLSP	--	514	55
Mossdale	12	--	38
River Islands	161	769	103
Pond S6 Berm[3]	--	--	3.0

[1] Including current, near-term, and future Use Area parcels
[2] Irrigated acres, not including entire parcels
[3] The pond containment berm is irrigated with recycled water

25. The Discharger has identified 100 future Use Areas for public area landscape irrigation; consisting of roadway medians, parks, pond berms, and open space. These areas comprise nearly 200 noncontiguous acres within the CLSP, Mossdale, and River Islands development areas. Planned recycled water Use Areas that have been reviewed in accordance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.), are summarized in the following table, and a complete list of the parcels and corresponding CEQA documentation is presented in the Information Sheet.

Development Area	Near Term Use Areas[1]		Planned Use Areas		Total Irrigated Acres
	Number of Use Areas	Acres	Number of Use Areas	Acres	
CLSP	0	0	24	55	55
Mossdale	4	20	33	18	38
River Islands	1	15	37	88	103
Pond S6 Berm	1	3	0	3	3

[1] Near-term Use Areas are those that will be brought into service with the current CTF expansion to 1.0 MGD.

26. The Discharger has identified 38 individual Use Areas for agricultural irrigation. These areas comprise approximately 2,158 acres over 47 separate parcels within the Northern Lathrop, CLSP, Mossdale, and River Islands development areas. Planned recycled water Use Areas that have been reviewed in accordance with CEQA are summarized in the following table, and a complete list of the parcels and corresponding CEQA documentation is presented in the Information Sheet.

Development Area	Current Use Areas		Near Term Use Areas [1]		Planned Use Areas		Total Irrigated Acres
	Number of Use Areas	Irrigated Acres	Number of Use Areas	Irrigated Acres	Number of Use Areas	Irrigated Acres	
Northern Lathrop	0	0	0	0	16	638	638
CLSP	0	0	2	37	3	477	514
Mossdale	1	12	0	0	0	0	12
River Islands	3	161	1	65	4	769	995

[1] Near-term Use Areas are those that will be brought into service with the current CTF expansion to 1.0 MGD.

27. The water balance in the RWD determined the minimum recycled water storage volume and recycled water Use Area area needed for the existing 0.75 mgd average monthly flow rate capacity under 100-year return annual total rainfall conditions, as well as for 1 mgd and for a longer range projection at 6.0 mgd.

The water balance reflects the fact that the recycled water storage ponds are typically used during the winter months and then drawn down for irrigation purposes during the spring through fall. The average carry-over storage of recycled water at the end of each water year has been 25 million gallons for the past five years.

The Discharger relies entirely on water recycling for the disposal of treated effluent, effluent storage and recycled water Use Areas must increase to accommodate increases in influent flows to the CTF. Based on the water balance, the required storage volume and recycled water Use Areas for three different influent flow scenarios are summarized in the table below.

Storage Volume and Use Area Required	Current (0.75 mgd)		Near-Term (1.0 mgd)	Planned (6.0 mgd)
	Required	Available	Required	Required
Storage Volume (acre-feet)	345	429	502	2,677
Storage Volume (MG)	112	140	164	872
Use Areas (acres)	165	172	207	1,381

28. The immediately applicable flow limitation in this Order is based on the current treatment, storage, and disposal capacity. Under the conditions of the Master Recycling Permit, the Discharger may add new Use Areas and construct additional recycled water storage ponds defined as "planned" in the Findings and Information Sheet of this Order with Executive Officer approval of the technical reports submitted pursuant to the Provisions of this Order [1], and the flow limits can be incrementally increased up to a future treatment capacity of 6.0 mgd pending certification of an environmental review pursuant to CEQA and Executive Officer approval of each CTF expansion phase technical report submitted pursuant to the Provisions of this Order.

29. The Discharger has adopted a Recycled Water Ordinance to establish its authority to enforce rules and/or regulations for Users governing the design and construction of recycled water use facilities and the use of recycled water. Therefore, the Discharger may issue water recycling permits to Users of WWTF effluent.

30. Lathrop Municipal Code Title 13, Chapter 13.09 establishes the authority to enforce rules and/or regulations for Users governing the design and construction of recycled water use facilities and the use of recycled water. As such, the Discharger may issue water recycling permits to Users of treated effluent from the CTF. Future Use Areas not identified in the Findings and Information Sheet as "existing" will require Executive Officer approval of certain reports described in the Provisions of this Order to satisfy Water Code section 13264.

Site-Specific Conditions

31. The City of Lathrop's water supply comes from six deep municipal wells that extract groundwater from approximately 160 to 270 feet below ground surface (bgs). Drinking water is drawn from a 150-foot upper water-bearing interval overlying a 75 to 1,000 feet thick lower water-bearing zone in the Laguna Formation.

32. The drinking water supply for the City of Lathrop is supplemented with surface water from the Woodward Reservoir, which is distributed by the South San Joaquin Irrigation District (SSJID) as part of the South County Water Supply Program. Municipal supply water is treated prior to distribution to the community. A summary of City of Lathrop's Drinking Water Consumer Confidence Report for 2013 and source water data from the RWD is provided below.

Constituent	Units	Municipal Wells	SSJID Water
Total Coliform Organisms	MPN/100mL	< RL	--
Total Dissolved Solids	mg/L	283 - 573	80
Chloride	mg/L	32 - 108	3.0

[1] Use Areas and recycle water storage ponds defined as "future" will also require certification of an environmental review pursuant to the California Environmental Quality Act (CEQA).

Constituent	Units	Municipal Wells	SSJID Water
Sodium	mg/L	41 - 75	3.0
Iron	mg/L	<0.3	<0.3
Manganese	mg/L	<0.05 – 0.04	<0.05
Nitrate as NO3	mg/L	8.3 – 28.7	< RL
Hardness	mg/L	157 - 201	38.2
Specific Conductivity	μmhos/cm	444 - 970	97
Trihalomethanes	μg/L	9.8 – 31.8	--

-- Not analyzed.
RL Laboratory reporting limit, which can vary between testing events.

33. Local topography at the CTF and existing and planned recycled water Use Areas is generally level and gently slopes toward the San Joaquin River and other tributaries. Ground surface elevation at the CTF is approximately 10 feet above mean sea level (MSL).

34. The CTF and recycled water Use Areas lie within the San Joaquin Delta Hydrologic Unit Area No. 544.00, as depicted on interagency hydrologic maps prepared by the Department of Water Resources in August 1986. Surface drainage is to the San Joaquin River, which flows north along the western boundary of CLSP and Mossdale. Other nearby surface water courses that drain into the San Joaquin River include Paradise Cut that borders River Islands to the southwest, and Old River, which divides Mossdale and River Islands.

35. According to Federal Emergency Management Agency (FEMA) flood zone mapping, areas immediately east of the San Joaquin River (i.e., the CTF, Northern Lathrop, CLSP, and Mossdale) are in Flood Zone X, which is outside of the currently-defined 100-year flood zone. A developed portion of River Islands bordered by Stewart Road on the west and south and the San Joaquin River on the east is also identified as within Flood Zone X. These areas are protected from the 100-year flood by levees, dikes, or other structures that may be subject to possible failure or overtopping during larger flood events. The western half of River Islands is in Zone AE, which is within the 100-year floodplain. However, the elevations of future recycled water storage pond sites are above the 100-year floodplain. As mandated by Senate Bill 5, the cities of Lathrop and Manteca are pursuing improvement of Reclamation District 17's (RD 17) levees to provide the new central valley standard of 200-year Urban Level of Flood Protection. This requires improvement of the entire 20 miles of RD 17 levees, including sections within the cities of Lathrop, Manteca, Stockton, and unincorporated San Joaquin County. Work will be started by July 2016, and will be completed by 2025.

36. The Lathrop area is underlain by alluvial deposits consisting of fine grained sand, silt, and clay. According to United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) data, near-surface soils in the CTF and recycled water Use Areas are classified primarily as Egbert, Merrit, Columbia, and Veritas series soils, among others. These soils are generally characterized as moderate to poorly drained floodplain deposits with low permeability rates. Based on the National Resource Conservation Service soil survey, the soils in the proposed recycled water Use Areas are sandy to silty clay loams. Published infiltration rates for the soils range from 0.06 to 6.0 in/hr.

37. Based on climate data from the California Irrigation Management Information System (CIMIS), the average annual precipitation for the nearby area (Manteca Station) is approximately 13 inches per year. The 100-year, 365-day precipitation event is approximately 22 inches, and the average reference evapotranspiration (ETo) rate is approximately 52 inches per year.

38. Land uses surrounding the CTF include the Crossroads WWTF immediately to the south, the Crossroads Industrial Park to the north, and other commercial development to the east and south. Interstate highway 5 separates the Northern Lathrop, CLSP, Mossdale and River Islands development areas from the rest of the City. Surrounding land uses in these areas are primarily agricultural, but some areas have recently transitioned to residential, commercial, and industrial land uses.

Groundwater Conditions

39. Lathrop is located within the San Joaquin River Groundwater Basin, San Joaquin River Hydrologic Region. The CTF, Northern Lathrop, CLSP, and Mossdale developments are located within the western portion of the Eastern San Joaquin Subbasin, while River Islands is in the Tracy Subbasin. Water-bearing units of the two subbasins include undifferentiated deposits of alluvium and flood basin deposits of the Laguna Formation. The Plio-Pleistocene Laguna Formation consists of discontinuous lenses of fluvial sand and silt with lesser amounts of clay and gravel.

40. Shallow groundwater in the Lathrop area occurs within the alluvial flood plain deposits at depths of less than 15 feet bgs. The depth to groundwater is as little as a few feet below ground surface in some areas, especially near surface water bodies, including agricultural drainage ditches that divide portions of River Islands.

41. Shallow groundwater depth and flow conditions can vary depending on location, season, land use, nearby pumping (i.e. construction dewatering, agricultural irrigation, etc.), and the proximity and flow stage of nearby surface water bodies. As a result, changes in agricultural land use, irrigation practices, and regional pumping have likely altered the groundwater flow regime. In the Northern Lathrop, CLSP, Mossdale and River Islands areas, shallow groundwater generally flows laterally away from the San Joaquin River, Old River, and Paradise Cut, whereas the groundwater flow direction east of Interstate 5 is generally to the north-northwest, towards the river.

42. The RWD states that, although the groundwater flow direction is seasonally variable, there is a general pattern of shallow groundwater flowing away from the San Joaquin River, indicating that it is typically a losing stream in this area. However, shallow groundwater flow directions can vary as a result of localized groundwater extraction or seasonal recharge.

43. There are currently over 70 known existing shallow groundwater monitoring wells near the CTF and the Northern Lathrop, CLSP, Mossdale, and River Islands recycled water Use Areas. Additionally, there are five monitoring wells near recycled water storage Pond S6 on McKinley Avenue. The current monitoring well network was installed between 1998 and 2005 with wells located near existing and planned recycled water storage or Use Areas. Many of these monitoring wells were included in Monitoring and Reporting Program R5-2004-0094, but additional monitoring wells have been installed to establish pre-discharge groundwater conditions in planned Use Areas. A list of existing groundwater monitoring wells is provided below. However, as noted in the table, some of the wells cannot be recovered in the field and others are known to have been damaged or destroyed by agricultural equipment. This Order requires that the Discharger investigate all monitoring wells to determine whether they can be located; and, if so, whether they have been damaged. This Order requires that damaged wells be properly abandoned and replaced if appropriate.

Land Use Area	Existing Monitoring Wells
Northern Lathrop	MW-N1, MW-N2, MW-N3, MW-N4, MW-N5, MW-N6, NMW-1, NMW-2, NMW-3, NMW-4, NMW-5
CLSP	CSLP-1, CSLP-2, CSLP-3, CSLP-4, CSLP-5[1], CSLP-6[1], CSLP-7[1], CLSP-8, CLSP-9, CLSP-10
CTF, Ponds S4 and S5	MBRMW-1, MBRMW-2, MBRMW-3, MBRMW-4
Pond S6	RMW-1, RMW-2, RMW-3, RMW-4, RMW-5
Mossdale	MWM-1, MWM-2, MWM-3, MWM-4, MWM-5, MWM-6, MWM-7, MWM-8, MWM-9, MWM-10[1], MWM-11, MWM-12, MWM-13, MWM-14, MWM-15, MWM-16, MWM-17, MWM-18[1], MWM-19, MWM-20, MWM-21, MWM-22, MWM-23, MWM-24, MWM-25, MWM-26, MWM-27
River Islands	MWR-1[1], MWR-2[1], MWR-3, MWR-4, MWR-5, MWR-6, MWR-7, MWR-8, MWR-9, MWR-10, MWR-11, MWR-12, MWR-13[1], MWR-14[1], MWR-15[1], MWR-16[1], MWR-17[1], MWR-18[1], MWR-19[1], MWR-20[1], MWR-21[1], MWR-22[1], MWR-23, MWR-24, MWR-25, MWR-26, MWR-27, MWR-28, MWR-29, MWR-30, MWR-31, MWR-32
South of Mossdale	MW-S1, MW-S2, MW-S3, MW-S4, MW-S5

[1]Reported as abandoned, damaged, or unable to locate and/or presumed destroyed

44. The groundwater monitoring wells are screened in the uppermost portion of shallow groundwater with screened depths ranging from maximum depths between 20 and 30 feet bgs. The existing shallow groundwater monitoring well locations are shown on Attachments E, F, G, and H, which are attached hereto and made part of this Order by reference. Monitoring well construction details are summarized in the Information Sheet of this Order. Monitoring wells that are currently in use and their location and function are summarized below.

Use Area	Compliance Wells [1]	Ambient / Background Wells
Mossdale		
A23	MWM-12	MWM-11, MWM-13
Pond S1 Pond S2	MWM-4 MWM-5	MWM-1, MWM-2, MWM-3
River Islands		
A28	MWR-24	MWR-3, MWR-23, MWR-25
A30/A31	MWR-28 MWR-32	MWR-11, MWR-12, MWR-27, MWR-29, MWR-31
Pond S6	RMW-4[2] RMW-5[2]	RMW-1, RMW-2, RMW-3
CTF/MBR Facility	MBRMW-1 MBRMW-2 MBRMW-3 MBRMW-4	KMW-4

[1] Compliance wells are those that are well located within an active recycled water Use Area or immediately downgradient of an active recycled water storage pond or Use Area.

[2] Crossroads WWTF wells used only for monitoring water levels.

45. The Discharger submitted a *Background Groundwater Quality Study Report* pursuant to WDRs Order R5-2006-0094 in February 2009. The background study evaluated the results of groundwater sampling in the Mossdale, River Islands, Pond S6 area, and near the CTF between 2005 and 2008 before recycled water was discharged to these areas. Groundwater analytical results were compiled from four to fifteen consecutive quarterly monitoring events, depending on when recycled water was stored or discharged to the various Use Areas. The report identified a high degree of spatial variability in groundwater flow direction, gradient, and salinity constituent across the area surveyed and between monitoring wells near individual recycled water Use Areas. Statistical analysis performed as part of the Background Study concluded that groundwater quality beneath the planned recycled water storage and Use Areas exhibited significant spatial and temporal variability due to the close proximity to surface water and long term regional agricultural practices. Uniform trends were not identified for data spanning the monitoring period at each well location.

46. The current groundwater monitoring network consists of numerous wells spread over an area of approximately 15 square miles. Because the influence of various recharge sources and other pollutant sources such as irrigated agriculture and dairies also varies across that area, shallow groundwater quality with respect to salinity and nitrate exhibits high spatial variability. A generalized depiction of salinity concentrations in shallow groundwater is provided in Attachment I, which is attached hereto and forms part of this Order by reference. Therefore it is not practical to define ambient background groundwater quality in terms of a single concentration for each constituent that might be present in the recycled water. Nor is it appropriate to determine whether the discharge has caused degradation by a simple well-by-well comparison to a background value, except within certain discrete areas where there are monitoring wells that are consistently upgradient and downgradient of an existing discharge area. In addition, shallow groundwater quality in the vicinity of the CTF and Use Areas is generally poor with respect to salinity and nitrate. Therefore, changes in groundwater quality associated with the use of recycled water, if any, are most likely to be discernible through intrawell analysis using wells for which pre-discharge groundwater quality data exist.

47. For the purpose of evaluating existing and potential future groundwater degradation due to the use of recycled water, general groundwater quality was evaluated for each of four distinct areas: Northern Lathrop, Central Lathrop Specific Plan, Mossdale, and River Islands, as discussed below. Because the effluent storage ponds are all (or will be) lined and pose essentially no threat to groundwater quality, groundwater quality in these areas is not discussed.

    a. Northern Lathrop: This area is currently in agricultural use. Beginning in 2005, two sets of shallow groundwater monitoring wells (NMW-1 through NMW-5 and MW-N1 through MW-N6) were installed and sampled in the Northern Lathrop area. Groundwater monitoring data were collected between January 2005 and September 2006 (five to seven monitoring events per well) to provide pre-discharge groundwater data for planned Use Areas (see Attachment F). Groundwater level measurements indicated that groundwater flow directions varied from northeast to northwest during the study period. TDS concentrations in these wells ranged from 910 mg/L to 2,800 mg/L, with the exception of NMW-4, whose TDS concentrations ranged from 12,000 mg/L to 18,000 mg/L. Chloride and sodium concentrations in NMW-4 also exceeded those from the other monitoring wells. Key groundwater quality data are summarized below.

Well ID	Mean Groundwater Concentration (mg/L)				
	TDS	Chloride	Sodium	Nitrate-N	Sulfate
MW-N1	1,468	201	362	48	165
MW-N2	1,430	372	423	0.8	203
MW-N3	1,690	415	624	24	226
MW-N4	1,599	505	143	10	64

Well ID	Mean Groundwater Concentration (mg/L)				
	TDS	Chloride	Sodium	Nitrate-N	Sulfate
MW-N5	1,353	452	170	40	97
MW-N6	1,300	409	254	21	43
NMW-1	1,340	262	366	53	80
NMW-2	2,680	1260	708	32	101
NMW-3	1,720	564	410	33	160
NMW-4	14,200	7,080	1,580	--	204
NMW-5	1,360	206	410	--	156
Potential Water Quality Objective:	450 [1] – 1,000 [2]	250 [1] - 500 [2]	69 [1]	10 [3]	250 [4]

[1] Lowest agricultural water quality goal.
[2] Secondary Maximum Contaminant Level range.
[3] Primary Maximum Contaminant Level.
[4] Secondary Maximum Contaminant Level.

These data show that pre-discharge shallow groundwater quality is highly spatially variable and generally does not meet potentially applicable water quality objectives for TDS, chloride, sodium and nitrate nitrogen. Although the reason for the poor groundwater quality is not certain, it is likely at least partly due to the long history of irrigated agriculture in that area. Based on the character of the treated effluent, it is highly unlikely that the use of recycled water within this area could cause discernible degradation.

b. Central Lathrop Specific Plan: Currently, this area is primarily in agricultural use, with the exception of the Lathrop High School site. Ten groundwater monitoring wells (CLSP-1 through CLSP-10), were installed in January 2003 to collect pre-discharge groundwater data for planned Use Areas (see Attachment F). Groundwater level measurements during the pre-discharge study period (2005 to 2006) indicate that the shallow groundwater flow direction was to the northeast, however groundwater level measurements collected in 2013 reflected a northwest gradient direction. TDS concentrations in these wells ranged from 640 mg/L to 3,600 mg/L. Chloride and sodium concentrations in NMW-4 also exceeded those from the other monitoring wells. Groundwater monitoring data are summarized below.

Well ID	Mean Groundwater Concentrations (mg/L)				
	TDS	Chloride	Sodium	Nitrate-N	Sulfate
CLSP-1	952	174	132	7.4	166
CLSP-2	1,730	277	590	14	220
CLSP-3	637	202	103	0.3	106

Well ID	Mean Groundwater Concentrations (mg/L)				
	TDS	Chloride	Sodium	Nitrate-N	Sulfate
CLSP-4	1,504	232	353	15.5	212
CLSP-5 [1]	1,408	277	206	16.6	262
CLSP-6 [1]	1,016	276	210	4.0	165
CLSP-7 [1]	1,123	221	161	7.8	210
CLSP-8	2,350	675	593	7.1	478
CLSP-9	3,582	970	820	4.9	900
CLSP-10	2,257	504	753	19.3	384
Potential Water Quality Objective:	450 [2] - 1,000 [3]	250 [2] - 500 [3]	69 [2]	10 [4]	250 [5]

[1] Subsequently reported as abandoned, damaged, or unable to locate and/or presumed destroyed
[2] Lowest agricultural water quality goal.
[3] Secondary Maximum Contaminant Level range.
[4] Primary Maximum Contaminant Level.
[5] Secondary Maximum Contaminant Level.

These data show that pre-discharge shallow groundwater quality is highly spatially variable and generally does not meet potentially applicable water quality objectives for TDS. Chloride, sodium and nitrate nitrogen concentrations indicate degradation and, in some wells, pollution. Although the reason for the poor groundwater quality is not certain, it is likely at least partly due to the long history of irrigated agriculture in that area. Based on the character of the treated effluent, the use of recycled water within this area is not likely to cause discernible degradation, with the possible exception of areas with pre-discharge groundwater TDS concentrations of less than about 1,200 mg/L.

Although groundwater monitoring wells CLSP-2, CLSP-3, and CLSP-4 may provide useful groundwater flow and gradient data, these wells are not located immediately downgradient of planned Use Areas of sufficient size that the application of recycled water would be discernible from background conditions. Monitoring wells CLSP-5, CLSP-6, and CLSP-7 are reportedly abandoned. Therefore, only CLSP-1 is suitable for use as a compliance monitoring well.

c. Mossdale: The Mossdale area is now a partly developed residential area. A total of 27 monitoring wells (MWM-1 through MWM-27) were installed at various locations within the Mossdale development area beginning in 2001 near planned recycled water Use Areas. The location of groundwater monitoring wells in the Mossdale area are shown on Attachment G, which is attached hereto and made part of this Order by reference.

Pre-discharge TDS concentrations in these wells ranged from approximately 500 mg/L to over 4,000 mg/L. The data show that pre-discharge shallow groundwater quality was highly spatially variable and generally did not meet potentially applicable water quality objectives for TDS, chloride or sodium. Nitrate nitrogen concentrations were typically below the primary MCL of 10 mg/L, but certain wells exhibited concentrations up to approximately 20 mg/L.

The primary area within the Mossdale development that receives recycled water is Use Area A23, which is an active 11.5-acre agricultural Use Area that received recycled water for irrigation between May 2006 and September 2009. Monitoring well MWM-12 is located within Use Area A23. Pre-discharge TDS concentrations in MWM-12 averaged 2,812 mg/L, while the TDS concentration since May 2010 has averaged 2,656 mg/L. Based on the character of the treated effluent and the lack of increasing salinity in MW-12 since recycled water use began, the use of recycled water within this area is not likely to cause discernible degradation.

Additionally, other planned recycled water Use Areas within the Mossdale development are of such limited acreage that it is unlikely that the application or recycled water at these locations could cause discernible degradation.

d. River Islands: A total of 32 monitoring wells (MWR-1 through MWR-32) were installed at the River Islands development area between 1998 and 2005 near planned recycled water Use Areas. The locations of groundwater monitoring wells in River Islands are shown on Attachment H, which is attached hereto and made part of this Order by reference. TDS concentrations in these wells range from approximately 1,200 mg/L to 6,000 mg/L with no discernible trend over time in individual wells. The data show that pre-discharge shallow groundwater quality was highly spatially variable and generally did not meet potentially applicable water quality objectives for TDS, chloride or sodium. However, nitrate nitrogen concentrations were typically below the primary MCL of 10 mg/L. As with the other development areas, the reason for the poor groundwater quality is not certain.

   Groundwater monitoring wells in three existing agricultural Use Areas in River Islands can be used to evaluate the potential for degradation. These recycled water Use Areas include A28, A30, and A31, as discussed below.

   i. Use Area A28: Monitoring well MWR-24 is located on the southern portion of River Islands within Use Area A28, which began receiving recycled water in May 2010 for agricultural irrigation. The average TDS concentration in MWR-24 is currently about 5,700 mg/L, and there have been no significant changes since the first use of recycled water. Nitrate nitrogen concentrations in shallow groundwater in this Use Area have been consistently very low, indicating that the discharge has not caused degradation of groundwater quality.

ii. Use Area A30: Monitoring well MWR-28 is located within Use Area A30, which began receiving recycled water in June 2010 for agricultural irrigation. The average TDS concentration in MWR-28 is currently about 3,700 mg/L, and there have been no significant changes since the first use of recycled water. Nitrate nitrogen concentrations in shallow groundwater in this Use Area have been consistently very low, indicating that the discharge has not caused degradation of groundwater quality.

iii. Use Area A31: Monitoring wells MWR-32 is located within agricultural Use Area A31, which is adjacent to Use Area A30. Although Use Area A31 has not yet received recycled water, groundwater monitoring data from MWR-32 located within this area has average TDS concentration of 2,900 mg/L since 2005.

The highest groundwater quality in the River Islands area is in the southeastern portion near the San Joaquin River. TDS concentrations in this area are typically between 400 and 1,000 mg/L, indicating a high degree of influence from higher quality river water. No planned Use Areas have been identified for this area, but several lined effluent storage ponds are planned in the extreme southern portion.

Based on the foregoing and effluent water quality, the use of recycled water outside of the primary agricultural Use Areas in the River Islands development area is unlikely to cause discernible degradation.

48. In summary, existing and planned recycled water Use Areas are all located on historically agricultural land where groundwater is very shallow and salinity and nitrate concentrations in shallow groundwater equal or exceed the respective water quality objectives. The data also illustrate that shallow groundwater quality is highly spatially variable across the development areas where recycled water is or will be used. In many areas, TDS concentrations fluctuate with no apparent correlation to current land use and, with few exceptions, shallow groundwater flow directions are neither spatially nor temporally consistent.

Based on the effluent character and the fact that the majority of the existing and planned recycled water Use Areas are small, are separated by large distances, and are expected to receive only a portion of their irrigation supply from recycled water, the discharge of recycled water to these areas is unlikely to cause discernible degradation of groundwater quality. Therefore, it is appropriate to require groundwater monitoring only for those recycled water Use Areas where the discharge could cause discernible degradation.

Basin Plan, Beneficial Uses, and Regulatory Considerations

49. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins,* Fourth Edition (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the

State Water Board. Pursuant to California Water Code section 13263(a), waste discharge requirements must implement the Basin Plan.

50. Local drainage is to the San Joaquin River. The beneficial uses of the San Joaquin River, as stated in the Basin Plan, are municipal and domestic supply; agricultural supply; industrial process supply; industrial service supply; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; wildlife habitat; and navigation.

51. The beneficial uses of underlying groundwater as set forth in the Basin Plan are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

52. The Basin Plan establishes narrative water quality objectives for chemical constituents, tastes and odors, and toxicity in groundwater. It also sets forth a numeric objective for total coliform organisms.

53. The Basin Plan's numeric water quality objective for bacteria requires that the most probable number (MPN) of coliform organisms over any seven-day period shall be less than 2.2 per 100 mL in MUN groundwater.

54. The Basin Plan's narrative water quality objectives for chemical constituents, at a minimum, require waters designated as domestic or municipal supply to meet the MCLs specified in Title 22. The Basin Plan recognizes that the Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.

55. The narrative toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, animal, plant, or aquatic life associated with designated beneficial uses.

56. Quantifying a narrative water quality objective requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses. The Basin Plan states that when compliance with a narrative objective is required to protect specific beneficial uses, the Central Valley Water Board will, on a case-by-case basis, adopt numerical limitations in order to implement the narrative objective.

57. In the absence of specific numerical water quality limits, the Basin Plan methodology is to consider any relevant published criteria. General salt tolerance guidelines, such as *Water Quality for Agriculture* by Ayers and Westcot and similar references indicate that yield reductions in nearly all crops are not evident when irrigation water has an EC less than 700 µmhos/cm. There is, however, an eight- to ten-fold range in salt tolerance for agricultural crops and the appropriate salinity values to protect agriculture in the Central Valley are considered on a case-by-case basis. It is possible to achieve full yield potential with waters having EC up to 3,000 µmhos/cm if

the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop.

Antidegradation Analysis

58. State Water Resources Control Board Resolution 68-16 ("Policy with Respect to Maintaining High Quality Waters of the State") (hereafter Resolution 68-16) prohibits degradation of groundwater unless it has been shown that:

    a. The degradation is consistent with the maximum benefit to the people of the state.

    b. The degradation will not unreasonably affect present and anticipated future beneficial uses.

    c. The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives, and

    d. The discharger employs best practicable treatment or control (BPTC) to minimize degradation.

59. Degradation of groundwater by some of the typical waste constituents associated with discharges from a municipal wastewater utility, after effective source control, treatment, and control measures are implemented, is consistent with the maximum benefit to the people of the state. The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from reliance on numerous, concentrated individual wastewater systems, and the impact on water quality will be substantially less. The economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, and provides sufficient justification for allowing the limited groundwater degradation that may occur pursuant to this Order.

60. The Discharger has been monitoring groundwater quality at the CTF and near several of the recycled water Use Areas since 1999. Although some limited groundwater quality data available back to 1945, the hydrologic dynamics of such a large geographic area combined with a long history of both irrigated agriculture and land discharges of wastewater, it is not possible to determine pre-1968 groundwater quality. Therefore, determination of compliance with Resolution 68-16 for this discharge must be based on available local groundwater quality data.

61. As discussed in Findings 47 and 48, because of the extreme spatial variability of TDS concentrations in shallow groundwater across the Lathrop development areas, the local variability in groundwater flow, and the characteristics of recycled water, this anti-degradation analysis focuses on specific Use Areas that illustrate typical groundwater conditions within each development area that has or will have recycled water Use Areas.

62. Constituents of concern that have the potential to degrade groundwater quality are salts (primarily TDS, sodium, and chloride) and nitrate, as discussed below. For the purpose of this evaluation, TDS is representative of overall salinity.

The following recycled water Use Areas have been identified as representing typical groundwater conditions within their respective development area: River Islands Use Area A28, River Islands Use Areas A30/A31, Mossdale Use Area A23, Northern Lathrop planned Use Areas A1-13 and A17-19; and CLSP planned Use Areas L01 - L100. Each has an existing network of shallow groundwater monitoring wells and groundwater monitoring data collected prior to and, in the case of existing Use Areas, after initiation of recycled water discharge. Compliance wells are those that are located within recycled water Use Areas because those wells are most susceptible to water quality changes as a result of recycled water use.

a. **River Islands – Use Area A28:** Groundwater quality in this existing Use Area is substantially more saline than the treated effluent. Pre-discharge groundwater monitoring data collected from monitoring well MWR-24 (located within recycled water Use Area A28) reflects average TDS, chloride, and sodium concentrations of 2,820 mg/L, 948 mg/L, and 1,010 mg/L, respectively. These average concentrations each exceed their corresponding water quality objectives.

Mean groundwater TDS concentrations in background monitoring wells for Area A28 (MWR-3, MWR-23, and MWR-25) currently range from 2,108 mg/L to 3,610 mg/L, which exceed both the average recycled water TDS concentration of 688 mg/L and the short-term maximum secondary MCL of 1,500 mg/L. Monitoring wells further distant around the perimeter of recycled water use Area A28 (MWR-1, MWR-4, MWR-15, and MWR-26) have mean TDS concentrations ranging from 1,090 mg/L to 1,484 mg/L. A comparison of average treated effluent and groundwater quality data for Use Area A28 is provided below.

Land Development Area: River Islands					
Recycled Water Use Area: A28			**Irrigated Acres: 30.63**		
Parameter [1]	**Treated Effluent [2]**	**Potential Compliance Well [3]**	**Background Wells [3]**		**Potential Water Quality Objective**
		MWR-24	**MWR-23**	**MWM-25**	
TDS	688	5,741	2,361	2,108	450 [4] - 1,000 [5]
Chloride	194	2,346	928	904	250 [4] - 500 [5]
Sodium	181	655	407	347	69 [4]
Nitrate nitrogen	7.0 [7]	1.0	7.3	0.8	10 [8]

[1] Monitoring data reported in milligrams per liter (mg/L).
[2] Mean effluent data (January 2011 through September 2013).
[3] Average groundwater monitoring data (July 2006 through April 2014).

[4] Lowest agricultural water quality goal.
[5] Upper Secondary Maximum Contaminant Level.
[6] Secondary Maximum Contaminant Level.
[7] Effluent total nitrogen is used here to evaluate the threat of degradation with nitrate nitrogen.
[8] Primary Maximum Contaminant Level.

TDS, chloride, and sodium concentrations both background and compliance wells greatly exceed the respective water quality objectives at this Use Area. Although compliance well concentrations for salinity constituents greatly exceed those in the background wells, this condition was apparent prior to any discharge to this Use Area. Since the discharge began in 2010, TDS concentrations in the compliance well improved somewhat but continue to exceed the water quality objective. Based on a comparison of treated effluent and groundwater quality trends, the use of recycled water in this area poses no threat of contributing to the existing condition of pollution.

Because salinity constituents in groundwater exceeded water quality objectives prior to the discharge, the Basin Plan's Controllable Factors Policy is applicable. The Controllable Factors Policy does not allow controllable factors, such as a discharge of waste, to cause further degradation of water quality where other uncontrollable factors have already caused exceedance of a water quality objective. This Order prohibits any further degradation of groundwater quality and includes a performance based TDS effluent limit that will restrict effluent salinity to ensure compliance with the Controllable Factors Policy.

Because there is no threat of further degradation, this Order does not require continued groundwater monitoring in this area.

River Islands – Use Areas A30 & A31: Groundwater quality in and around these two Use Areas is of lower quality than the treated effluent. Pre-discharge groundwater monitoring data collected from monitoring well MWR-28 (located within Use Area A30) had average TDS concentrations of 3,677 mg/L, and data from monitoring well MWR-32 (located within Use Area A31) has an average TDS concentration 2,904 mg/L. These pre-discharge concentrations exceed the short-term maximum secondary MCL of 1,500 mg/L. Use Area A30 has received recycled water since 2010, but Use Area A31 has not yet received recycled water.

Mean groundwater TDS concentrations in A30's background monitoring wells (MWR-12 and MWR-27) currently range from 1,221 mg/L and 2,286 mg/L, which exceed both the average recycled water TDS concentration of 688 mg/L and the short-term maximum secondary MCL of 1,500 mg/L. Likewise, mean TDS concentrations in A31's background monitoring wells MWR-11, MWR-29, and MWR-31 range from 1,448 mg/L to 3,771 mg/L. A comparison of average treated effluent and groundwater quality data is provided below.

Land Development Area: River Islands				
Recycled Water Use Area: A30/A31			**Irrigated Acres: 130.2**	
Parameter [1]	**Treated Effluent [2]**	**Mean Analytical Results [3]**		**Potential Water Quality Objective**
		Potential Compliance Wells [4]	**Background Wells [5]**	
TDS	688	3,242	2,150	450 [6] – 1,000 [7]
Chloride	194	1,194	756	250 [6] - 500 [7]
Sodium	181	414	249	69 [6]
Nitrate nitrogen	7.0 [9]	1.3	1.9	10 [10]

1 All analytical data reported in milligrams per liter (mg/L).
2 Mean effluent data (January 2011 through September 2013).
3 Average groundwater monitoring data (May 2010 through April 2014).
4 Compliance wells include MWR-28 (A30) and MWR-32 (A31).
5 Background wells include MWR-11, MWR-12, MWR-27, and MWR-31.
6 Lowest agricultural water quality goal.
7 Upper Secondary Maximum Contaminant Level.
8 Secondary Maximum Contaminant Level.
9 Effluent total nitrogen is used here to evaluate the threat of degradation with nitrate nitrogen.
10 Primary Maximum Contaminant Level.

TDS, chloride, and sodium concentrations in both background and compliance wells greatly exceed the respective water quality objectives at these two Use Areas. Although compliance well concentrations for salinity constituents greatly exceed those in the background wells, this condition was apparent prior to any discharge to Use Area A30. Groundwater salinity constituent concentrations in Use Areas A30 and A31 have been both spatially and temporally variable prior to and since the discharge to Use Area A30 began. TDS concentrations in A30 compliance well MWR-28 initially declined after discharge to A30 began in 2010 but then rebounded to pre-discharge conditions. In nearby A31 compliance well MWR-32, the TDS concentration trend is similar to that of MRW-28 even though there has been no discharge to Use Area A31. Based on a comparison of treated effluent and groundwater quality trends, the use or recycled water in this area poses no threat of contributing to the existing condition of pollution.

Because salinity constituents in groundwater exceeded water quality objectives prior to the discharge, the Basin Plan's Controllable Factors Policy is applicable. The Controllable Factors Policy does not allow controllable factors, such as a discharge of waste, to cause further degradation of water quality where other uncontrollable factors have already caused exceedance of a water quality objective. This Order prohibits any further degradation of groundwater quality and includes a performance based TDS effluent limit that will restrict effluent salinity to ensure compliance with the Controllable Factors Policy.

Because there is no threat of further degradation, this Order does not require continued groundwater monitoring in this area.

b. **Mossdale – Use Area A23:** Groundwater quality in the Mossdale area is generally of lower quality than the treated effluent. Pre-discharge groundwater monitoring data collected from monitoring well MWM-12, which is located within recycled water Use Area A23, reflects mean TDS, chloride, and sodium concentrations of 2,820 mg/L, 948 mg/L, and 1,010 mg/L, respectively. These pre-discharge concentrations greatly exceed their corresponding water quality objectives.

Recycled water was discharged to Use Area A23 from May 2006 through September 2009. Post-discharge groundwater monitoring data collected from monitoring well MWM-12 from 2009 through 2014 reflects mean TDS, chloride, and sodium concentrations of 2,656 mg/L, 1,096 mg/L, and 1,019 mg/L, respectively, which indicates the discharge has caused no degradation. A comparison of average treated effluent and groundwater quality data are provided below.

Land Development Area: Mossdale					
Recycled Water Use Area: A23			**Irrigated Acres: 11.52**		
Parameter [1]	**Treated Effluent [2]**	**Compliance Well [3]**	**Background Wells [3]**		**Potential Water Quality Objective**
		MWM-12	**MWM-13**	**MWM-11**	
TDS	688	2,811	2,035	3,110	450 [4] - 1,000 [5]
Chloride	194	1,117	556	1,369	250 [4] - 500 [5]
Sodium	181	1,007	702	658	69 [4]
Sulfate	49.5	250	318	284	250 [6]
Nitrate nitrogen	7.0 [7]	3.4	3.7	0.4	10 [8]

1 Monitoring data reported in milligrams per liter (mg/L).
2 Mean effluent data (January 2011 through September 2013).
3 Average groundwater monitoring data (July 2006 through April 2014).
4 Lowest agricultural water quality goal.
5 Upper Secondary Maximum Contaminant Level.
6 Secondary Maximum Contaminant Level.
7 Effluent total nitrogen is used here to evaluate the threat of degradation with nitrate nitrogen.
8 Primary Maximum Contaminant Level.

TDS, chloride, and sodium concentrations in both background and compliance wells greatly exceed the respective water quality objectives at this Use Area. Although compliance well concentrations for salinity constituents exceed those of the background wells, this condition was apparent prior to any discharge to this Use Area. Groundwater salinity concentrations in MWR-12 increased briefly during the discharge of recycled water to Use Area A23, but declined to pre-discharge levels in

2008, approximately one year before the use of recycled water stopped. After the discharge was discontinued, TDS concentrations decreased gradually to about 2,600 mg/L, but still remain above the upper Secondary Maximum Contaminant Level of 1,500 mg/L. Based on a comparison of treated effluent and groundwater quality trends, the use or recycled water in this area poses no threat of contributing to the existing condition of pollution.

Because salinity constituents in groundwater exceeded water quality objectives prior to the discharge, the Basin Plan's Controllable Factors Policy is applicable. The Controllable Factors Policy does not allow controllable factors, such as a discharge of waste, to cause further degradation of water quality where other uncontrollable factors have already caused exceedance of a water quality objective. This Order prohibits any further degradation of groundwater quality and includes a performance based TDS effluent limit that will restrict effluent salinity to ensure compliance with the Controllable Factors Policy.

Because there is no threat of degradation, this Order does not require continued groundwater monitoring in this area.

c. **Northern Lathrop (Planned Use Areas):** Groundwater quality in North Lathrop is generally of lower quality than the treated effluent. Pre-discharge groundwater monitoring data collected from eleven monitoring wells MW-N1 through MW-N6 and NMW-1 through NMW-5) between 2005 and 2006 show average TDS, chloride, sodium, and nitrate nitrogen concentrations that often greatly exceed the respective water quality objectives. Additionally, one monitoring well (NMW-4) exhibited TDS concentrations over ten times the Secondary Maximum Contaminant Level of 1,500 mg/L. A comparison of average treated effluent and groundwater quality data is provided below.

Land Development Area: Northern Lathrop (Planned Use Areas)				
Recycled Water Use Areas: A1 - A13 and A17 – 19			**Irrigated Acres: 638.14**	
Parameter [1]	**Treated Effluent [2]**	**Groundwater Concentrations [3]**		**Potential Water Quality Objective**
		Range	**Mean**	
TDS	688	910 – 18,000	2,740	450 [4] - 1,000 [5]
Chloride	194	55 - 8,000	1,066	250 [4] - 500 [5]
Sodium	181	126 – 1,800	495	69 [4]
Sulfate	49.5	4.9 - 290	136	250 [6]
Nitrate as N	7.0 [7]	<0.1 – 102	29	10 [8]

[1] Monitoring data reported in milligrams per liter (mg/L).
[2] Mean effluent data (January 2011 through September 2013).
[3] Groundwater monitoring data MW-N1 through MW-N6 and NMW-1 through NMW-5 (January 2005 – July 2006).
[4] Lowest agricultural water quality goal.

[5] Upper Secondary Maximum Contaminant Level.
[6] Secondary Maximum Contaminant Level.
[7] Effluent total nitrogen is used here to evaluate the threat of degradation with nitrate nitrogen.
[8] Primary Maximum Contaminant Level.

Where salinity constituent concentrations in groundwater exceeded water quality objectives prior to any discharge, the Basin Plan's Controllable Factors Policy is applicable. The Controllable Factors Policy does not allow controllable factors, such as a discharge of waste, to cause further degradation of water quality where other uncontrollable factors have already caused exceedance of a water quality objective.

Where pre-discharge concentrations meet water quality objectives, the Anti-degradation Policy applies and it is appropriate to allow degradation, but not exceedance of a water quality objective due to the use of recycled water. With few exceptions, pre-discharge TDS, chloride, sodium, and nitrate nitrogen concentrations greatly exceed the respective water quality objectives throughout the Northern Lathrop development area. Based on a comparison of treated effluent and groundwater quality trends, the use or recycled water in this area poses no threat of contributing to the existing condition of pollution. In the limited areas where high quality groundwater exists, the discharge might cause degradation but is not likely to cause or contribute to exceedance of a water quality objective.

This analysis is based on data obtained between 2005 and 2006. However, current groundwater quality is not known and groundwater quality may change prior to initiation of water recycling in these areas. Therefore, updated pre-discharge groundwater monitoring is necessary before these Use Areas can receive recycled water.

d. **CLSP (Planned Use Areas):** Approximately 199 acres of land within the CLSP development area have been identified as planned agricultural irrigation Use Areas. Pre-discharge groundwater quality indicates that shallow groundwater is generally of lower quality than the treated effluent. Pre-discharge groundwater monitoring data collected from ten monitoring wells (CLSP-1 through CLSP-10) between 2005 and 2006 show that average TDS, sodium, chloride, and nitrate nitrogen concentrations that greatly exceed the respective water quality objectives. A comparison of average treated effluent and groundwater quality data is provided below.

Land Development Area: CLSP (Planned Use Areas)				
Recycled Water Use Areas: L01 - L100			**Irrigated Acres: 198.98**	
Parameter [1]	**Treated Effluent [2]**	**Groundwater Concentrations [3]**		**Potential Water Quality Objective**
		Range	**Mean**	
TDS	688	308 – 4,160	1,727	450 [4] - 1,000 [5]
Chloride	194	63 – 1,320	407	250 [4] - 500 [5]
Sodium	181	62 – 1,250	407	69 [4]
Nitrate nitrogen	7.0 [7]	<0.01 - 26	10	10 [8]

[1] Monitoring data reported in milligrams per liter (mg/L).
[2] Mean effluent data (August 2005 – September 2013).
[3] Groundwater monitoring data from CLSP-1 through CLSP-10 (January 2005 – July 2006).
[4] Lowest agricultural water quality goal.
[5] Upper Secondary Maximum Contaminant Level.
[6] Secondary Maximum Contaminant Level.
[7] Effluent total nitrogen is used here to evaluate the threat of degradation with nitrate nitrogen.
[8] Primary Maximum Contaminant Level.

With few exceptions, pre-discharge TDS, chloride, and sodium concentrations greatly exceed the respective water quality objectives throughout the CLSP development area.

In the limited areas where high quality groundwater exists, Use Areas A21 and A37, the discharge might cause degradation but is not likely to cause or contribute to exceedance of a water quality objective. Where pre-discharge concentrations meet water quality objectives, the Anti-degradation Policy applies and it is appropriate to allow degradation, but not exceedance of a water quality objective due to the use of recycled water

For all other planned Use Areas, salinity constituent concentrations in groundwater exceeded water quality objectives prior to any discharge, so the Basin Plan's Controllable Factors Policy is applicable. The Controllable Factors Policy does not allow controllable factors, such as a discharge of waste, to cause further degradation of water quality where other uncontrollable factors have already caused exceedance of a water quality objective.

This analysis is based on data obtained between 2005 and 2006. However, current groundwater quality is not known and groundwater quality may change prior to initiation of water recycling in these areas. Therefore, updated pre-discharge groundwater monitoring is necessary before these Use Areas can receive recycled water.

63. This Order prohibits the discharge from causing or contributing to groundwater pollution and includes a performance based TDS effluent limit that will restrict effluent salinity to ensure compliance with both the Anti-degradation and Controllable Factors Policies, whichever is applicable depending on the specific Use Area. This Order requires groundwater monitoring only for those areas where it will be possible to discern degradation (i.e., determination will not be precluded by spatial variability).

    This Order establishes effluent and groundwater limitations that will not unreasonably threaten present and anticipated beneficial uses or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan.

64. The Discharger provides treatment and control of the discharge that incorporates:

    a. Tertiary treatment and disinfection;
    b. Completely enclosed wastewater treatment systems;
    c. Lined wastewater and emergency storage ponds;
    d. Automatic alarms and backup power systems;
    e. Certified wastewater treatment operators; and
    f. Use of effluent to irrigate crops and landscaped areas using water and nutrient application rates consistent with plant needs.

    These efforts are considered best practicable treatment or control at this time. The CTF treats some commercial and industrial wastewater and the RWD did not discuss any salinity reduction efforts that have been, or will be, implemented. Given the relatively high quality of the effluent with respect to salinity constituents and the low threat that the discharge poses to groundwater quality, salinity studies or reduction efforts are not required at this time. However, such work may be required in the future to support development of a local Salinity and Nutrient Management Plan pursuant to the State Water Board's Recycled Water Policy.

Water Recycling Regulatory Considerations

65. Recycled water is defined in Water Code section 13050 and in Title 22 section 60301.900. Based on the level of treatment at the CTF, effluent delivered to recycled water users (Users) is "disinfected tertiary recycled water." Recycled water will be stored in lined storage ponds prior to being applied to Use Areas. Title 22 section 60301.920 defines "Use Area" as an area with defined boundaries where recycled water is used or discharged.

66. Undisinfected domestic wastewater contains human pathogens that are typically measured using total or fecal coliform organism as indicator organisms. The State Water Resources Control Board Division of Drinking Water (DDW)(formerly the California Department of Public Health Drinking Water Program), which has primary statewide responsibility for protecting water quality and the public health, has established statewide criteria in Title 22, section 60301 et seq. for the use of recycled water.

67. In accordance with the statute, this Order includes waste discharge requirements and requires the Discharger to comply with uniform statewide recycling criteria; establish and enforce rules and regulations for Users in accordance with statewide recycling criteria; submit quarterly reports summarizing reclaimed water use; and conduct periodic inspections of the recycled water Use Areas. Pursuant to Section 13552.4 of the Water Code, Chapter 13.0.010 of the City of Lathrop's Municipal Code defines the City of Lathrop's authority to enforce rules and/or regulations for the use and distribution of recycled water, in accordance with statewide recycling criteria. Chapter 13.0.010 establishes minimum standard procedures, specifications and limitations to ensure the health, safety, and general welfare of the citizens of the City of Lathrop when installing infrastructure for and using recycled water consistent with the laws and regulations of the State of California.

68. A 1998 Memorandum of Agreement (MOA) between Drinking Water Program (formerly the California Department of Public Health Drinking Water Program) and the State Water Board on the use of recycled water establishes basic principles relative to the agencies and the regional water boards. In addition, the MOA allocates primary areas of responsibility and authority between these agencies, and provides for methods and mechanisms necessary to assure ongoing, continuous future coordination of activities relative to the use of recycled water in California. This Order implements the applicable portions of the Title 22 water recycling regulation in accordance with the MOA.

69. On 3 February 2009, the State Water Board adopted Resolution 2009-0011, Adoption of a Policy for Water Quality Control for Recycled Water (Recycled Water Policy). The Recycled Water Policy promotes the use of recycled water to achieve sustainable local water supplies and reduce greenhouse gases.

70. On 23 April 2009, the Central Valley Water Board adopted Resolution R5-2009-0028, In Support of Regionalization, Reclamation, Recycling and Conservation for Wastewater Treatment Plants. Resolution R5-2009-0028 encourages water recycling, water conservation, and regionalization of wastewater treatment facilities. It requires the municipal wastewater treatment agencies to document:

    a. Efforts to promote new or expanded wastewater recycling opportunities and programs;

    b. Water conservation measures; and

    c. Regional wastewater management opportunities and solutions (e.g., regionalization).

    The distribution of disinfected tertiary recycled water by the Discharger is consistent with the intent of State Board Resolution 2009-0011 and Central Valley Water Board Resolution R5-2009-0028.

71. The Discharger submitted a *Title 22 Engineering Report,* dated 24 April 2014 to the Central Valley Water Board and DDW pursuant to Title 22 for water recycling of disinfected tertiary recycled water as defined by Title 22, section 60301.230. The Title 22 Report stated that tertiary treated water will be applied to landscaped and agricultural areas located within "Mossdale Village, Stewart Tract, Paradise Cut, the CLSP area, and the agricultural lands located north of CLSP." DDW recommended in a letter to the Regional Water Quality Control Board dated 7 October 2014, that the Discharger be required to submit a Recycled Water Operations Plan to assure that the recycled water is produced, distributed, and used in conformance with the provisions of the DDW's Title 22 Water Recycling criteria. DDW's recommendations included the following:

    a. Sections of the overall Recycled Water Operation Plan should specifically address recycled water Use Areas and the City's cross-connection program.
    b. The Recycled Water Operation Plan must include detailed and specific procedures for various aspects of the City's recycled water Use Area operations, which include conducting and documenting inspections, specific frequencies for inspections, when not to irrigate, emergency procedures, etc.
    c. The Recycled Water Operation Plan provide guidance to address unusual occurrences or emergencies, having clear and detailed operating procedures for field personnel to follow to ensure rapid problem recognition and resolution.

    This Order requires that the Discharger submit the Recycled Water Operation Plan for review and approval by DDW.

72. Recycled water projects are limited to areas for which DDW has approved a Title 22 engineering report and for which prerequisites to discharge listed in Water Code section 13264(a) have been met. The Department of Public Health issued a letter on 3 August 2012 approving the Title 22 engineering reports for all the recycled water projects identified as "existing", "planned," and "future" in the Findings and Information Sheet of this Order.

Other Regulatory Considerations

73. In compliance with 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 maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.

74. Based on the threat and complexity of the discharge, the facility is determined to be classified as 2A as defined below:

a. Category 2 threat to water quality: "Those discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance."

b. Category A complexity, defined as: "Any discharge of toxic wastes; any small volume discharge containing toxic waste; any facility having numerous discharge points and groundwater monitoring; or any Class 1 waste management unit"

75. Title 27 of the California Code of Regulations (hereafter Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste. However, Title 27 exempts certain activities from its provisions. Discharges regulated by this Order are exempt from Title 27 pursuant to provisions that exempt domestic sewage, wastewater, and reuse. Title 27, section 20090 states in part:

> The following activities shall be exempt from the SWRCB-promulgated provisions of this subdivision, so long as the activity meets, and continues to meet, all preconditions listed:
>
> (a) Sewage - Discharges of domestic sewage or treated effluent which are regulated by WDRs issued pursuant to Chapter 9, Division 3, Title 23 of this code, or for which WDRs have been waived, and which are consistent with applicable water quality objectives, and treatment or storage facilities associated with municipal wastewater treatment plants, provided that residual sludges or solid waste from wastewater treatment facilities shall be discharged only in accordance with the applicable SWRCB-promulgated provisions of this division.
>
> (b) Wastewater - Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields if the following conditions are met:
>
> (1) the applicable RWQCB has issued WDRs, reclamation requirements, or waived such issuance;
>
> (2) the discharge is in compliance with the applicable water quality control plan; and
>
> (3) the wastewater does not need to be managed according to Chapter 11, Division 4.5, Title 22 of this code as a hazardous waste.

76. The discharge authorized herein (except for the discharge of residual sludge and solid waste), and the treatment and storage facilities associated with the discharge, are exempt from the requirements of Title 27 as follows:

a. The CTF MBR plant and storage ponds S1, S2, S3, S4, S5, and S6 are exempt pursuant to Title 27, section 20090(a) because they are treatment and storage facilities associated with a municipal domestic wastewater treatment plant.

b. The recycled water Use Areas are exempt pursuant to Title 27, section 20090(b) because they are land discharge areas and:

i. The Central Valley Water Board is issuing WDRs.

ii. The discharge is in compliance with the Basin Plan, and;

iii. The treated effluent discharged to the ponds does not need to be managed as hazardous waste.

77. Although the CTF is exempt from Title 27, the statistical data analysis methods of Title 27, section 20415(e) are appropriate for determining whether the discharge complies with Groundwater Limitations specified in this Order.
The U.S. EPA published *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (hereafter "Unified Guidance") in 2009. As stated in the Unified Guidance, the document:

> …is tailored to the context of the RCRA groundwater monitoring regulations … [however, t]here are enough commonalities with other regulatory groundwater monitoring programs … to allow for more general use of the tests and methods in the Unified Guidance… Groundwater detection monitoring involves either a comparison between different monitoring stations … or a contrast between past and present data within a given station… The Unified Guidance also details methods to compare background data against measurements from regulatory compliance points … [as well as] techniques for comparing datasets against fixed numerical standards … [such as those] encountered in many regulatory programs.

The statistical data analysis methods in the Unified Guidance are appropriate for determining whether the discharge complies with Groundwater Limitations of this Order.

78. The State Water Board adopted Order 97-03-DWQ (NPDES General Permit CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities, and requiring submittal of a Notice of Intent by all affected industrial dischargers. The CTF has a design capacity of more than 1.0 MGD, but all storm water from the CTF is collected and disposed of onsite. The Discharger is therefore not required to obtain coverage under NPDES General Permit CAS000001.

79. On 2 May 2006, the State Water Board adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Systems General Order 2006-0003-DWQ (the General Order). The General Order requires all public agencies that own or operate sanitary sewer systems greater than one mile in length to comply with the Order. The Discharger's collection system exceeds one mile in length and the Discharger is enrolled under the General Order.

80. Water Code section 13267(b) states:

> In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposes to discharge within its region … shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

The technical reports required by this Order and the attached Monitoring and Reporting Program R5-2015-0006 are necessary to ensure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.

The California Department of Water Resources sets standards for the construction and destruction of groundwater wells (hereafter DWR Well Standards), as described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 94-81 (December 1981). These standards, and any more stringent standards adopted by the state or county pursuant to Water Code section 13801, apply to all monitoring wells used to monitor the impacts of wastewater storage or disposal governed by this Order.

81. The City of Lathrop is the lead agency for purposes of implementing CEQA. The City has prepared a number of Environmental Impact Reports (EIRs) and addenda to EIRs for land development projects that include recycled water use within its jurisdiction that have been adopted in accordance with CEQA.

The Central Valley Water Board has considered the CEQA documents and has included requirements in this Order, including monitoring and reporting requirements to protect water quality and prevent nuisance. The proposed modifications to the CTF and recycled water disposal system expansion are consistent with the projects analyzed in the various CEQA documents. A list of CEQA documentation for each previously approved project that includes one or more Use Areas is included along with tables of existing and planned recycled water Use Area Parcel numbers in the Information Sheet. Compliance with this Order will mitigate or avoid significant impacts to water quality.

Future development projects involving recycled water Use Areas that are identified in this Order, but for which a CEQA environmental review has not yet been completed, are subject to CEQA review and Executive Officer approval prior to the first use of recycled water in any of those Use Areas. This includes future expansion of CTF capacity above 1.0 mgd. In all cases, compliance with this Order will mitigate or avoid significant impacts to water quality.

82. The United States Environmental Protection Agency (EPA) has promulgated biosolids reuse regulations in 40 CFR 503, Standard for the Use or Disposal of Sewage Sludge, which establishes management criteria for protection of ground and surface waters, sets application rates for heavy metals, and establishes stabilization and disinfection criteria.

83. The Central Valley Water Board is using the Standards in 40 CFR 503 as guidelines in establishing this Order, but the Central Valley Water Board is not the implementing agency for 40 CFR 503 regulations. The Discharger may have separate and/or additional compliance, reporting, and permitting responsibilities to the EPA.

84. Pursuant to Water Code section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

Public Notice

85. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.

    The Discharger and interested agencies and persons have been notified of the Central Valley Water Board's intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity to submit written comments and an opportunity for a public hearing.

86. All comments pertaining to the discharge were heard and considered in a public hearing.

IT IS HEREBY ORDERED that Order R5-2006-0094 is rescinded and, pursuant to Water Code sections 13263 and 13267, the City of Lathrop, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.

2. Discharge of waste classified as 'hazardous', as defined in the California Code of Regulations, title 23, section 2510 et seq., is prohibited.

3. Treatment system bypass of untreated or partially treated waste is prohibited, except as allowed by Standard Provision E.2 of the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*. Temporary diversion of wastewater to emergency storage Pond S4 does not constitute a bypass provided that the wastewater is rerouted to the treatment system as soon as practical.

4. Discharge of waste at a location or in a manner different from that described in the Findings is prohibited.

5. The Discharger shall not allow toxic substances to be discharged into the wastewater treatment system such that biological treatment mechanisms are disrupted.

B. Flow Limitations

1. **Effectively immediately,** influent flows to the CTF shall not exceed the following limits:

Influent Flow Measurement	Flow Limit
Total Annual Flow [1]	276 MG
Average Dry Weather Flow [2]	0.75 MGD

[1] As determined by the total flow for the calendar year.
[2] As determined by the total flow during the months of July through September, inclusive, divided by the number of days in those months.

2. **Effective on the date of the Executive Officer's approval** of each successive *CTF Expansion Completion Report* submitted pursuant to Provision H.1.g, influent flow limits greater than 0.75 MGD average dry weather flow and 276 MG total annual flow will be allowed. Approval is subject to the following conditions:

   a. The maximum allowable dry weather flow rate is 6.0 MGD.

   b. Any expansion beyond 1.0 MGD average dry weather flow requires submittal of a certified Final EIR or other CEQA review document as appropriate.

   c. Capacity expansion requests shall be made in increments of 0.25 MGD increments or greater.

   d. The Discharger shall demonstrate through a water balance capacity analysis that sufficient effluent storage and disposal capacity is available at proposed flow limit to ensure compliance with this Order.

C. Effluent Limitations

1. Treated effluent discharged to the recycled water storage ponds shall not exceed the following limits:

Constituent	Limit	Basis of Compliance Determination
BOD_5 [1]	10 mg/L	Monthly average
TDS	750 mg/L	Flow-weighted annual average
Total Nitrogen	10 mg/L	Flow-weighted monthly average

[1] 5-day biochemical oxygen demand at 20˚C.

2. The turbidity of the filtered effluent prior to disinfection shall not exceed 2.0 NTU as a daily average; shall not exceed 5 NTU more than 5 percent of the time during a 24 hour period; and shall never exceed 10 NTU.

3. Prior to discharge to the recycled water storage ponds, disinfected tertiary effluent shall not exceed the following limits for total coliform organisms:

   a. The 7-day median concentration of total coliform bacteria measured in the disinfected effluent shall not exceed a most probable number (MPN) of 2.2 per 100 milliliters. Compliance with this requirement will be determined using the median result of the seven most recent sampling events.

   b. The number of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period.

   c. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

   Compliance with this requirement shall be determined based on samples obtained at the sampling locations listed in the Monitoring and Reporting Program and shown on Attachment E.

D. Discharge Specifications

1. No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitations of this Order.

2. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.

3. The discharge shall remain within the permitted waste treatment/containment structures and recycled water Use Areas at all times, except as specified in Water Recycling Specification F.5.

4. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.

5. All treatment and storage systems shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

6. Public contact with wastewater at the CTF shall be prevented through such means as fences, signs, or acceptable alternatives.

7. Objectionable odors shall not be perceivable beyond the limits of the CTF property at an intensity that creates or threatens to create nuisance conditions.

8. As a means of discerning compliance with Discharge Specification D.7, the dissolved oxygen (DO) content in the upper one foot of any wastewater treatment or storage pond shall not be less than 1.0 mg/L for three consecutive weekly sampling events. If DO in any single pond is below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the findings to the Regional Water Board in writing within 10 days and shall include a specific plan to resolve the low DO results within 30 days.

9. The Discharger shall operate and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. Unless a California-registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically from the lowest possible point of overflow). As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.

10. Wastewater treatment, storage, and disposal ponds or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring compliance with all requirements of this Order. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

11. On or about **1 October** of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications D.9 and D.10.

12. All ponds and open containment structures shall be managed to prevent breeding of mosquitoes. Specifically:

    a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.

    b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.

    c. Dead algae, vegetation, and debris shall not accumulate on the water surface.

    d. The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.

13. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.

E. Groundwater Limitations

Release of waste constituents from any portion of the CTF and recycled water Use Areas shall not cause[1] groundwater to:

1. Contain any of the specified constituents in a concentration statistically greater than the maximum allowable concentration tabulated below. The wells to which these requirements apply are specified in the Monitoring and Reporting Program.

Constituent	Maximum Allowable Concentration [1]
TDS	Current groundwater quality
Nitrate nitrogen	Current groundwater quality

[1] "Current groundwater quality" means the quality of groundwater as evidenced by monitoring completed as of the date of this Order for each of the specified compliance monitoring wells listed in the Monitoring and Reporting Program.

2. Exceed a total coliform organism level of 2.2 MPN/100 mL over any seven-day period.
3. Except as specified in 1 above, contain constituents in concentrations that exceed either the Primary or Secondary MCLs established in Title 22 of the California Code of Regulations. For TDS, the upper level Secondary MCL of 1,000 mg/L is applicable.
4. Except as specified in 1 above, contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

Compliance with these limitations shall be determined using approved statistical methods.

F. Water Recycling Specifications

1. For the purpose of this Order, "Use Area" means an area with defined boundaries where recycled water is used or discharged.

2. Notwithstanding the following requirements, the production, distribution, and use of recycled water shall conform to an Engineering Report prepared pursuant to Title 22, section 60323 and approved by the Division of Drinking Water.

[1] Except to the extent that it can be demonstrated that the discharge is not the sole cause.

3. The recycled water shall be at least disinfected tertiary 2.2 recycled water as defined in Title 22, section 60301.

4. Recycled water shall be used in compliance with Title 22, section 60304. Specifically, uses of recycled water shall be limited to those set forth in Title 22, section(s) 60304(a), 60304(b), 60304(c), and 60304(d).

5. Tailwater runoff and spray of recycled water shall not be discharged outside of the Use Areas except in minor, incidental amounts that cannot reasonably be eliminated by implementation and good maintenance of best management practices.

6. Application rates of recycled water to the use area shall be reasonable and shall consider soil, climate, and plant demand. In addition, application of recycled water and use of fertilizers shall be at a rate that takes into consideration nutrient levels in recycled water and nutrient demand by plants. As a means of discerning compliance with this requirement:

    a. Crops or landscape vegetation shall be grown on the use areas, and cropping activities shall be sufficient to take up the nitrogen applied, including any fertilizers and manure.

    b. Hydraulic loading of recycled water and supplemental irrigation water (if any) shall be managed to:

        i. Provide water only when water is needed and in amounts consistent with that need;

        ii. Maximize crop nutrient uptake;

        iii. Maximize breakdown of organic waste constituents in the root zone; and

        iv. Minimize the percolation of waste constituents below the root zone.

    The Central Valley Water Board recognizes that some leaching of salts is necessary to manage salt in the root zone of crops for production. Leaching shall be managed to minimize degradation of groundwater, maintain compliance with the groundwater limitations of this Order, and to prevent pollution.

7. The Discharger shall conduct periodic inspections of the recycled water Use Areas to determine compliance with the requirements of this Order. If an inspection reveals noncompliance or threat of noncompliance with the requirements of this Order, the Discharger shall immediately implement corrective actions. If corrective actions cannot be implemented immediately, then the Discharger shall cease recycled water use in the Use Area where the noncompliance is occurring until corrective actions can be implemented.

8. Use areas where public access is allowed shall be managed to avoid public contact with recycled water.

9. Discharge to the Use Areas shall not be performed during rainfall or when the ground is saturated.

10. The irrigation with recycled water shall be managed to minimize erosion within the Use Areas.

11. The Use Areas shall be managed to prevent breeding of mosquitoes or other vectors.

12. Use areas and recycled water impoundments shall be designed, maintained, and operated to comply with the following setback requirements:

Setback Definition	**Minimum Irrigation Setback (feet)**
Edge of agricultural Use Area to manmade or natural surface water drainage course (does not apply to public landscaped Use Areas).	25
Edge of Use Area to domestic water supply well	50[1]
Toe of recycled water impoundment berm to domestic water supply well	100
Edge of Use Area to residence	none
Edge of Use Area using spray irrigation to public park, playground, school yard, or similar place of potential public exposure	none

[1] Except as allowed pursuant to Water Recycling Specification F.13 below.

13. Irrigation with disinfected tertiary recycled water shall not take place within 50 feet of any domestic water supply well unless all of the following conditions have been met and DDW has approved a variance pursuant to Title 22, section 60310(a):

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

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

    c. The well is housed to prevent any recycled water spray from coming into contact with the wellhead facilities.

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

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

14. Spray irrigation with recycled water is prohibited when wind speed (including gusts) exceeds 30 mph.

15. Spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas, or food handling facilities.

16. Drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff.

17. Public contact with recycled water shall be controlled using fences, signs, or other appropriate means.

18. Use areas that are accessible to the public shall be posted with signs that are visible to the public and no less than four inches high by eight inches wide. Signs shall be placed at all areas of public access and around the perimeter of all Use Areas and at above-ground portions of recycled water conveyances to alert the public of the use of recycled water. All signs shall display an international symbol that shall include the following wording:

"RECYCLED WATER – DO NOT DRINK"
"AGUA DE DESPERDICIO RECLAMADA – NO TOME"

Alternative language will be considered by the Executive Officer if approved by DDW.

19. All recycling equipment, pumps, piping, valves, and outlets shall be marked to differentiate them from potable water facilities. Quick couplers, if used, shall be different than those used in potable water systems.

20. Recycled water controllers, valves, and similar appurtenances shall be equipped with removable handles or locking mechanisms to prevent public access or tampering.

21. Hose bibs and unlocked valves, if used, shall not be accessible to the public.

22. No physical connection shall exist between recycled water piping and any potable water supply system (including domestic wells), or between recycled water piping and any irrigation well that does not have an approved air gap or reduced pressure principle device.

23. Horizontal and vertical separation between pipelines transporting recycled water and those transporting potable water shall comply with Title 22, section 64572, except to the extent that DDW has specifically approved a variance.

24. No physical connection shall be made or allowed to exist between any recycled water system and any separate system conveying potable water or auxiliary water source system.

25. A public water supply shall not be used as backup or supplemental source of water for a recycled water system unless the connection between the two systems is protected by an air gap separation which complies with the requirements of California Code of Regulations, title 17, sections 7602(a) and 7603(a).

26. All recycled water piping and appurtenances in new installations and appurtenances in retrofit installations shall be colored purple or distinctively wrapped with purple tape in accordance with California Health and Safety Code section 116815.

27. Any backflow prevention device installed to protect a public water system shall be inspected and maintained in accordance with Title 17, section 7605.

G. Solids Disposal Specifications

Sludge, as used in this document, means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screenings generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the CTF. Biosolids refers to sludge that has been treated and tested and shown to be capable of being beneficially used as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities pursuant to federal and state regulations.

1. Sludge and solid waste shall be removed from screens, sumps, ponds, and clarifiers as needed to ensure optimal plant operation.

2. Any handling and storage of residual sludge, solid waste, and biosolids at the CTF shall be temporary (i.e., no longer than six months) and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the groundwater limitations of this Order.

3. Residual sludge, biosolids, and solid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27, division 2. Removal for further treatment, disposal, or reuse at disposal sites (i.e., landfills, CTF, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements issued by a Regional Water Board will satisfy this specification.

4. Use of biosolids as a soil amendment shall comply with valid waste discharge requirements issued by a regional water board or the State Water Board except in cases where a local (e.g., county) program has been authorized by a regional water board. In most cases, this will mean the General Biosolids Order (State Water Resources Control Board Water Quality Order 2004-12-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 a biosolids use project to be covered by Order 2004-12-DWQ, the

Discharger must file a complete Notice of Intent and receive a Notice of Applicability for each project.

5. Use and disposal of biosolids shall comply with the self-implementing federal regulations of 40 Code of Federal Regulations part 503, which are subject to enforcement by the U.S. EPA, not the Central Valley Water Board. If during the life of this Order, the State accepts primacy for implementation of part 503, the Central Valley Water Board may also initiate enforcement where appropriate.

6. Any proposed change in sludge use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

H. Provisions

1. The following reports shall be submitted pursuant to Water Code section 13267 and shall be prepared as described in Provision H.4:

   a. **By 30 August 2015**, the Discharger shall submit a *Recycled Water Operations Plan* for review and approval by DDW. The Plan shall be submitted to both DDW and the Central Valley Water Board and shall include the information requested by DDW in its 7 October 2014 letter.

   b. **By 30 September 2015**, the Discharger shall submit a *Groundwater Limitations Compliance Assessment Plan*. The plan shall describe and justify the statistical methods that are proposed to determine compliance with the Groundwater Limitations of this Order for the constituents listed in the Monitoring and Reporting Program. As described in the MRP, Compliance shall be determined annually based on intrawell statistical analysis that evaluates temporal trends based on all historic data collected at each well that uses methods prescribed in Title 27, section 20415(e)(7) and (8).

   c. **By 30 January 2016**, the Dischargers shall submit a *Groundwater Monitoring Well Condition Survey Report and Destruction Plan* that presents a condition survey of all monitoring wells identified in Finding 43 as well as any new monitoring wells that have been installed since the date of this Order. The survey shall identify all wells that cannot be recovered in the field and those that have been damaged. For damaged wells, the workplan shall describe proposed abandonment procedures, which shall comply with California Well Standards Bulletin 74-90 (June 1991); State of California Bulletin 94-81 (December 1981); and any more stringent standards adopted by the state or county pursuant to Water Code section 13801. All wells identified in Finding 43 that have been previously abandoned shall be included in a well inventory table. For each monitoring well that will not be destroyed, the report shall provide a specific plan if well head improvements are needed to protect the well from future damage. The report shall also include an inspection and maintenance plan to ensure that wells are properly maintained for continued use. In addition, the *Well Condition*

Survey Report and Destruction Plan shall include ownership information for each existing well and describe the City's right of access.

d. **By 30 November 2016,** a *Well Destruction Report* shall be submitted to the Central Valley Water Board that describes in detail the methods used to abandon monitoring wells in accordance with the approved *Groundwater Monitoring Well Condition Survey Report and Destruction Plan* and includes copies of the well abandonment permits issued by the San Joaquin County Environmental Health Department.

e. **At least 60 days** prior to operational use of any expansion of the recycled water system, including but not limited to new recycled water storage ponds, recycled water distribution system, and recycled water infrastructure improvements to deliver recycled water to the new or expanded Use Areas, whether defined as "planned", "future" or undefined in this Order, the Discharger shall submit an *Recycled Water Storage and Conveyance System Improvements Completion Report.* The report shall document the construction of the improvements and certify that they are fully functional and ready to receive treated wastewater in compliance with the requirements of this Order. The report shall include design parameters, final dimensions and volumetric capacity (for ponds), and as-built drawings.

For each recycled water storage pond or Use Area not defined as "existing" or "planned" in the Findings and Information Sheet of this Order, the report shall include a copy of the certified CEQA document for the expansion project.

f. **At least 60 days prior** to conveying recycled water to any new Use Area, whether defined as "planned", "future" or undefined in this Order, the Discharger shall submit a *Recycled Water User Report* to the Central Valley Water Board and Division of Drinking Water. The User Report shall include the following:

i. The site location including a map showing the specific boundaries of the use site and the County Assessor's Parcel Number(s) (if appropriate, if Parcel Number(s) are not appropriate to accurately describe the site location, the Discharger shall provide the Central Valley Water Board with enough information for the Central Valley Water Board to accurately determine the location of the proposed reclamation activities);

ii. The name of the Use Area property owner and contact information;

iii. The name of the User and contact information;

iv. The specific use to be made of the recycled water, the Use Area acreage, the type of vegetation/crops to which the recycled water will be applied, and the anticipated volume of recycled water to be used;

v. Identification of the on-site supervisor who is responsible for operation of the recycled water system;

vi. Description of the recycled water management facilities and operations plan;

vii. Plans and specifications that include the following:

1) Pipe locations of the recycled, potable, and auxiliary non-potable water systems;

2) Type and location of the outlets and plumbing fixtures that will be accessible to the public;

3) The methods and devices to be used to prevent backflow of recycled water into the public water system; and

4) Plan notes relating to recycled water specific installation and use requirements.

viii. Certification that the new Use Area conforms to the Discharger's rules and regulations;

ix. An assessment of whether groundwater monitoring is appropriate based on pre-discharge groundwater quality; the size of the proposed recycled water Use Area, and volume of recycled water to be received by the Use Area annually. For each new Use Area in the Northern Lathrop or CLSP development areas, the report shall also include a re-evaluation of pre-discharge groundwater conditions based on at least three quarterly groundwater monitoring events using the monitoring wells identified in the MRP, or other locations approved by the Central Valley Water Board. Parameters monitored shall be as specified in the MRP;

x. A copy of the signed User Agreement; and

xi. The results of the cross-connection control test performed in accordance with the American Water Works Association and the Drinking Water Program (Title 17, section 7605). The results shall include a certification that the Drinking Water Program was notified of the initial cross-connection control test and was provided an opportunity to be present.

A copy of the User agreement and the Discharger's rules and regulations governing the distribution and use of recycled water shall be maintained at the User's facilities and be available at all times for inspection by Regional Water Board staff, the Discharger, and Division of Drinking Water staff.

If, in the opinion of the Executive Officer, reclamation at a proposed new Use Area cannot be adequately regulated under the Master Recycling Permit, a Report of Waste Discharge may be requested and individual Water Recycling Requirements may be required.

g. **At least 180 days** prior to any planned increase in influent flow to the CTF, the Discharger shall submit a *CTF Expansion Final Design Report* that documents the design of facility improvements and provides technical justification for the proposed flow limit increases. Incremental flow rate increases shall be no less than 0.25 mgd. The report shall include a water balance that demonstrates the treatment, storage and disposal capacity of the CTF and completed recycled water Use Areas. The water balance shall provide the following treatment and hydraulic capacity information:

   i. Design average dry weather flow for the months of July through September, inclusive;

   ii. Design wet weather flows based on a reasonable allowance for sewer system inflow and infiltration (I/I) during the 100 year, 365-day precipitation event, and

   iii. Total annual flow volume.

   The water balance shall include documentation of, and technical support for, all data inputs used and shall consider at least the following.

   i. The as-built geometry of all new recycled water ponds and Use Areas;

   ii. A minimum of two feet of freeboard in each pond at all times;

   iii. Historical local pan evaporation data (monthly average values) used to estimate pond evaporation rates;

   iv. Local precipitation data (for the 100-year 365-day event distributed in accordance with mean monthly precipitation patterns) applied as direct precipitation onto all ponds and effluent recycling areas;

   v. Proposed wastewater generation rates based on historical flows and new development to be served by the expansion distributed equally by month;

   vi. Estimated I/I flows for the 100-year 365-day event based on historical flows, new development, and age and type of sewer pipes; and

   vii. Use Area crop evapotranspiration rates, including consideration of the required setbacks.

For each CTF expansion with a proposed flow limit greater than 1.0 MGD, the report shall include a copy of the certified CEQA document for the CTF expansion project.

h. **At least 60 days** prior to any planned increase in influent flow to the CTF**,** the Discharger shall submit a *CTF Expansion Completion Report* that documents the completion of facility improvements described in the associated *CTF Expansion Final Design Report*. The report shall certify the construction of the facility as designed, or if modifications are made, provide an explanation of the reasons for the modifications.

i. **At least 60 days prior** to commencing irrigation with recycled water on any Use Area not identified as "existing" or "planned" in this Order, the Discharger shall submit documentation that the Division of Drinking Water has approved a Title 22 Engineering Report for the project and documentation of compliance with CEQA.

2. If the Discharger proposes to abandon any additional monitoring wells not specified in the *Groundwater Monitoring Well Condition Survey Report and Destruction Plan* submitted pursuant to Provision H.1.c, the Discharger shall submit a Well Abandonment Workplan. The Workplan shall include a specific description of the wells to be abandoned and justification for removing them from the compliance monitoring network; and a detailed description of the proposed abandonment procedures. The Discharger shall continue to comply with the Monitoring and Reporting Program unless and until the Executive Officer approves well abandonment and issues a revised Monitoring and Reporting Program.

3. A discharger whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment, collection, and disposal facilities. The projections shall be made in January, based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the discharger shall notify the Central Valley Water Board by **31 January**.

4. In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall bear the professional's signature and stamp.

5. The Discharger shall submit the technical reports and work plans required by this Order for consideration by the Executive Officer, and incorporate comments the Executive Officer may have in a timely manner, as appropriate. Unless expressly stated otherwise in this Order, the Discharger shall proceed with all work required by the foregoing provisions by the due dates specified.

6. The Discharger shall comply with Monitoring and Reporting Program R5-2015-0006, 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.

7. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", dated 1 March 1991, which are attached hereto and made part of this Order by reference. This Attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."

8. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date, the Discharger shall submit the specified document to the Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

9. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger when the operation is necessary to achieve compliance with the conditions of this Order.

10. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with this Order.

11. The Discharger shall provide certified wastewater treatment plant operators in accordance with Title 23, division 3, chapter 26.

12. As described in the Standard Provisions, the Discharger shall report promptly to the Central Valley Water Board any material change or proposed change in the character, location, or volume of the discharge.

13. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986."

14. The Discharger shall comply with the requirements of the Statewide General Waste Discharge Requirements (General WDRs) for Sanitary Sewer Systems (Water Quality Order 2006-0003), the Revised General WDRs Monitoring and Reporting Program (Water Quality Order 2008-0002-EXEC), and any subsequent revisions thereto. Water Quality Order 2006-0003 and Order 2008-0002-EXEC require the Discharger to notify the Central Valley Water Board and take remedial action upon the reduction, loss, or failure of the sanitary sewer system resulting in a sanitary sewer overflow.

15. The Discharger shall not allow pollutant-free wastewater to be discharged into the wastewater collection, treatment, and disposal systems in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.

16. At least **90 days** prior to termination or expiration of any lease, contract, or agreement involving disposal or recycling areas or off-site reuse of effluent, used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Central Valley Water Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.

17. In the event of any change in control or ownership of the CTF, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.

18. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. If approved by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.

19. A copy of this Order including the MRP, Information Sheet, Attachments, and Standard Provisions, shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.

20. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.

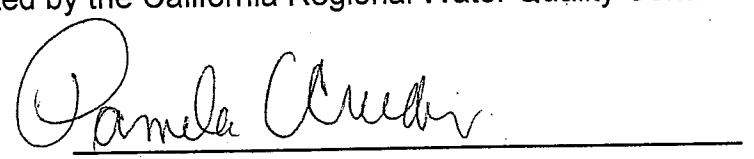
If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to $10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, 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 may be found on the Internet at:

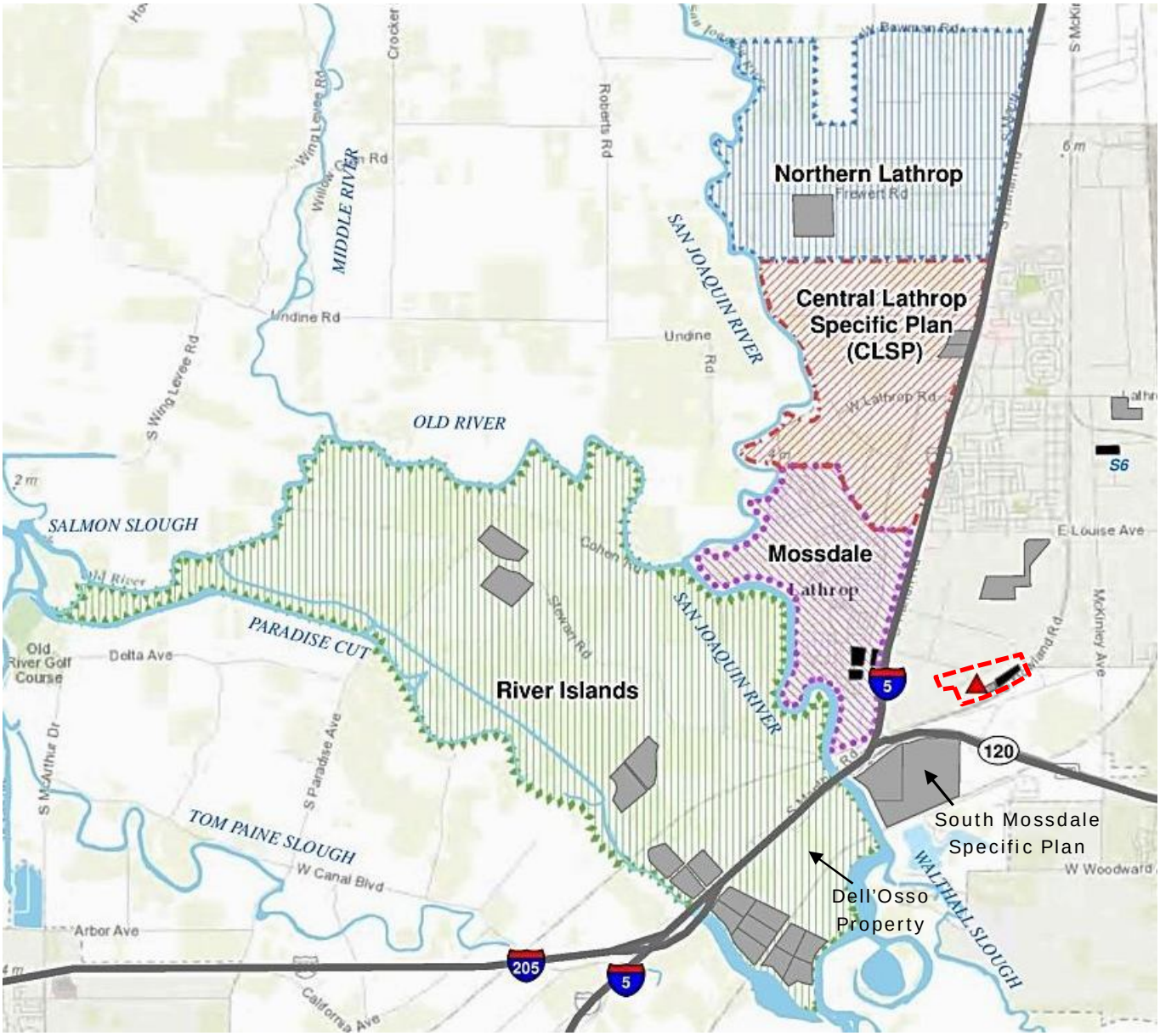
http://www.waterboards.ca.gov/public_notices/petitions/water_quality

or will be provided upon request.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that the foregoing is a full true, and correct copy of an Order adopted by the California Regional Water Quality Control Board on 5 February 2015.



PAMELA C. CREEDON, Executive Officer



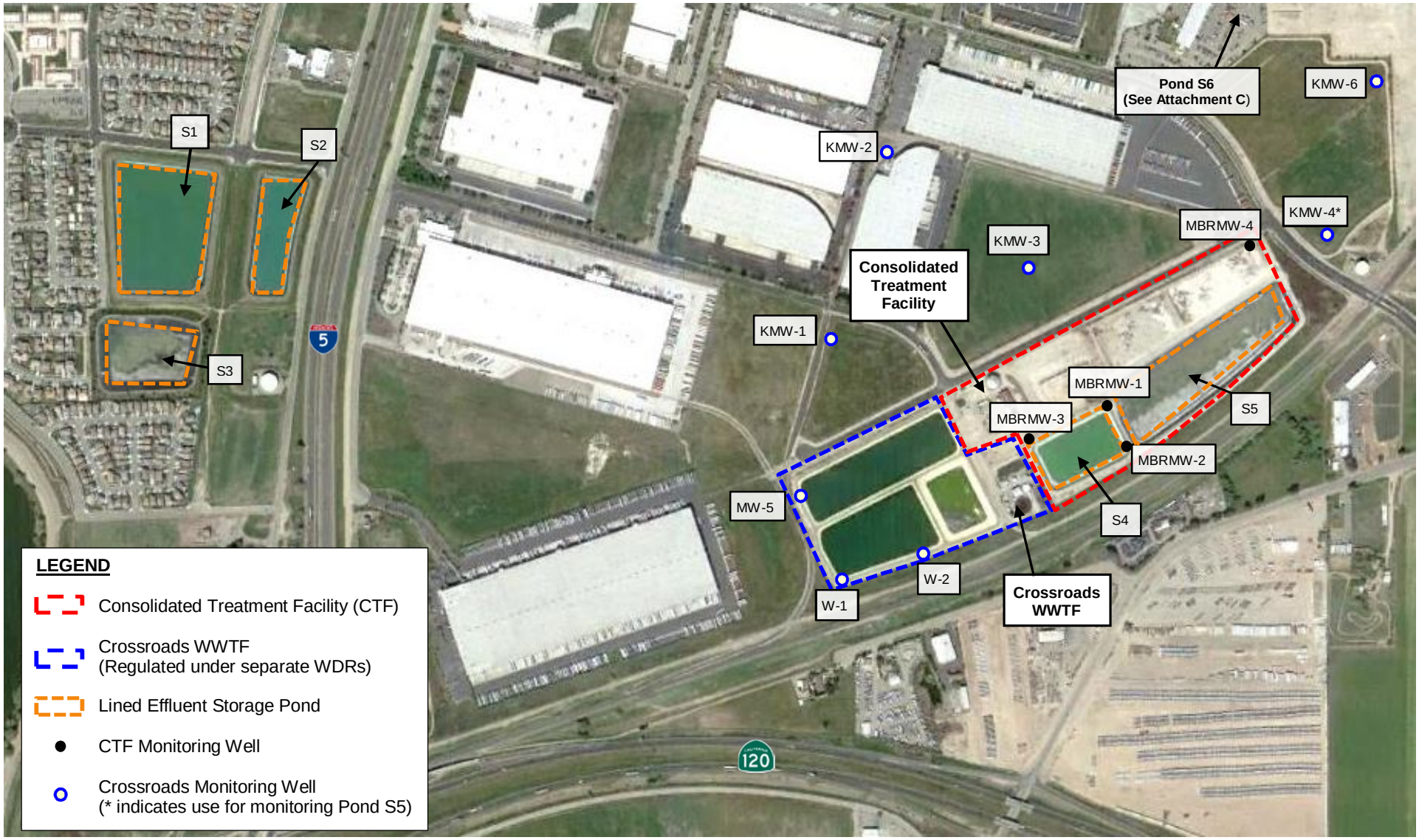
LEGEND

Development Areas with Recycled Water Use
- CLSP
- Mossdale
- River Islands
- Northern Lathrop

Consolidated Treatment Facility

Effluent Storage Pond
- Existing
- Planned

Drawing Reference: City of Lathrop Report of Waste Discharge March 2014	**CITY OF LATHROP** **LAND DEVELOPMENT MAP** CITY OF LATHROP CONSOLIDATED TREATMENT FACILITY SAN JOAQUIN COUNTY	N W E S approx. scale 1 in. = 6,700 ft.



Drawing Reference:

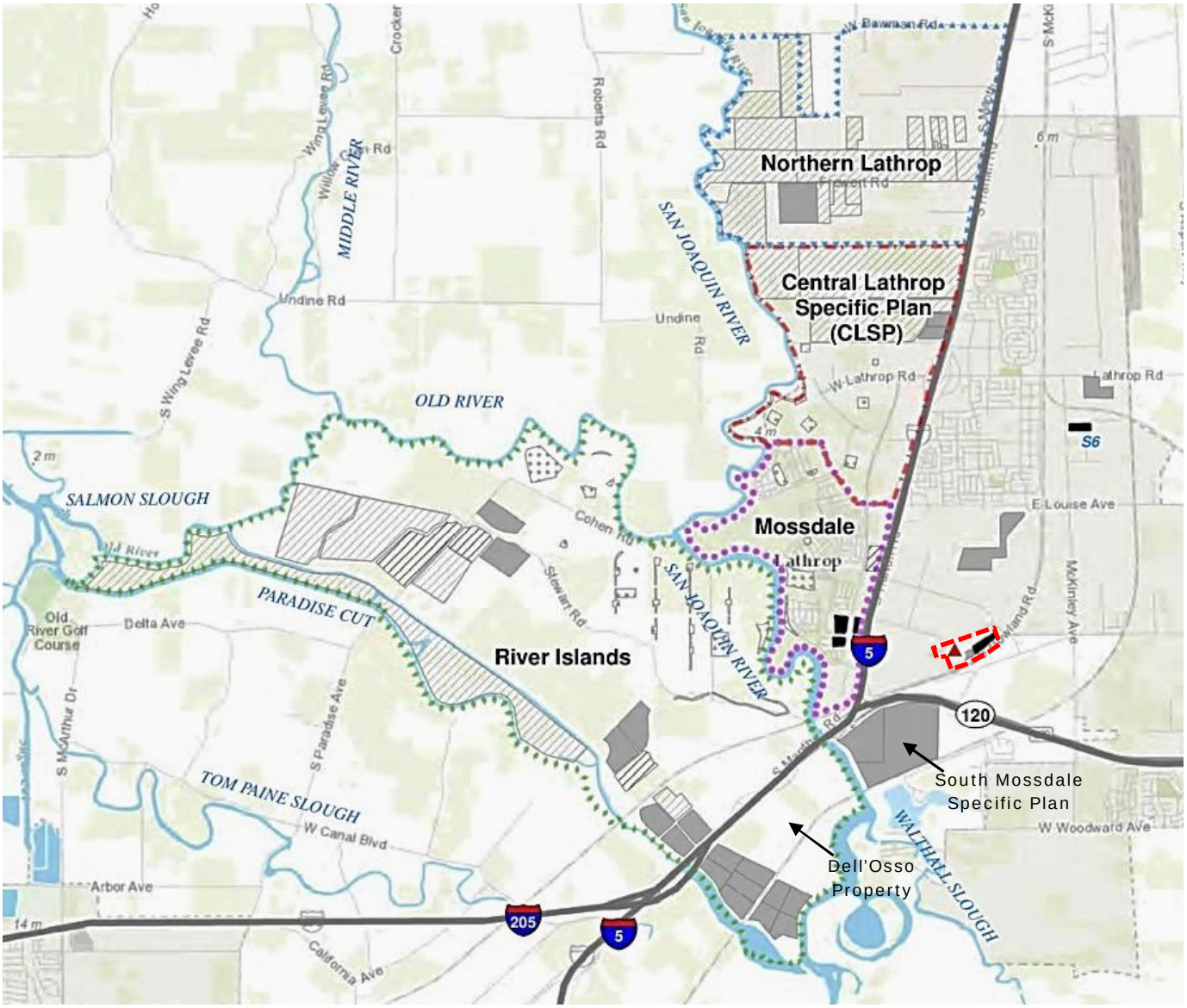
City of Lathrop
Report of Waste Discharge, March 2014
Modified from GoogleEarth, December 2014

N
W E
S

Approx. scale
1 in. = 850 ft.

CONSOLIDATED TREATMENT FACILITY MAP

CITY OF LATHROP
CONSOLIDATED TREATMENT FACILITY
SAN JOAQUIN COUNTY



LEGEND

Development Areas with Recycled Water Use
- CLSP
- Mossdale
- River Islands
- Northern Lathrop

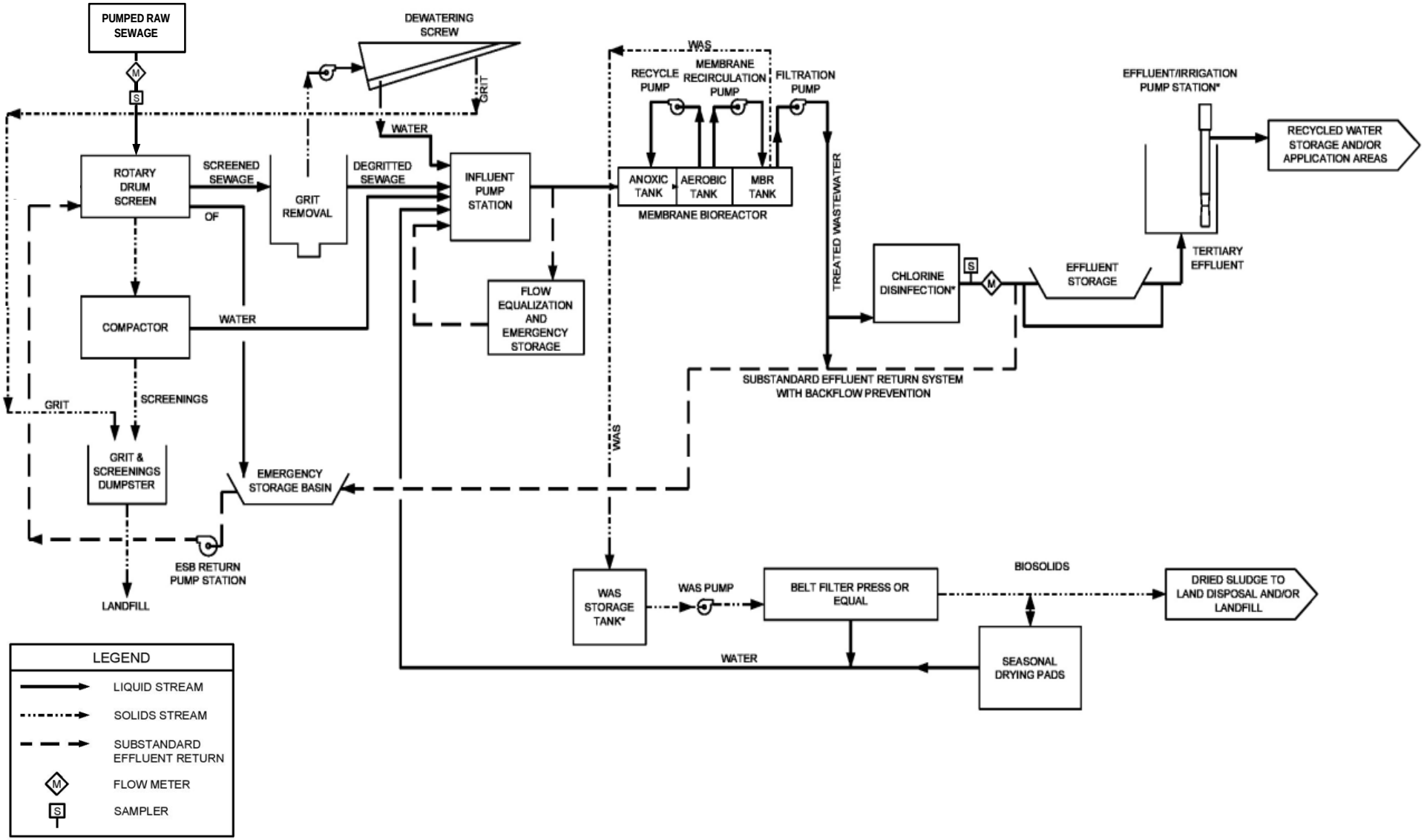
Consolidated Treatment Facility

Effluent Storage Pond
- Existing
- Planned

Agricultural Use Areas
- Existing
- Planned

Landscape Use Areas
- Planned

Drawing Reference: City of Lathrop Report of Waste Discharge March 2014	**RECYCLED WATER USE AREA OVERVIEW** CITY OF LATHROP CONSOLIDATED TREATMENT FACILITY SAN JOAQUIN COUNTY	N W E S approx. scale 1 in. = 6,700 ft.

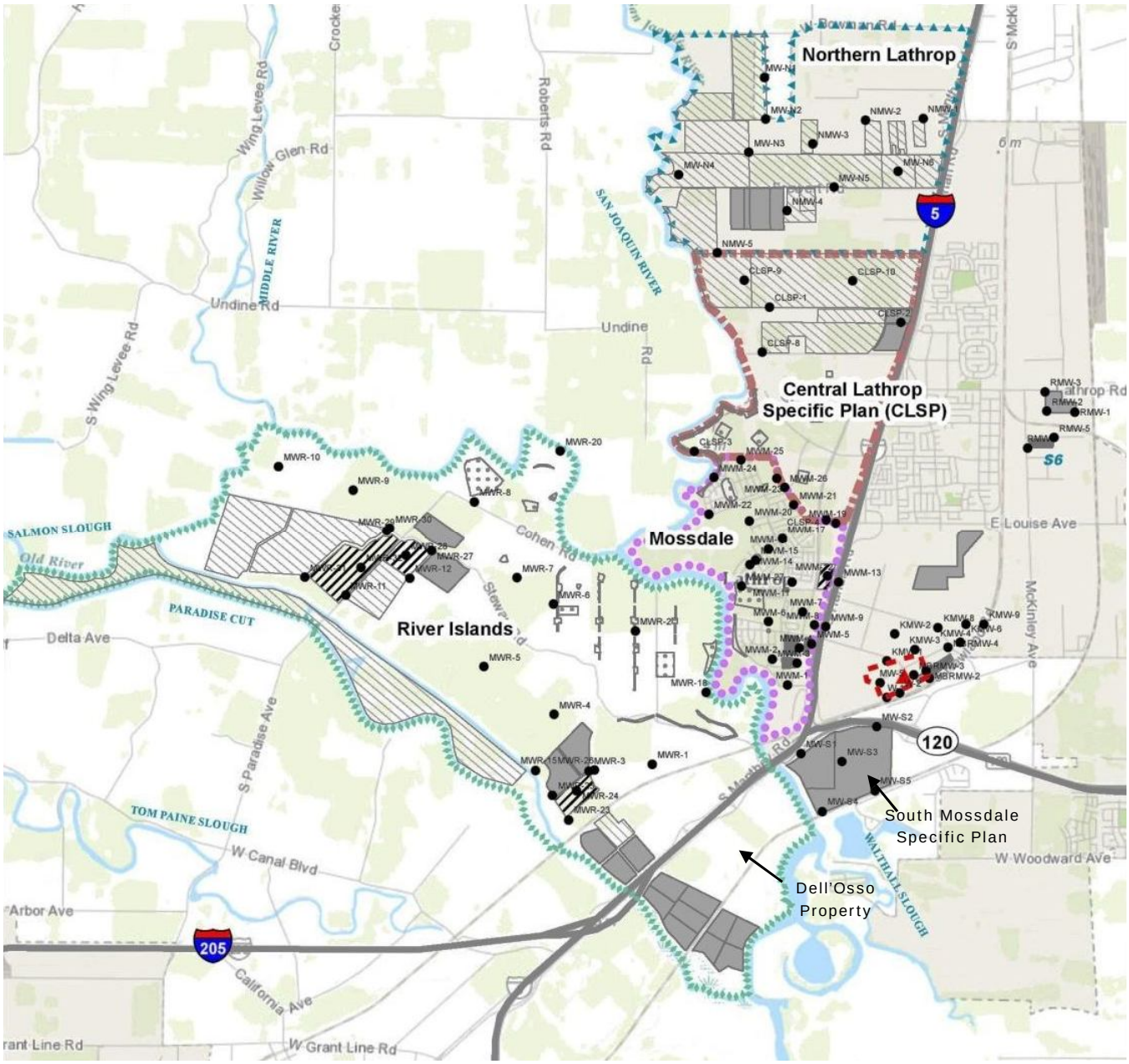


Drawing Reference:

Modified from Civil Process Flow Schematic
City of Lathrop Report of Waste Discharge
Stantec, March 2014

WASTEWATER FLOW SCHEMATIC

CITY OF LATHROP
CONSOLIDATED TREATMENT FACILITY
SAN JOAQUIN COUNTY



LEGEND

Development Areas with Recycled Water Use
- CLSP
- Mossdale
- River Islands
- Northern Lathrop

Consolidated Treatment Facility

Effluent Storage Pond
- Existing
- Planned

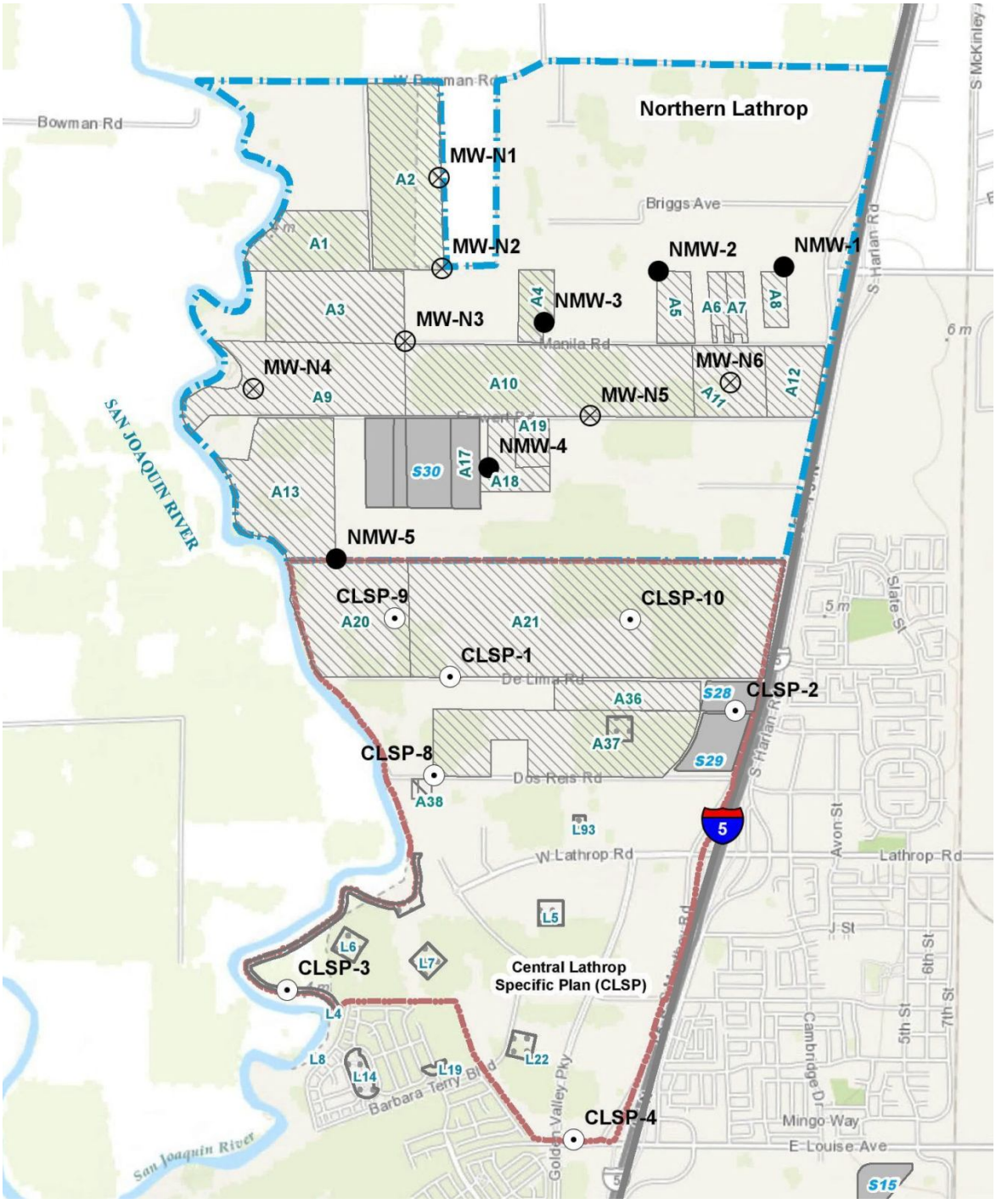
Agricultural Use Areas
- Existing
- Planned

Landscape Use Areas
- Planned

Monitoring Well

Note: Groundwater gradient directions are highly variable, but generally flow away from surface waters.

Drawing Reference:	**GROUNDWATER MONITORING WELL MAP**	
City of Lathrop Report of Waste Discharge March 2014	CITY OF LATHROP CONSOLIDATED TREATMENT FACILITY SAN JOAQUIN COUNTY	approx. scale 1 in. = 6,700 ft.



LEGEND

Monitoring Locations
- CLSP Wells
- MW-N Wells
- NMW Wells

Development Areas with Recycled Water Use
- CLSP
- Northern Lathrop

Effluent Storage Pond
- Existing
- Planned

Agricultural Use Areas
- Existing
- Planned

Landscape Use Areas
- Planned

Drawing Reference:

City of Lathrop
Report of Waste Discharge
RMC, 2014

N W E S

approx. scale
1 in. = 3,000 ft.

PLANNED NORTH LATHROP AND CLSP USE AREA SITE PLAN

CITY OF LATHROP CONSOLIDATED TREATMENT FACILITY SAN JOAQUIN COUNTY

LEGEND

- Network Monitoring Well
- Existing Well (not part of network)
- (A28) Recycled Water Use Area (Use Area number)
- (S2) Lined Effluent Storage Pond (Pond number)

Not all Use Areas shown

Drawing Reference:

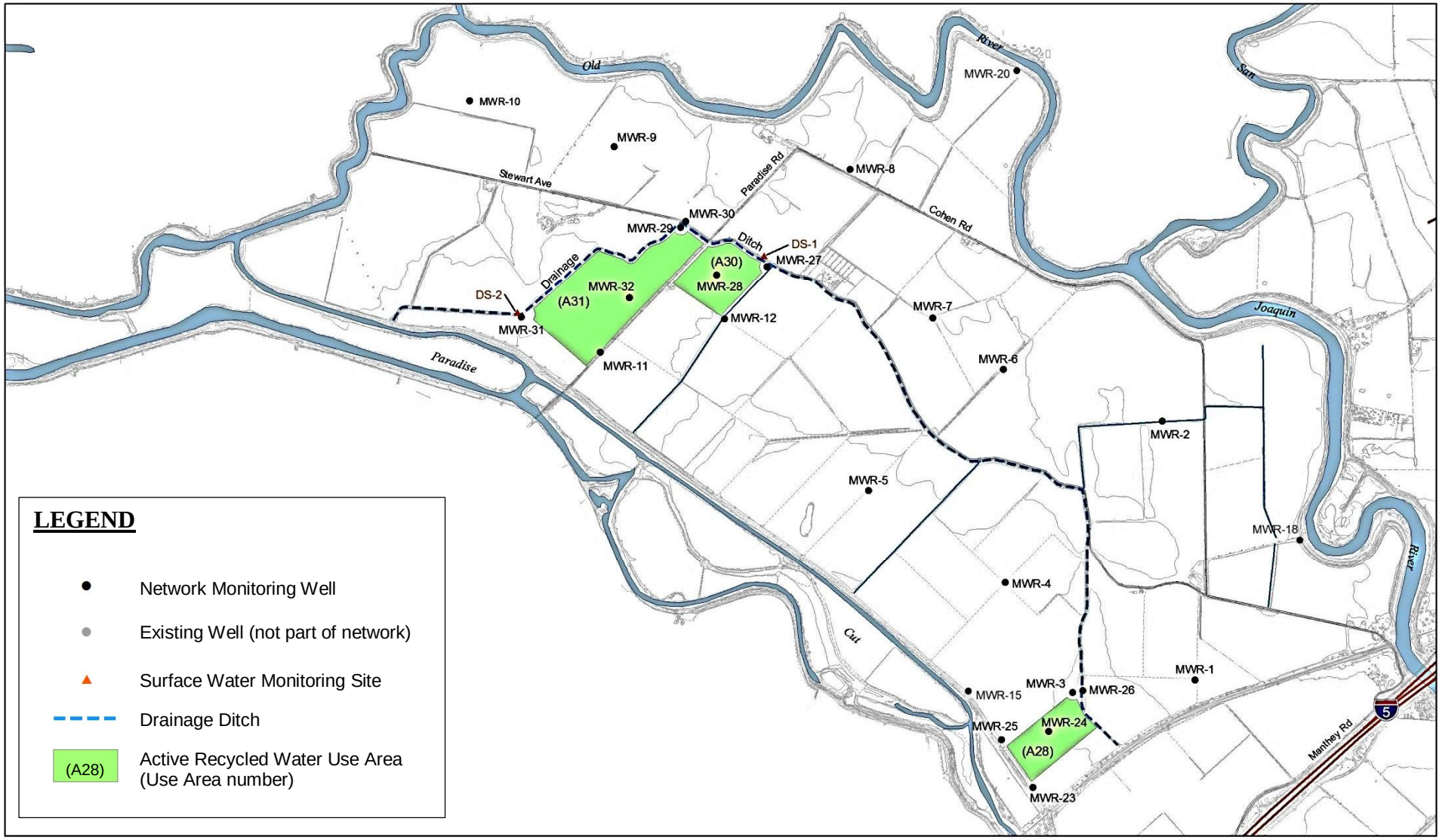
Quarterly Monitoring Report
HydroFocus, 2012

N W E S

approx. scale
1 in. = 1,300 ft.

MOSSDALE USE AREA PLAN

CITY OF LATHROP
CONSOLIDATED TREATMENT FACILITY
SAN JOAQUIN COUNTY



Drawing Reference:

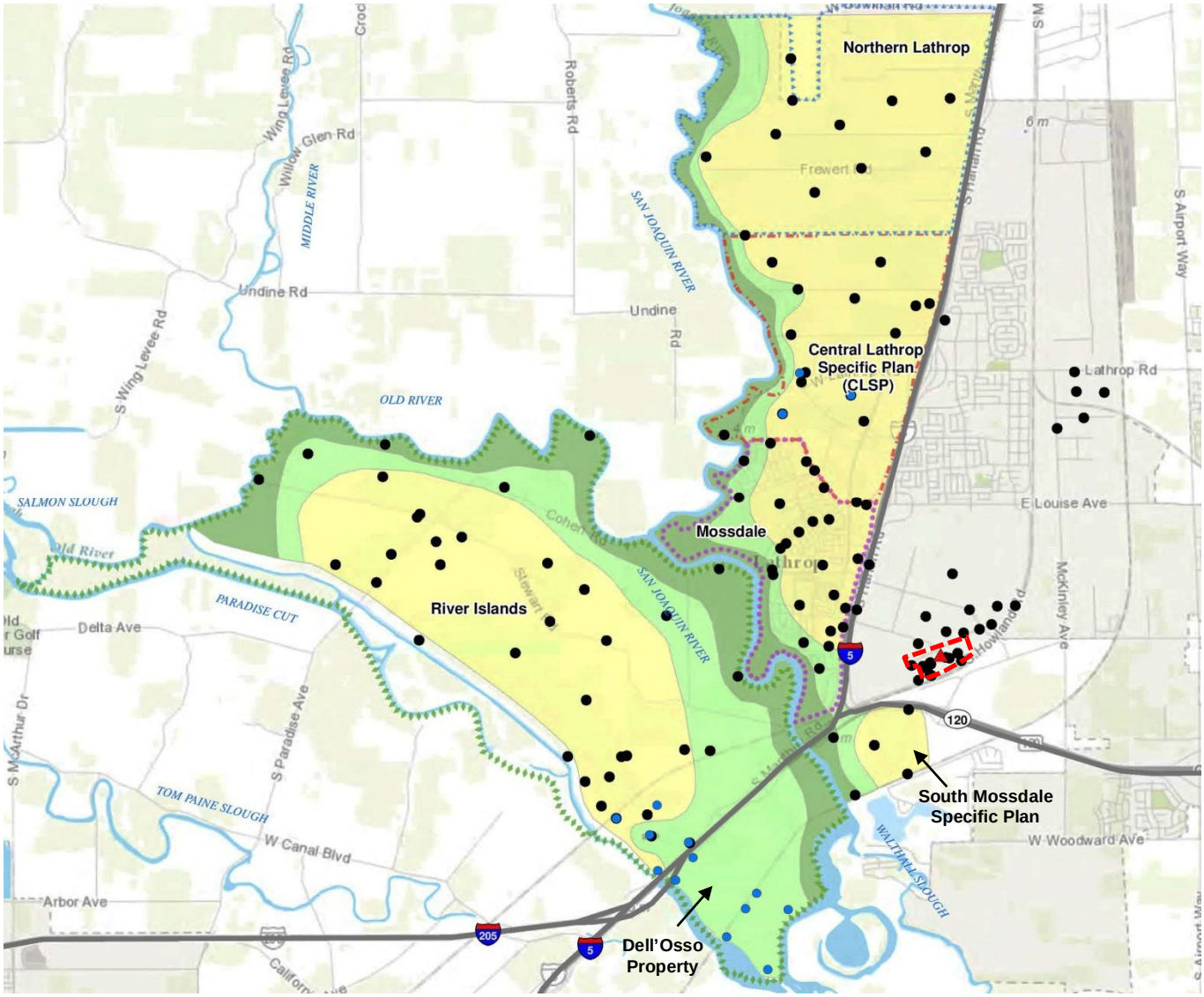
Modified from Figure 2d
Report of Waste Discharge
HydroFocus, 2012

N W E S

approx. scale
1 in. = 3,200 ft.

RIVER ISLANDS USE AREA PLAN

CITY OF LATHROP
CONSOLIDATED TREATMENT FACILITY
SAN JOAQUIN COUNTY



LEGEND

Development Areas with Recycled Water Use

- CLSP
- Mossdale
- River Islands
- Northern Lathrop

TDS Zones*

- <450 mg/L
- 450-1000 mg/L
- >1000 mg/L

Monitoring Locations

- Grab Samples
- Monitoring Well
- Consolidated Treatment Facility

* **NOTE**: Groundwater TDS zone mapping based on monitoring well and grab sampling between 2004 and 2013 for areas within land development areas where recycled water to be applied. Not all sampling locations shown were included in TDS zone interpretation.

Drawing Reference:	**GROUNDWATER TDS MAP**	N W E S
City of Lathrop Report of Waste Discharge March 2014	CITY OF LATHROP CONSOLIDATED TREATMENT FACILITY SAN JOAQUIN COUNTY	approx. scale 1 in. = 6,900 ft.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2015-0006

FOR

CITY OF LATHROP
LATHROP CONSOLIDATED TREATMENT FACILITY
SAN JOAQUIN COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring influent wastewater, treated effluent, effluent storage ponds, recycled water Use Areas, groundwater, sludge, and water supply at the City of Lathrop's Consolidated Treatment Facility (CTF). This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer. Regional Water Board staff shall approve specific sample station locations prior to implementation of sampling activities.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. Field test instruments (such as those used to measure pH and dissolved oxygen) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are calibrated prior to each monitoring event;
3. The instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of the MRP.

Analytical procedures shall comply with the methods and holding times specified in the following: *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA); *Test Methods for Evaluating Solid Waste* (EPA); *Methods for Chemical Analysis of Water and Wastes* (EPA); *Methods for Determination of Inorganic Substances in Environmental Samples* (EPA); *Standard Methods for the Examination of Water and Wastewater* (APHA/AWWA/WEF); and *Soil, Plant and Water Reference Methods for the Western Region* (WREP 125). Approved editions shall be those that are approved for use by the United States Environmental Protection Agency or the California Department of Public Health's Environmental Laboratory Accreditation Program. The Discharger may propose alternative methods for approval by the Executive Officer. Where technically feasible, laboratory reporting limits shall be lower than the applicable water quality objectives for the constituents to be analyzed.

INFLUENT MONITORING

Influent monitoring shall be performed at the headworks. Time of collection of the grab sample shall be recorded. Grab samples are considered adequately composited to represent the influent. Influent monitoring shall include, at a minimum, the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Flow [1]	gpd	Continuous Meter	Daily	Monthly
BOD_5 [2]	mg/L	Grab	Weekly	Monthly
Total Suspended Solids [3]	mg/L	Grab	Weekly	Monthly

[1] Flow represents the daily flow rate.
[2] Five-day, 20° Celsius biochemical oxygen demand
[3] Total Suspended Solids shall be performed using a Whatman glass fiber filter with a nominal pore size of about 1.58 µm or equivalent.

EFFLUENT MONITORING

Effluent samples shall be collected at a location downstream of the disinfection system and upstream of any effluent storage pond and shall be representative of the volume and nature of the discharge. Analytical methods shall be selected to provide reporting limits below Water Quality Objectives for each constituent. Grab samples are considered adequately composited to represent the tertiary effluent.

Because recycled water is used for irrigation of public landscape areas[1], priority pollutant monitoring is required at the CTF. Priority pollutants are listed in Appendix A of 40 Code of Federal Regulations (CFR) Part 423. The frequency of monitoring corresponds to the flow rate of the recycled water use. Effluent monitoring shall include the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
BOD_5 [1]	mg/L	Grab	Weekly	Monthly
Total Coliform Organisms	MPN/100 ml [2]	Grab	Daily	Monthly
Turbidity	NTU [3]	Meter	Continuous	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Total Nitrogen (as N)	mg/L	Grab	Monthly	Monthly
Total Suspended Solids [4]	mg/L	Grab	Monthly	Monthly
pH	Standard	Grab	Monthly	Monthly
Priority Pollutants [5]	mg/L	Grab	Annually [6]	Annually

[1] Five-day, 20° Celsius biochemical oxygen demand.
[2] Using a minimum of 10 tubes or two dilutions.
[3] NTU denotes Nephelometric Turbidity Units.
[4] Total Suspended Solids shall be performed using a Whatman glass fiber filter with a nominal pore size of about 1.58 µm or equivalent.
[5] Priority pollutants are listed in Appendix A of 40 Code of Federal Regulations (CFR) Part 423. Monitoring shall include, at a minimum, the constituents listed in Table 1 of this MRP.
[6] Analysis for priority pollutants shall be performed once every five years if the flow rate is less than or equal to 1.0 MGY, otherwise the analysis shall be performed annually.

[1] Landscape areas are defined as parks; greenbelts; playgrounds; school yards; athletic fields; golf courses; cemeteries; residential landscaping; common areas; commercial landscaping (except eating areas); industrial landscaping (except eating areas); freeway, highway, and street landscaping.

EFFLUENT STORAGE POND MONITORING

The Discharger shall monitor all effluent storage ponds in accordance with the following. Sampling will be conducted from permanent monitoring locations that will provide samples representative of the wastewater in the effluent equalization and storage ponds. Freeboard shall be measured vertically from the water surface to the lowest elevation of pond berm (or spillway/ overflow pipe invert), and shall be measured to the nearest 0.10 feet. Pond monitoring shall include, at a minimum, as specified below:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Freeboard	0.1 feet	Measurement	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly
Liner condition	--	Observation	Quarterly	Monthly
Berm condition	--	Observation	Quarterly	Monthly

[1] Samples shall be collected opposite the inlet at a depth of one foot from each pond in use. Samples shall be collected between 0700 and 0900 hours.

AGRICULTURAL RECYCLED WATER USE AREA MONITORING

Monitoring of the agricultural recycled water Use Areas shall be conducted during the irrigation season on days when irrigation occurs. The results shall be included in the monthly monitoring reports. Effluent monitoring results shall be used in calculations to determine loading rates at the Use Areas. Monitoring of each agricultural recycled water Use Area shall include the following:

Parameter	Units	Type of Sample	Sampling Frequency	Reporting Frequency [1]
Recycled Water Flow	Gal/day and Inches	Continuous	Daily	Monthly
Supplemental Irrigation Water Flow	Gal/day and Inches	Continuous	Daily	Monthly
Rainfall	Inches	Observation	Daily	Monthly
Acreage Applied	Acres	Calculated	Daily	Monthly
Total Water Application Rate	Gal/acre and Inches	Calculated	Daily	Monthly
Total Nitrogen Loading Rate	lbs/acre	Calculated	Monthly	Monthly

[1] Quarterly observations shall be submitted in the monthly monitoring report for the month during which the quarterly observation was made.

In addition, the Discharger shall inspect each agricultural Use Area as needed following irrigation events to identify any equipment malfunction or other circumstance that might allow recycled water to runoff the land application area and/or create ponding conditions that violate the Waste Discharge Requirements. Evidence of erosion, field saturation, irrigation runoff, or the presence of nuisance conditions (if any) shall be noted. A log of these inspections shall be kept at the facility and made available for review upon request.

LANDSCAPE RECYCLED WATER USE AREA MONITORING

Monitoring of the landscape recycled water Use Areas shall be conducted during the irrigation season on days when irrigation occurs. The results shall be included in the monthly monitoring reports. Monitoring of the landscape recycled water Use Area shall include the following and the results for all Use Areas may be reported as aggregated totals:

Parameter	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Recycled Water Flow	Gals/day and Inches	Continuous	Monthly	Monthly
Rainfall	Inches	Observation	Monthly	Monthly
Acreage Applied	Acres	Calculated	Monthly	Monthly
Water Application Rate	Gal/acre	Calculated	Monthly	Monthly

In addition, the Discharger shall inspect landscape Use Areas following irrigation events as needed to identify any equipment malfunction or other circumstance that might allow recycled water to runoff the land application area and/or create ponding conditions that violate the Waste Discharge Requirements. Evidence of erosion, field saturation, irrigation runoff, or the presence of nuisance conditions (if any) shall be noted. A log of these inspections shall be kept at the facility and made available for review upon request.

GROUNDWATER MONITORING

The groundwater monitoring program applies to groundwater monitoring wells tabulated below and any wells subsequently installed under direction of the Central Valley Water Board. The following table lists all existing monitoring wells and designates the purpose of each well:

Land Development Area	Water Level Monitoring	Water Quality Monitoring	
		Compliance Wells	Other Wells [1]
Mossdale	MWM-1, MWM-2, MWM-3, MWM-4, MWM-5, MWM-6, MWM-7, MWM-8, MWM-9, MWM-11, MWM-12, MWM-13, MWM-15, MWM-17, MWM-19, MWM-20, MWM-21, MWM-22, MWM-23, MWM-24, MWM-25, MWM-27	MWM-12	MWM-13
River Islands	MWR-3, MWR-4, MWR-5, MWR-6, MWR-7, MWR-8, MWR-9, MWR-10, MWR-11, MWR-12, MWR-23, MWR-24, MWR-25, MWR-26, MWR-27, MWR-28, MWR-29, MWR-30, MWR-31, MWR-32	MWR-24, MWR-28, MWR-32	---
CTF/MBR Facility	MBRMW-1, MBRMW-2, MBRMW-3, MBRMW-4	---	---
Pond S6	RMW-1, RMW-2, RMW-3, RMW-4, RMW-5	---	---

Land Development Area	Water Level Monitoring	Water Quality Monitoring	
		Compliance Wells	Other Wells [1]
Northern Lathrop [2]	MW-N1, MW-N3, MW-N4, MW-N5, MW-N6	---	MW-N1, MW-N3, MW-N4, MW-N5, MW-N6
Central Lathrop Specific Plan [2]	CLSP-1, CLSP-2, CLS-3, CLSP-4, CLSP-8, CLSP-9, CLSP-10	CLSP-1	CLSP-2, CLS-3, CLSP-4, CLSP-8, CLSP-9, CLSP-10

[1] Other wells are either background wells (MWM-13) or wells that will be used as compliance wells prior to initiation of recycled water use.

[2] Groundwater monitoring shall be conducted prior to recycled water discharge begins in accordance with Provision H.1.f

Prior to construction of any additional groundwater monitoring wells, the Discharger shall submit plans and specifications to the Regional Board for review and approval. Once installed, all new monitoring wells shall be added to the MRP, and shall be monitored on a quarterly basis for a minimum of eight consecutive quarters.

Prior to sampling, depth to groundwater measurements shall be measured in each monitoring well to the nearest 0.01 feet. Groundwater elevations shall then be calculated to determine groundwater gradient and flow direction. Monitoring wells to be sampled shall be purged of at least three well volumes until temperature, pH, and electrical conductivity have stabilized. Low or no-purge sampling methods are acceptable, if described in an approved Sampling and Analysis Plan. Samples shall be collected and analyzed using standard EPA methods. Groundwater monitoring shall include, at a minimum, the following:

Constituent	Units	Type of Sample	Sampling and Reporting Frequency
Depth to Groundwater	0.01 feet	Measurement	Semi-Annual
Groundwater Elevation [1]	0.01 feet	Calculated	Semi-Annual
Gradient	feet/feet	Calculated	Semi-Annual
Gradient Direction	degrees	Calculated	Semi-Annual
Total Dissolved Solids	mg/L	Grab	Semi-Annual [2, 3]
Nitrate as Nitrogen	mg/L	Grab	Semi-Annual [2, 3]
Total Coliform Organisms	MPN/100ml	Grab	Semi-Annual [2, 3]
Chloride	mg/L	Grab	Semi-Annual [2, 3]
Sodium	mg/L	Grab	Semi-Annual [2, 3]
Standard Minerals [4]	mg/L	Grab	Annually

[1] Groundwater elevation shall be determined based on depth-to-water measurements using a surveyed measuring point elevation on the well and a surveyed reference elevation.

[2] Sample analyses from existing monitoring wells to be conducted on a semi-annual basis for a minimum of eight consecutive monitoring events before a reduction in monitoring frequency can be considered.

[3] Sample analyses from all new monitoring wells installed or included in the monitoring program after adoption of this order to be conducted on a quarterly basis for eight consecutive monitoring events before a reduction in monitoring frequency can be considered.

[4] Standard minerals shall include, at a minimum, the following elements/compounds: boron, calcium, magnesium, iron (dissolved), manganese (dissolved), potassium, sulfate, total alkalinity (including alkalinity series), and hardness.

APPLICABILITY OF GROUNDWATER LIMITATIONS

The Groundwater Limitations set forth in Section E of the WDRs shall apply to the specific compliance monitoring wells tabulated below. This table is subject to revision by the Executive Officer following construction of any new compliance monitoring wells.

Constituent	Groundwater Limitation	Wells to which Limitation Applies
Total Dissolved Solids	Current groundwater quality [1]	MWM-12, MWM-13, MWR-24, MWR-28, MWR-32
Total Dissolved Solids	1,000 mg/L	CLSP-1
Nitrate nitrogen	10 mg/L [2]	MWM-12, MWR-24, MWR-28, MWR-32, CLSP-1, CLSP-3, CLSP-8, CLSP-9, CLSP-10
Nitrate nitrogen	Current Groundwater Quality [2]	MW-N1, MW-N3, MW-N4, MW-N5, MW-N6, CLSP-2, CLSP-4

[1] "Current groundwater quality" means the quality of groundwater as evidenced by monitoring completed as of the date of this Order for each of the specified compliance monitoring wells listed above

[2] "Current groundwater quality" means the quality of groundwater in the well as evidenced by monitoring completed in accordance with Provision H.1.f.

SLUDGE MONITORING

The Discharger shall keep documentation regarding the quantity of biosolids generated by the treatment processes; any sampling and analytical data; the quantity of biosolids stored on site; and the quantity removed for disposal. If biosolids are transported off-site for disposal, then the Discharger shall submit documentation identifying the hauling company, the amount of biosolids transported, the date removed from the facility, the location of disposal, and copies of all analytical data required by the entity accepting the waste.

A composite sample of digested sludge shall be collected at least once per year in accordance with EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989; and analyzed for cadmium, copper, nickel, chromium, lead, and zinc when sludge is removed from the wastewater treatment system for disposal.

A log shall be kept of sludge quantities generated and of handling and disposal activities. The frequency of entries is discretionary; however, the log should be complete enough to serve as a basis for part of the annual report. Documentation shall also indicate that steps taken to reduce odor and other nuisance conditions. All records shall be stored onsite and available for review during inspections and submitted as part of the Annual Monitoring Report. Sampling records shall be retained for a minimum of five years.

WATER SUPPLY MONITORING

A sampling station shall be established where a representative sample of the municipal water supply can be obtained. Alternatively, the Discharger may submit a current Consumer Confidence Report for municipal supply water. Water supply monitoring shall include at least the following for each water source used during the previous year:

Constituents	Units	Sampling Frequency
Total Dissolved Solids	mg/L	Annually
pH	Std. Unit	Annually
Standard Minerals [1]	mg/L	Annually

[1] Standard Minerals shall include, at a minimum, the following elements/compounds: boron, calcium, magnesium, sodium, potassium, chloride, nitrogen, sulfate, iron, manganese, total alkalinity (including alkalinity series), and hardness.

REPORTING

All regulatory documents, submissions, materials, data, monitoring reports, and correspondence should be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB should be emailed to:

centralvalleysacramento@waterboards.ca.gov

Documents that are 50 MB or larger should be transferred to a CD, DVD, or flash drive and mailed to the following address:

Central Valley Regional Water Quality Control Board
ECM Mailroom
11020 Sun Center Drive, Suite 200
Rancho Cordova, California 95670

To ensure that your submittals are routed to the appropriate staff, the following information block should be included in any correspondence used to transmit documents to this office:

City of Lathrop Consolidated Treatment Facility, San Joaquin County		
Program: Non-15	Order: R5-2015-0006	CIWQS Place ID: 271781

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, pond, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported to the Central Valley Water Board.

As required by the California Business and Professions Code sections 6735, 7835, and 7835.1, all Groundwater Monitoring Reports shall be prepared under the direct supervision of a Registered Professional Engineer or Geologist and signed by the registered professional.

A. Monthly Monitoring Reports

Daily, weekly, and monthly monitoring data shall be reported in the monthly monitoring report. Monthly reports shall be submitted to the Central Valley Water Board on the **1st day of the second month following sampling** (i.e. the January Report is due by 1 March). At a minimum, the reports shall include:

1 Tabulated influent wastewater flow monitoring data for each month of the calendar year, including average daily flow, cumulative flow to date, and comparison to the Flow Limitations of the WDRs;

2 Tabulated effluent monitoring data;

3 Tabulated recycled water storage pond monitoring data;

4 A comparison of monitoring data to the flow limitations, effluent limitations, and discharge specifications and an explanation of any violation of those requirements;

5 A calibration log verifying calibration of all hand-held monitoring instruments and devices used to comply with the prescribed monitoring program; and

6 Copies of the laboratory analytical data reports shall be maintained by the Discharger and provided upon request by the Regional Water Board.

B. Semi-Annual Monitoring Reports

A Semi-Annual Monitoring Report shall be submitted to the Regional Water Board by the **1st day of the second month following the second and fourth calendar quarter** (i.e. the January-June report is due by August 1st) and shall include the following:

1. A narrative description of all preparatory, groundwater monitoring, sampling, and analytical testing activities. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged. Low or no-purge sampling methods are acceptable if described in an approved Sampling and Analysis Plan;

2. A groundwater elevation map;
3. Calculation of groundwater elevations, an assessment of groundwater flow direction and gradient on the date of measurement, comparison with previous flow direction and gradient data, and discussion of seasonal trends if any;
4. Cumulative data tables containing the water quality analytical results and depth to groundwater;
5. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum; and

6. Copies of the laboratory analytical data reports shall be maintained by the Discharger and provided upon request by the Regional Water Board.

The Discharger shall establish a quarterly sampling schedule for newly installed groundwater monitoring wells such that samples are obtained approximately every three months.

C. Annual Monitoring Report

An Annual Monitoring Report shall be submitted to the Central Valley Water Board by **1 February** each year and shall include the following:

1. Total annual influent flow and average dry weather flow for the calendar year;

2. Total precipitation for each month of the calendar year and annual total for the calendar year;

3. Tabulated recycled water Use Area monitoring for the calendar year including:

   a. Summary tables of all recycled water, supplemental water, and total hydraulic loading for each recycled water Use Area for the calendar year with supporting data and calculations;

   b. A map identifying all Use Areas. Newly permitted recycled water Users and Use Areas shall be identified;

   c. Tabulated total annual flow of recycled water discharged to each discrete Use Area for the calendar year; and

   d. A summary of all inspections and enforcement activities initiated by the Discharger.

4. An evaluation of the performance of the CTF, including discussion of capacity issues, system problems, and a forecast of the flows anticipated in the next year. The evaluation shall include the following:

a. Waste constituent reduction efforts implemented in accordance with any required workplan;
b. Other treatment or control measures implemented during the calendar year either voluntarily or pursuant to the WDRs, this MRP, or any other Order;
c. A discussion of anticipated pond sludge removal in the coming year, and if so, include anticipated schedule for cleaning, drying, and disposal; and
d. Based on monitoring data, an evaluation of the effectiveness of the treatment or control measures implemented to date.
e. Waste constituent reduction efforts implemented in accordance with any required workplan;
f. Other treatment or control measures implemented during the calendar year either voluntarily or pursuant to the WDRs, this MRP, or any other Order;
g. A discussion of anticipated pond sludge removal in the coming year, and if so, include anticipated schedule for cleaning, drying, and disposal; and
h. Based on monitoring data, an evaluation of the effectiveness of the treatment or control measures implemented to date.

5. An evaluation of the groundwater quality beneath the site and determination of compliance with the Groundwater Limitations of the WDRs based on statistical analysis for each constituent monitored for each compliance well in accordance with the approved Groundwater Limitations Compliance Assessment Plan. Include all calculations and data input/analysis tables derived from use of statistical software, as applicable;

6. A discussion of compliance and the corrective action taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.

7. A discussion of the following:

a. Waste constituent reduction efforts implemented in accordance with any required workplan;

b. Other treatment or control measures implemented during the calendar year either voluntarily or pursuant to the WDRs, this MRP, or any other Order;

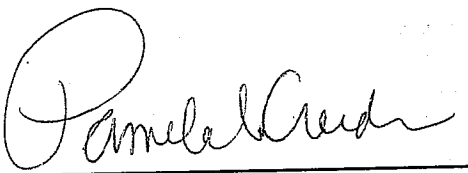
c. A discussion of anticipated pond sludge removal in the coming year, and if so, include anticipated schedule for cleaning, drying, and disposal; and

d. Based on monitoring data, an evaluation of the effectiveness of the treatment or control measures implemented to date.

8. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring network or reporting program.

A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions General Reporting Requirements Section B.3.

The Discharger shall implement the above monitoring program on the first day of the month following adoption of this Order.

Ordered by: 

PAMELA C. CREEDON, Executive Officer

2/5/2015
(Date)

SAA: 2/05/2015

Table 1 Priority Pollutant Scan

Inorganics [1]	***Organics***	3-Methyl-4-Chlorophenol	Hexachlorobenzene
Antimony	Acrolein	Pentachlorophenol	Hexachlorobutadiene
Arsenic	Acrylonitrile	Phenol	Hexachlorocyclopentadiene
Beryllium	Benzene	2,4,6-Trichlorophenol	Hexachloroethane
Cadmium	Bromoform	Acenaphthene	Indeno(1,2,3-c,d)pyrene
Chromium (III)	Carbon tetrachloride	Acenaphthylene	Isophorone
Chromium (VI)	Chlorobenzene	Anthracene	Naphthalene
Copper	Chlorodibromomethane	Benzidine	Nitrobenzene
Lead	Chloroethane	Benzo(a)Anthracene	N-Nitrosodimethylamine
Mercury	2-Chloroethylvinyl Ether	Benzo(a)pyrene	N-Nitrosodi-n-Propylamine
Nickel	Chloroform	Benzo(b)fluoranthene	N-Nitrosodiphenylamine
Selenium	Dichlorobromomethane	Benzo(g,h,i)perylene	Phenanthrene
Silver	1,1-Dichloroethane	Benzo(k)fluoranthene	Pyrene
Thallium	1,2-Dichloroethane	Bis(2-chloroethoxy) methane	1,2,4-Trichlorobenzene
Zinc	1,1-Dichloroethylene	Bis(2-chloroethyl) ether	
Cyanide	1,2-Dichloropropane	Bis(2-chloroisopropyl) ether	
Asbestos	1,3-Dichloropropylene	Bis(2-Ethylhexyl)phthalate	***Pesticides***
	Ethylbenzene	4-Bromophenyl phenyl ether	Aldrin
	Methyl Bromide	Butylbenzyl Phthalate	alpha-BHC
Dioxin Congeners	Methyl Chloride	2-Chloronaphthalene	beta-BHC
2,3,7,8-TCDD	Methylene Chloride	4-Chlorophenyl Phenyl Ether	gamma-BHC (Lindane)
1,2,3,7,8-PentaCDD	1,1,2,2-Tetrachloroethane	Chrysene	delta-BHC
1,2,3,4,7,8-HexaCDD	Tetrachloroethylene (PCE)	Dibenzo(a,h)Anthracene	Chlordane
1,2,3,6,7,8-HexaCDD	Toluene	1,2-Dichlorobenzene	4,4'-DDT
1,2,3,7,8,9-HexaCDD	1,2-Trans-Dichloroethylene	1,3-Dichlorobenzene	4,4'-DDE
1,2,3,4,6,7,8-HeptaCDD	1,1,1-Trichloroethane	1,4-Dichlorobenzene	4,4'-DDD
OctaCDD	1,1,2-Trichloroethane	3,3'-Dichlorobenzidine	Dieldrin
1,2,3,7,8-PentaCDF	Trichloroethylene (TCE)	Diethyl phthalate	alpha-Endosulfan
2,3,4,7,8-PentaCDF	Vinyl chloride	Dimethyl phthalate	beta-Endosulfan
1,2,3,4,7,8-HexaCDF	2-Chlorophenol	Di-n-Butyl Phthalate	Endosulfan Sulfate
1,2,3,6,7,8-HexaCDF	2,4-Dichlorophenol	2,4-Dinitrotoluene	Endrin
1,2,3,7,8,9-HexaCDF	2,4-Dimethylphenol	2,6-Dinitrotoluene	Endrin Aldehyde
2,3,4,6,7,8-HexaCDF	2-Methyl-4,6-Dinitrophenol	Di-n-Octyl Phthalate	Heptachlor
1,2,3,4,6,7,8-HeptaCDF	2,4-Dinitrophenol	1,2-Diphenylhydrazine	Heptachlor epoxide
1,2,3,4,7,8,9-HeptaCDF	2-Nitrophenol	Fluoranthene	Polychlorinated biphenyls
OctaCDF	4-Nitrophenol	Fluorene	Toxaphene

[1] With the exception of wastewater samples, samples for metals analysis must first be filtered. If filtering in the field is not feasible, samples shall be collected in unpreserved containers and submitted to the laboratory within 24 hours with a request (on the chain of custody form) to immediately filter then preserve the sample.

[2] Samples to be analyzed for volatile compounds and phthalate esters shall be grab samples; the remainder shall be 24-hour composite samples.

INFORMATION SHEET

ORDER R5-2015-0006
CITY OF LATHROP
LATHROP CONSOLIDATED TREATMENT FACILITY
SAN JOAQUIN COUNTY

Current Facility Description

The City of Lathrop owns and operates a domestic wastewater treatment facility located at 18800 Christopher Way in Lathrop. The Consolidated Treatment Facility (CTF) receives domestic and a relatively small amount of commercial wastewater from master planned communities on the western portion of the City of Lathrop. Communities serviced by the CTF includes Central Lathrop Specific Plan (CLSP), Mossdale Landing (Mossdale), and River Islands. The service area currently includes approximately 8,400 acres consisting of a population of approximately 7,000 residents.

The CTF provides secondary treatment, tertiary filtration, and disinfection prior to storage and discharge. The CTF currently has two Membrane Bioreactor (MBR) treatment trains that each have a treatment capacity of 0.375 mgd, for a combined treatment capacity of 0.75 mgd as an average dry weather flow (ADWF). Disinfected effluent is stored in five concrete-lined storage reservoirs between the months of October and March prior to discharge as recycled water for irrigation to agricultural areas in the Mossdale and River Island developments. Upon adoption of these WDRs, the Discharger plans to expand the use of recycled water to additional agricultural fields and for landscape irrigation in residential areas.

WDRs Order R5-2006-0094 allows an average dry weather flow of up to 0.75 million gallons per day (MGD). Order R5-2006-0094 also allows treatment, storage and disposal capacity expansions to be made in increments of 0.75 MGD or greater, after a Recycled Water Expansion Report (RWER) has been approved in writing by the Executive Officer. The Discharger plans to incrementally increase wastewater treatment capacity and expand the use of recycled water Use Areas under these WDRs.

Proposed Changes to the Facility and Discharge

The Discharger requested revised WDRs and a Master Recycling Permit to allow additional recycled water use. The Discharger is expanding the treatment capacity of the MBR facility to increase effluent dry weather flow capacity from 0.75 mgd to 1.0 mgd by February 2015 and then incrementally increase effluent flow up to 6.0 mgd to keep pace with growth of the community.

The proposed facility expansion to be completed in February 2015 will include modifying the existing MBR system to accommodate increased flow, treatment, storage, and disposal. Facility upgrades include installing additional grit removal equipment, influent pumps, and flow meters; anoxic pumps and diffusion equipment, aeration blowers, additional MBR modules, and converting an existing lined effluent storage pond into an emergency influent storage basin.

The Discharger proposes expanding the distribution of recycled water Use Areas for agricultural and landscape irrigation in the Northern Lathrop, Mossdale, CLSP, and River Islands developments. Landscape irrigation and ancillary recycled water uses include irrigation of parks; greenbelts; playgrounds; athletic fields; and street landscaping.

Effluent Storage Ponds

The Discharger currently uses five high-density polyethylene (HDPE)-lined-lined effluent storage ponds, which reduces the potential threat to water quality. Table 1 provides a summary of existing and planned effluent storage ponds as proposed in the Report of Waste Discharge. A list of corresponding CEQA documentation with respect to each pond location is cross-referenced below the table.

Table 1: Existing and Planned Effluent Storage Ponds

Site ID	APN	Development Area	Parcel Area (Acres)	Capacity (Mgal) [1]	Use Status	Project Level CEQA Completed [2]
S1	191-190-32	Mossdale	13.26	41	Existing	a, b
S2	191-190-33	Mossdale	6.89	15	Existing	a, b
S3	198-130-35	Mossdale South	9.91	12	Existing	c
S5	198-130-47	East Lathrop	9.96	28	Existing	a
	198-130-48	East Lathrop	0.59		Existing	a
S6	198-060-16	East Lathrop	5.61	34	Existing	e
	198-060-17		6.06		Existing	e
S7	198-040-14	East Lathrop	18.15	57	Planned	f
S8	241-020-70	East Lathrop	60.59	182	Planned	d
S9	241-030-13	East Lathrop	159.92	457	Planned	d
S11	213-300-07	River Islands	72.5	102	Planned	h, j
	213-300-08		86.83		Planned	h, j
S12	213-300-07	River Islands	72.5	97	Planned	h, j
	213-300-08		86.83		Planned	h, j
S13	213-210-06	River Islands	290.81	116	Planned	a
S14	213-22-001	River Islands	96.16	90	Planned	h
S15	198-120-08	East Lathrop	116.99	135	Planned	a, f
	198-120-09		48.64		Planned	a, f
	198-140-16		19.96		Planned	a, f
S16	213-290-02	River Islands	121.88	78	Near Term	a, h, k
S17				61	Planned	a, h, k
S18				71	Planned	a, h, k

Table 1: Existing and Planned Effluent Storage Ponds						
Site ID	**APN**	**Development Area**	**Parcel Area (Acres)**	**Capacity (Mgal) [1]**	**Use Status**	**Project Level CEQA Completed [2]**
S19	239-040-04	River Islands	142.25	55	Planned	f, h
S20				66	Planned	f, h
S21				67	Planned	f, h
S22				71	Planned	f, h
S23				74	Planned	f, h
S24	239-040-07	River Islands	137	65	Planned	f, h
S25				56	Planned	f, h
S26				63	Planned	f, h
S27				58	Planned	f, h
S28	191-220-14	CLSP	89.82	25	Near Term	i
S29				95	Near Term	i
S30	191-270-05	Northern Lathrop	20	172	Planned	g
	191-270-04		7.6		Planned	g
	191-260-22		31.4		Planned	g

[1] Assuming two feet of freeboard
[2] Corresponding environmental documentation:

a. City of Lathrop. 2002. Draft Environmental Impact Report for the Lathrop Water Recycling Plant No. 1 Phase 1 Expansion Project. December 31. Prepared by EDAW. AND City of Lathrop. 2003. Final Environmental Impact Report for the Lathrop Water Recycling Plant No. 1 Phase 1 Expansion Project. February 28. Prepared by EDAW.

b. City of Lathrop. 2002. Draft Environmental Impact Report for the Mossdale Landing Urban Design Concept. SCH# 2001052059. 2002. Volume I: DEIR. August 29. Prepared by EDAW. AND City of Lathrop. Draft Environmental Impact Report for the Mossdale Landing Urban Design Concept. SCH# 2001052059. 2003. Volume I: DEIR. January. Prepared by EDAW.

c. City of Lathrop. 2003. Public Review Draft Supplemental Environmental Impact Report for Mossdale Landing East. December 6. Prepared by InSite Environmental, Inc. AND City of Lathrop. 2004. Public Review Draft Supplemental Environmental Impact Report for Mossdale Landing East. January 30. Prepared by InSite Environmental, Inc.

d. City of Lathrop. 2004. Draft Environmental impact Report for the CLSP (CLSP). SCH# 2003072132. July. Prepared by EDAW. and City of Lathrop. 2004. Final Environmental impact Report for the CLSP (CLSP). SCH# 2003072132. October. Prepared by EDAW.

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f. City of Lathrop. 2005. Addendum to the City of Lathrop Water, Wastewater, and Recycled Water Master Plan Environmental Impact Report. December 14. Prepared by EDAW.

g. City of Lathrop. 2006. Addendum the Environmental Impact Report for the City of Lathrop Wastewater Recycling Plant No. 1 (SCH#2001122108) relative to the Frewert Road Recycled Water Storage Pond. May 5. Prepared by InSite Environmental. Prepared by InSite Environmental, Inc.

h. City of Lathrop. 2002. Draft Subsequent Environmental Impact Report for the River Islands at Lathrop Project. Volume 1a. (SCH#1993112027). October 16. AND Prepared by EDAW. AND City of Lathrop. 2003. Draft Subsequent Environmental Impact Report for the River Islands at Lathrop Project. Volume 1a. #1993112027). January 22. Prepared by EDAW

i. City of Lathrop. 2014. CLSP Environmental Impact Report Addendum II (SCH#2003072132). March. Prepared by Ascent.

j. City of Lathrop. Initial Study for River Islands Disposal Fields Expansion. 2004. November. Prepared by the City of Lathrop Public Works Department.

k. City of Lathrop. 2014. River Islands at Lathrop Project Subsequent Environmental Impact Report Addendum IV. SCH#1993112027. Prepared by Ascent.

The Discharger currently uses recycled water for agricultural irrigation in Mossdale and River Islands. The Discharger plans to expand using recycled water for agricultural irrigation in River Islands, CLSP, and the North Lathrop areas. Table 2 provides a summary of existing and planned agricultural irrigation Use Areas as proposed in the Report of Waste Discharge. A list of corresponding CEQA documentation with respect to each agricultural irrigation Use Area is cross-referenced below the table.

Table 2: Existing and Planned Agricultural Irrigation Use Areas

Site ID	APN	Development Area	Parcel Area (Acres)	Irrigated Area (Acres)	Phase	Project Level CEQA Completed [1]
A 01	191-280-10	Northern Lathrop	49.49	42.1	Planned	d
A 02	191-280-09	Northern Lathrop	101.2	86.0	Planned	d
A 03	191-270-33	Northern Lathrop	58.56	49.8	Planned	d
	191-270-32	Northern Lathrop	8.2			d
A 04	191-260-25	Northern Lathrop	18.09	15.4	Planned	f
A 05	191-260-13	Northern Lathrop	19.52	16.6	Planned	f
A 06	191-250-03	Northern Lathrop	8.83	7.5	Planned	f
A 07	191-250-12	Northern Lathrop	9.48	8.1	Planned	f
A 08	191-250-06	Northern Lathrop	10.3	8.8	Planned	f
A 09	191-270-24	Northern Lathrop	95.18	80.9	Planned	d
	191-270-25	Northern Lathrop	3.26			d

Table 2: Existing and Planned Agricultural Irrigation Use Areas						
Site ID	**APN**	**Development Area**	**Parcel Area (Acres)**	**Irrigated Area (Acres)**	**Phase**	**Project Level CEQA Completed [1]**
A 10	191-260-27	Northern Lathrop	154.77	131.6	Planned	d
	191-270-26	Northern Lathrop	4.82			d
A 11	191-230-01	Northern Lathrop	40	34.0	Planned	d
A 12	191-230-02	Northern Lathrop	29.33	24.9	Planned	d
A 13	191-270-21	Northern Lathrop	95.54	81.2	Planned	f
A 17	191-260-21	Northern Lathrop	20	17.0	Planned	f
A 18	191-260-28	Northern Lathrop	22.89	19.46	Planned	f
	191-260-29	Northern Lathrop	13.14			f
A 19	191-260-23	Northern Lathrop	12.75	10.8	Planned	f
A 20	191-220-04	CLSP	99.1	84.2	Planned	d
A 21	191-220-05	CLSP	313.88	266.8	Planned	d
A 23	191-190-49	Mossdale	12.4	10.5	Existing	a, h
A 28	213-300-09	River Islands	33.71	28.7	Existing	a, j
A 29	213-130-05	River Islands	231.4	444.2	Planned	a
	213-130-06	River Islands	74.7			a
	213-130-07	River Islands	12.5			a
	213-200-01	River Islands	153			a
	213-200-02	River Islands	229.42			a
A 30	213-210-06	River Islands	294.72	250.5	Existing	a, h
A 31	213-110-03	River Islands	151	128.4	Existing	a, f
A 32	213-110-02	River Islands	178.12	151.4	Planned	h
A 33	213-110-01	River Islands	221.21	188.0	Planned	h
A34	213-210-06	River Islands	294.72	250.5	Planned	a, h
A 35	213-290-02	River Islands	25.44	21.6	Near Term	h, k
A 36	191-220-10	CLSP	5.15	34.5	Near Term	i
	191-220-11		10.43			i
	191-220-12		0.96			i
	191-220-13		16.38			i
	191-220-37		7.72			i

Table 2: Existing and Planned Agricultural Irrigation Use Areas						
Site ID	**APN**	**Development Area**	**Parcel Area (Acres)**	**Irrigated Area (Acres)**	**Phase**	**Project Level CEQA Completed [1]**
A 37	191-220-15	CLSP	19.48	125.5	Future	i
	191-220-17		9.80			i
	191-220-35		8.96			i
	191-220-18		19.61			i
	191-22014		89.82			i
A38	191-220-44	CLSP	1.74	2.6	Near Term	i
	191-220-45		1.26			i

[1] Corresponding environmental documentation:

a. City of Lathrop. 2002. Draft Environmental Impact Report for the Lathrop Water Recycling Plant No. 1 Phase 1 Expansion Project. December 31. Prepared by EDAW. AND City of Lathrop. 2003. Final Environmental Impact Report for the Lathrop Water Recycling Plant No. 1 Phase 1 Expansion Project. February 28. Prepared by EDAW.

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k. City of Lathrop. 2014. River Islands at Lathrop Project Subsequent Environmental Impact Report Addendum IV. SCH#1993112027. Prepared by Ascent.

The Discharger plans to use recycled water for landscape irrigation in the Mossdale, River Islands, and CLSP residential areas. Table 3 provides a summary of existing and planned agricultural irrigation Use Areas as proposed in the Report of Waste Discharge. A list of corresponding CEQA documentation with respect to each agricultural irrigation Use Area is cross-referenced below the table.

Table 2: Existing and Planned Landscape Irrigation Use Areas

Site ID	APN(s)	Acres	Land Development Area	Land Use	Phase	Project Level CEQA Completed [1]
L01	191-220-35; 191-220-17	3.38	CLSP [2]	Park	Planned	a d
L02	191-22015	7.80	CLSP [2]	K-8(2)	Planned	d
L03	191-22017	3.38	CLSP [2]	Park	Planned	d
L04	191-21032	11.10	CLSP	Park	Planned	d
L05	191-21032; 191-210-07; 191-210-33; 191-210-07; 191-210-33; 191-210-23; 191-210-17	3.38	CLSP	Park	Planned	d
	191-210-05	3.75	CLSP	Park	Planned	d
L07	191-210-23	3.75	CLSP	Park	Planned	d
L08	191-210-32	3.36	Mossdale	Park	Planned	a, b, d
L09	Right of Way	0.05	Mossdale	Median	Planned	a d
L10	Right of Way	0.21	CLSP	Parkway	Planned	a, b, d
L11	Right of Way	0.74	Mossdale	Parkway	Planned	b
L12	Right of Way	0.05	Mossdale	Median	Planned	b
L13	Right of Way	0.45	Mossdale	Parkway	Planned	c
L14	191-330-09	6.00	Mossdale	Park	Near Term	a b
L15	Right of Way	0.10	Mossdale	Parkway	Planned	b

Table 2: Existing and Planned Landscape Irrigation Use Areas

Site ID	APN(s)	Acres	Land Development Area	Land Use	Phase	Project Level CEQA Completed [1]
L16	Right of Way	0.23	Mossdale	Parkway	Planned	b
L17	Right of Way	0.04	Mossdale	Median	Planned	b
L18	Right of Way	0.26	Mossdale	Parkway	Planned	b
L19	191-540-61	1.20	Mossdale	Park	Planned	b
L20	191-350-04	6.20	Mossdale	Park	Near Term	a b
L21	Right of Way	0.29	Mossdale	Parkway	Planned	b
L22	191-210-17	3.38	Mossdale	Park	Planned	b
L23	Right of Way	0.14	Mossdale	Parkway	Planned	b
L24	Right of Way	0.91	Mossdale	Parkway	Planned	b
L25	Right of Way	0.04	Mossdale	Median	Planned	b
L26	Right of Way	0.40	Mossdale	Median	Planned	b
L27	191-360-68	0.75	Mossdale	Park	Planned	b
L28	Right of Way	0.32	Mossdale	Parkway	Planned	b
L29	Right of Way	0.34	Mossdale	Parkway	Planned	b
L30	Right of Way	0.10	Mossdale	Median	Planned	b
L31	Right of Way	0.09	Mossdale	Median	Planned	b
L32	Right of Way	0.04	Mossdale	Median	Planned	b
L33	191-380-67	1.05	Mossdale	Park	Planned	b
L34	Right of Way	0.06	Mossdale	Median	Planned	a
L35	Right of Way	0.10	Mossdale	Median	Planned	b
L36	Right of Way	0.10	Mossdale	Median	Planned	b
L37	Right of Way	0.03	Mossdale	Median	Planned	b
L38	Right of Way	0.09	Mossdale	Parkway	Planned	a
L39	Right of Way	0.37	Mossdale	Parkway	Planned	a
L40	Right of Way	0.28	Mossdale	Parkway	Planned	b
L41	Right of Way	0.18	Mossdale	Median	Planned	b
L42	Right of Way	0.31	Mossdale	Parkway	Planned	b
L43	191-190-32; 191-190-33	5.50	Mossdale	Pond Berm	Near Term	a, b
L44	Right of Way	2.30	Mossdale	Park/Median	Planned	a, b
L45	241-0020-52	2.10	Mossdale	Pond Berm	Near Term	a, b
L46	198-060-16	3.00	Not Applicable [3]	Pond Berm	Near Term	(e)
L47	213-300-06	0.30	River Islands	Median	Planned	(h)
L48	213-300-06	6.00	River Islands	Park	Planned	(h)

Table 2: Existing and Planned Landscape Irrigation Use Areas						
Site ID	**APN(s)**	**Acres**	**Land Development Area**	**Land Use**	**Phase**	**Project Level CEQA Completed [1]**
L49	213-300-06	1.60	River Islands	Park	Planned	(h)
L50	213-300-06	0.20	River Islands	Median	Planned	(h)
L51	213-300-06	0.40	River Islands	Park	Planned	(h)
L52	213-300-06	0.40	River Islands	Park	Planned	(h)
L53	213-300-06	15.00	River Islands	Park	Near Term	(h)
L54	213-300-06; 213-310-10	0.20	River Islands	Median	Planned	(h)
L55	213-300-06	0.50	River Islands	Median	Planned	(h)
L56	213-300-06	0.10	River Islands	Median	Planned	(h)
L57	213-300-06	0.40	River Islands	Median	Planned	(h)
L58	213-300-06	0.40	River Islands	Median	Planned	(h)
L59	213-300-06	1.50	River Islands	Median	Planned	(h)
L60	213-300-06	2.70	River Islands	Park	Planned	(h)
L61	213-300-06	1.20	River Islands	Median	Planned	(h)
L62	213-300-06	1.10	River Islands	Median	Planned	(h)
L63	213-300-08; 213-300-09; 213-300-11; 213-300-07; 213-300-06; 213-310-10	2.10	River Islands	Park	Planned	(h)
L64	213-310-10	0.40	River Islands	Median	Planned	(h)
L65	213-310-10	1.90	River Islands	Park	Planned	(h)
L66	213-310-10	2.00	River Islands	Park	Planned	(h)
L67	213-310-10; 213-310-09	2.30	River Islands	Park	Planned	(h)
L68	213-310-10	0.40	River Islands	Median	Planned	(h)
L69	213-310-10	0.90	River Islands	Park	Planned	(h)
L70	213-310-10; 213-310-08	2.50	River Islands	Park	Planned	(h)
L71	213-310-09	0.40	River Islands	Median	Planned	(h)
L72	213-310-09; 213-310-08	2.30	River Islands	Park	Planned	(h)
L73	213-310-09	2.00	River Islands	Park	Planned	(h)
L74	213-310-08	6.00	River Islands	Park	Planned	(h)
L75	213-310-08; 213-310-10	0.10	River Islands	Median	Planned	(h)
L76	213-310-10	0.50	River Islands	Median	Planned	(h)
L77	213-220-02	2.80	River Islands	Park	Planned	(h)
L78	213-220-02; 213-310-08	0.50	River Islands	Median	Planned	(h)
L79	213-230-05	1.10	River Islands	Park	Planned	(h)
L80	213-230-05	0.80	River Islands	Median	Planned	(h)

Table 2: Existing and Planned Landscape Irrigation Use Areas						
Site ID	**APN(s)**	**Acres**	**Land Development Area**	**Land Use**	**Phase**	**Project Level CEQA Completed [1]**
L81	213-230-06	4.40	River Islands	Park	Planned	(h)
L82	213-230-01	34.00	River Islands	Park	Planned	(h)
L83	213-220-02	1.10	River Islands	Park	Planned	(h)
L84	213-310-08	2.20	River Islands	Park	Planned	(h)
L85	191-200-13; 191-210-05	0.94	CLSP	Median	Planned	d
L86	191-200-13; 191-210-05	1.37	CLSP	Parkway	Planned	d
L87	191-200-13; 191-210-05	2.50	CLSP	Open Space	Planned	d
L88	191-220-42	0.44	CLSP	Median	Planned	d
L89	191-220-42	0.64	CLSP	Parkway	Planned	d
L90	191-210-04; 191-220-42	0.41	CLSP	Median	Planned	d
L91	191-210-04; 191-220-42	0.96	CLSP	Parkway	Planned	d
L92	191-210-05	1.28	CLSP	Median	Planned	d
L93	191-210-05	1.82	CLSP	Parkway	Planned	d
L94	191-210-05	1.50	CLSP	Open Space	Planned	d
L95	191-210-05	0.13	CLSP	Median	Planned	d
L96	191-210-05	1.29	CLSP	Parkway	Planned	d
L97	191-210-05; 191-210-04	1.43	CLSP	Parkway	Planned	d
L98	191-200-13	1.11	CLSP	Parkway	Planned	d
L99	191-200-13	1.05	CLSP	Parkway	Planned	d
L100	191-210-05; 191-210-04	1.71	CLSP	Parkway	Planned	d

[1] Corresponding environmental documentation:

a. City of Lathrop. 2002. Draft Environmental Impact Report for the Lathrop Water Recycling Plant No. 1 Phase 1 Expansion Project. December 31. Prepared by EDAW. AND City of Lathrop. 2003. Final Environmental Impact Report for the Lathrop Water Recycling Plant No. 1 Phase 1 Expansion Project. February 28. Prepared by EDAW.

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h. City of Lathrop. 2002. Draft Subsequent Environmental Impact Report for the River Islands at Lathrop Project. Volume 1a. (SCH#1993112027). October 16. AND Prepared by EDAW. AND City of Lathrop. 2003. Draft Subsequent Environmental Impact Report for the River Islands at Lathrop Project. Volume 1a. #1993112027). January 22. Prepared by EDAW.

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k. City of Lathrop. 2014. River Islands at Lathrop Project Subsequent Environmental Impact Report Addendum IV. SCH#1993112027.Prepared by Ascent.

Because the proposed landscape Use Areas are typically small in application area, widely spaced, and typically receive small volumes of recycled water, the use of recycled water in these areas is unlikely to cause identifable groundwater degradation as compared to baseline conditions.

Site-Specific Conditions

The City of Lathrop is bisected by tributaries to the San Joaquin River. Laud uses include agricultural, commercial, and residential developments. Surrounding land uses are zoned for agriculture (typically cattle ranching). According to a 2008 Flood Insurance Rate Map for the area, the CTF, CSLP, Mossdale, and the eastern half of River Islands are in Flood Zone X, which is outside and protected from the currently-defined Federal Emergency Management Agency (FEMA) 100-year flood zone. These areas are within an area that is protected from the 100-year flood by levees, dikes, or other structures that may be subject to possible failure or overtopping during larger flood events.

The drinking water supply for the City of Lathrop is provided from a series of water supply wells, where groundwater is drawn from approximately 160 to 270 feet below ground surface (bgs). This drinking water supply overlies the Laguna Formation. Drinking water is supplemented with surface water from the Woodward Reservoir, which is distributed by the

South San Joaquin Irrigation District (SSJID) as part of the South County Water Supply Program. Municipal supply water is treated prior to distribution to the community.

The reference evapotranspiration rate (ET_o) is approximately 52 inches per year. The annual average precipitation and 100-year return period annual precipitation is approximately 13and 22 inches per year respectively.

Groundwater Conditions

Shallow groundwater in the Lathrop area occurs within the alluvial flood plain deposits at depths of less than15 feet bgs. Shallow groundwater depth and flow conditions can vary depending on location, season, land use, nearby pumping (i.e. construction dewatering, agricultural irrigation, etc.), and the proximity and flow stage of nearby surface water bodies and recycled water Use Area. As a result, changes in agricultural land use, irrigation practices, and regional pumping have likely altered groundwater flow and the distribution of salinity resulting from on-site or regional agricultural practices.

There are currently over 65 existing shallow groundwater monitoring wells near the CTF, Northern Lathrop, CLSP, Mossdale, and River Islands recycled water Use Areas. Additionally, there are five monitoring wells near recycled water storage Pond S6 on East Lathrop Road. The current monitoring well network was installed between 1998 and 2005 with wells located to monitor shallow groundwater conditions near existing and planned recycled water storage or Use Areas. Several wells were identified in the RWD as damaged, missing, or abandoned. A summary of the existing groundwater monitoring well network is provided below, however many of these wells will only be used for the collection periodic water level measurements.

Table 3: Groundwater Monitoring Well Details and Operational Status

Well Name	Date Drilled	Well Depth (ft bgs)	Diameter (inches)	Screened Interval (ft bgs)	Current Status [1]	Proposed Use / Action
Mossdale						
MWM-01	05/16/05	21.5	4	10-20	Existing	Monitoring
MWM-02	05/16/05	21	4	10-20	Existing	Monitoring
MWM-03	07/01/05	21	4	10-20	Existing	Monitoring
MWM-04	05/16/05	21	4	10-20	Existing	Monitoring
MWM-05	05/17/05	21	4	10-20	Existing	Monitoring
MWM-06	05/17/05	21	4	10-20	Existing	Monitoring
MWM-07	05/17/05	21	4	10-20	Existing	Monitoring
MWM-08	05/16/05	21	4	10-20	Existing	Monitoring
MWM-09	05/19/05	30	4	18-29	Existing	Monitoring
MWM-10	11/30/01	21.5	2	5-20	Abandoned	--
MWM-11	05/18/05	21	4	10-20	Existing	Monitoring

Table 3: Groundwater Monitoring Well Details and Operational Status

Well Name	Date Drilled	Well Depth (ft bgs)	Diameter (inches)	Screened Interval (ft bgs)	Current Status [1]	Proposed Use / Action
MWM-12	06/20/05	21	4	10-20	Existing	Monitoring
MWM-13	05/20/05	21	4	10-20	Existing	Monitoring
MWM-14	05/17/05	21	4	10-20	Existing	Abandon
MWM-15	05/16/05	21	4	10-20	Existing	Monitoring
MWM-16	05/17/05	21	4	10-20	Existing	Abandon
MWM-17	05/16/05	21	4	10-20	Existing	Monitoring
MWM-18	05/16/05	21	4	10-20	Abandoned	--
MWM-19	05/18/05	21	4	10-20	Existing	Monitoring
MWM-20	05/18/05	21	4	10-20	Existing	Monitoring
MWM-21	05/18/05	21	4	10-20	Existing	Monitoring
MWM-22	01/17/01	20	2	--	Existing	Monitoring
MWM-23	07/01/05	21	4	10-20	Existing	Monitoring
MWM-24	05/16/05	21	4	10-20	Existing	Monitoring
MWM-25	05/19/05	21	4	10-20	Existing	Monitoring
MWM-26	05/18/05	21	4	10-20	Existing	Abandon
MWM-27	04/21/09	24	4	13-23	Existing	Monitoring
River Islands						
MWR-01	12/02/98	20	2	5-20	Abandoned	--
MWR-02	12/02/98	20	2	5-20	Abandoned	--
MWR-03	12/09/98	20	2	5-20	Existing	Monitoring
MWR-04	12/09/98	20	2	5-20	Existing	Monitoring
MWR-05	12/02/98	20	2	5-20	Existing	Monitoring
MWR-06	12/02/98	20	2	5-20	Existing	Monitoring
MWR-07	12/02/98	20	2	5-20	Existing	Monitoring
MWR-08	12/09/98	20	2	5-20	Existing	Monitoring
MWR-09	12/09/98	20	2	5-20	Existing	Monitoring
MWR-10	12/02/98	20	2	5-20	Existing	Monitoring
MWR-11	12/02/98	20	2	5-20	Existing	Monitoring
MWR-12	12/02/98	20	2	5-20	Existing	Monitoring
MWR-13	Prior to 1999 [2]	--	--	--	Reported missing/destroyed [2]	
MWR-14	Prior to 1999 [2]	--	--	--	Reported missing/destroyed [2]	
MWR-15	Prior to 1999 [2]	--	--	--	Reported in moderate condition [2]	
MWR-16	Prior to 1999 [2]	--	--	--	Reported missing/destroyed [2]	
MWR-17	Prior to 1999 [2]	--	--	--	Reported missing/destroyed [2]	
MWR-18	Prior to 1999 [2]	--	--	--	Reported in poor condition [2]	
MWR-19	Prior to 1999 [2]	--	--	--	Reported missing/destroyed [2]	

Table 3: Groundwater Monitoring Well Details and Operational Status

Well Name	Date Drilled	Well Depth (ft bgs)	Diameter (inches)	Screened Interval (ft bgs)	Current Status [1]	Proposed Use / Action
MWR-20	Prior to 1999 [2]	--	--	--	Reported in moderate condition [2]	
MWR-21	Prior to 1999 [2]	--	--	--	Reported missing/destroyed [2]	
MWR-22	Prior to 1999 [2]	--	--	--	Reported missing/destroyed [2]	
MWR-23	08/15/05	22	4	11-21	Existing	Monitoring
MWR-24	08/15/05	21.5	4	10.5-20.5	Existing	Monitoring
MWR-25	08/15/05	22	4	11-21	Existing	Monitoring
MWR-26	08/15/05	21.7	4	11-21	Existing	Monitoring
MWR-27	08/16/05	22	4	11-21	Existing	Monitoring
MWR-28	08/16/05	22	4	11-21	Existing	Monitoring
MWR-29	08/16/05	22	4	11-21	Existing	Monitoring
MWR-30	08/17/05	22	4	11-21	Existing	Monitoring
MWR-31	08/17/05	22	4	11-21	Existing	Monitoring
MWR-32	08/17/05	22.3	4	11.5-21.5	Existing	Monitoring
CTF / MBR Facility						
KMW-4 [3]	01/02/01	25	4	--	Existing	Monitoring
MBRMW-1	05/18/05	24	4	13-23	Existing	Monitoring
MBRMW-2	05/18/05	26	4	14-25	Existing	Monitoring
MBRMW-3	05/17/05	21	4	10-20	Existing	Monitoring
MBRMW-4	09/29/05	31	4	15-30	Existing	Monitoring
Pond S6						
RMW-1	03/31/04	30	2	15-30	Existing	Monitoring
RMW-2	03/30/04	30	2	15-30	Existing	Monitoring
RMW-3	03/30/04	30	2	15-30	Existing	Monitoring
RMW-4	09/27/05	31	4	15-30	Existing	Monitoring
RMW-5	09/27/05	31	4	15-30	Existing	Monitoring
Central Lathrop Specific Plan (CLSP)						
CLSP-1	01/22/03	16.5	2	6.5-16.5	Existing	Monitoring
CLSP-2	01/22/03	16.5	2	6.5-16.5	Damaged	Abandon
CLSP-3	01/22/03	16.5	2	6.5-19.5	Existing	Abandon
CLSP-4	01/22/03	16.5	2	6.5-16.5	Existing	Abandon
CLSP-5	01/22/03	16.5	2	6.5-16.5	Abandoned	--
CLSP-6	01/14/03	16.5	2	6.5-16.5	Abandoned	--
CLSP-7	01/14/03	16.5	2	6.5-16.5	Abandoned	--
CLSP-8	01/14/03	16.5	2	6.5-16.5	Existing	Monitoring
CLSP-9	01/17/03	16.5	2	6.5-16.5	Existing	Monitoring

Table 3: Groundwater Monitoring Well Details and Operational Status						
Well Name	**Date Drilled**	**Well Depth (ft bgs)**	**Diameter (inches)**	**Screened Interval (ft bgs)**	**Current Status [1]**	**Proposed Use / Action**
CLSP-10	01/17/03	16	2	6-16	Existing	Monitoring
North Lathrop						
MW-N1	12/02/04	21.5	--	--	Unknown	Unknown
MW-N2	12/02/04	21.5	--	--	Unknown	Unknown
MW-N3	12/02/04	21.5	--	--	Unknown	Unknown
MW-N4	12/02/04	21.5	--	--	Unknown	Unknown
MW-N5	12/02/04	21.5	--	--	Unknown	Unknown
MW-N6	12/02/04	26.5	--	--	Unknown	Unknown
NMW-1	07/12/05	25.5	4	15.5-25.5	Unknown	Unknown
NMW-2	07/12/05	20	4	10-20	Unknown	Unknown
NMW-3	07/13/05	20	4	10-20	Unknown	Unknown
NMW-4	07/13/05	20	4	10-20	Unknown	Unknown
NMW-5	07/13/05	20	4	10-20	Unknown	Unknown
South Lathrop Specific Plan (SLSP)						
MW-S1	05/03/04	21	--	--	Unknown [4]	Unknown
MW-S2	05/03/04	21	--	--	Unknown [4]	Unknown
MW-S3	05/03/04	21	--	--	Unknown [4]	Unknown
MW-S4	05/03/04	21	--	--	Unknown [4]	Unknown
MW-S5	05/03/04	21	--	--	Unknown [4]	Unknown

[1] Status as of December 2014

[2] As documented in Monitoring Well Location Study, 13 January 2006, ENGEO.

[3] Monitoring well associated with Crossroads Wastewater Treatment Facility.[4] Condition last observed in February 2007.

Groundwater monitoring data has been collected from many of these well locations for nearly ten years or more. The resulting groundwater monitoring data illustrate high spatial and temporal variability, as reflected by the variability of shallow groundwater gradient directions and water quality. Baseline groundwater conditions were identified as impacted by salinity constituents TDS, chloride, and sulfate; along with sulfates, iron, and manganese. Groundwater pollution is likely the result of local and regional long term agricultural practices. Thus, baseline conditions were used to evaluate pre-discharge groundwater quality.

Basin Plan, Beneficial Uses, and Regulatory Considerations

Local drainage is to San Joaquin River, which is a tributary to the Sacramento-San Joaquin Delta. The beneficial uses of San Joaquin River as stated in the Basin Plan, are municipal and domestic supply; agricultural supply; industrial process supply; industrial service supply; water contact recreation; non-contact water recreation; warm freshwater habitat;

cold freshwater habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; wildlife habitat; and navigation. The beneficial uses of underlying groundwater as set forth in the Basin Plan are municipal and domestic supply, agricultural supply, industrial service supply and industrial process supply.

Antidegradation Analysis

Groundwater in the western Lathrop area has been severely compromised through a combination of long term agricultural practices and regional drainage from the Central Valley into the San Joaquin Delta. The land development areas described in this Order that receive recycled water are located in close proximity to surface water courses that influence shallow groundwater flow and water quality conditions, creating a complex hydrogeologic model.

The primary constituents of concern from the treated effluent that have the potential to degrade groundwater include salts (primarily TDS, sodium, and chloride). The presence of elevated iron and manganese in groundwater near the River Islands recycled water Use Areas indicates that reducing conditions not associated with the use of recycled water have mobilized these metals in shallow groundwater. Elevated concentrations of nitrate as nitrogen in North Lathrop are indicative of agricultural practices, as there has not been any discharge of recycled water in that area.

For TDS, sulfate, iron, manganese, and nitrate; groundwater monitoring data indicate that groundwater has not been degraded further by the discharge, and that the expanded discharge does not pose a threat of significant degradation in the future. This Order contains effluent limits that will ensure that the use of recycled water does not cause groundwater quality to get any worse. The use of recycled water at the Use Areas does not pose a threat of significant degradation because of the high quality of the effluent and the ability of landscaping and crops to consume nitrogen.

Based on the foregoing findings, this Order requires continued groundwater monitoring only for selected recycled water Use Areas that have the greatest potential to impact groundwater quality, and are of a sufficient size that such an impact will be recognizable above background conditions. Groundwater monitoring may also be required for new recycled water Use Areas, but not near existing or future lined effluent storage ponds.

This Order includes groundwater limitations that implement Resolution 68-16 and the Controllable Factors Policy as applicable. If effluent or other future monitoring data indicate an increased threat to groundwater quality, groundwater monitoring may be required in other areas at the Executive Officer’s discretion.

Discharge Prohibitions, Specification, and Provisions

This Order establishes effluent and groundwater limitations for the CTF that will not unreasonably threaten present and anticipated beneficial uses or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan.

This Order restricts influent flows to the CTF as an average dry weather flow (ADWF) of 0.75 MGD until the Discharger can demonstrate that the CTF has the treatment, storage, and disposal capacity to accommodate an ADWF of 1.0 MGD. The flow limit can be increased up to a maximum of 6.0 MGD upon approval by the Executive Officer.

This Order contains effluent limits that ensure that the discharge will not cause exceedance of a water quality objective in groundwater and comply with Title 22. This Order prescribes groundwater limitations that ensure the discharge does not affect present and anticipated future beneficial uses of groundwater.

This Order is also a Master Recycling Permit with requirements consistent with the Water Code section 13523.1, including the requirement to establish and have authority to enforce rules and/or regulations for recycled water Users governing the design and construction of recycled water use facilities and the use of recycled water in accordance with water recycling criteria established in Title 22, California Code of Regulations and this Order.

The Monitoring and Reporting Program is designed to verify compliance with effluent limitations and operational requirements of the WDRs.