

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2014-0004

WASTE DISCHARGE REQUIREMENTS

FOR
CITY OF SANGER
DOMESTIC WASTEWATER TREATMENT FACILITY
FRESNO COUNTY

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

1. The City of Sanger (City or Discharger) owns and operates largely separate Domestic and Industrial wastewater treatment facilities (WWTFs) adjacent to one another southeast of the City of Sanger. Wastewater from the individual WWTFs are not comingled. On 23 January 2006, the Discharger submitted a Wastewater Treatment Plant Master Plan (Report) to consider potential upgrades to the existing WWTFs. The Report includes a detailed description of both WWTFs and the wastewater disposal operations. The proposed improvements identified in the Report were never completed due to the economic slowdown, but the Report provides a detailed description of the existing Domestic WWTF and provides a basis for Central Valley Regional Water Quality Control Board (hereafter Central Valley Water Board) staff to update the existing Waste Discharge Requirements (WDRs). This Order (Order R5-2014-0004) only regulates discharges from the Domestic WWTF.
2. The City of Sanger owns and operates the Domestic WWTF and is responsible for compliance with these WDRs.
3. The WWTFs are southeast of the City at 333 North Avenue in Sections 25 and 26, T14S, R22E, MDB&M. Effluent from the Domestic WWTF is piped to percolation ponds, designated the Lincoln Ponds about three miles south of the WWTFs in Sections 11 and 12, T15S, R22E. Effluent from the Industrial WWTF is stored in effluent storage ponds that are adjacent the WWTFs, and used to irrigate adjacent farm land for growing fiber, seed, and fodder crops. The proximity of the WWTFs and the Lincoln Ponds with respect to the location of the City of Sanger and nearby communities are shown in Attachment A, which is attached hereto and a part of this Order.
4. WDRs Order 98-141, adopted by the Central Valley Regional Water Quality Control Board (hereafter Central Valley Water Board) on 29 June 1998, prescribes discharge requirements for the Domestic WWTF. WDRs Order 98-141 needs to be updated to reflect the current plans and policies of the Central Valley Water Board.

Existing Domestic Facility and Discharge

5. The Domestic WWTF consists of a headworks, grit chamber, two primary clarifiers, an activated sludge unit, secondary clarifiers, disinfection system, sludge thickener, anaerobic sludge digester, and a sludge holding tank. The disinfection system is currently not in use.
6. The Lincoln Ponds are part of a City owned 120 acre parcel. A 20-inch PVC pipeline conveys the effluent from the WWTF to the Lincoln Ponds. There are a total of six percolation ponds present that cover about nine acres each with a total capacity of 328 acre-feet. Three of the ponds are used for effluent disposal, and three are used only for "emergency purposes." The Lincoln Ponds are shown on Attachment B, which is attached hereto and a part of this Order.
7. Sludge is mechanically dewatered using a centrifuge, and dried onsite in lined, paved, drying beds equipped with underdrains. Decant is returned to either of the WWTFs for further treatment. Screenings and grit from the headworks screens are hauled to the local landfill for disposal. Sludge dried in the 14 paved drying beds is hauled offsite for land application at a permitted facility.
8. WDRs Order 98-141 allows for a discharge of up to 3.0 million gallons per day (mgd). The design influent average annual and maximum monthly biochemical oxygen demand (BOD) are 224 milligrams per liter (mg/L) and 276 mg/L, respectively. The design influent average annual and maximum monthly total suspended solids (TSS) concentrations are 226 mg/L and 308 mg/L, respectively.
9. Self-monitoring reports from 2011 to August 2013 indicate the effluent flow from the Domestic WWTF averages about 1.6 mgd. Monitoring and Reporting Program (MRP) 98-141 requires TSS, BOD, pH, and electrical conductivity (EC) analyses of the effluent. The Discharger monitors the effluent for nitrate as nitrogen, and provided results from 2012 through August 2013 for nitrate as nitrogen in effluent. The effluent averages of results since January 2011 (with the exception of nitrate, which starts in 2012) are shown below.

SANGER DOMESTIC WWTF – EFFLUENT QUALITY

TSS	BOD	pH	EC	Nitrate as Nitrogen
<u>mg/L</u>	<u>mg/L</u>	<u>s.u.</u> ¹	<u>umhos/cm²</u>	<u>mg/L</u>
12	5	7.3	610	29

1. s.u. = Standard pH units

2. umhos/cm = micromhos per centimeter

10. WDRs Order 98-141 includes Finding 5 which indicates several small industries will remain connected to the Domestic WWTF and that the City is in the process of developing pretreatment requirements for all industrial users. Provision E.6 of WDRs Order 98-141 requires the City to implement a pretreatment program that includes a source control program for industrial dischargers by February 1999. The City adopted

Ordinance No. 990 for Industrial Discharge Requirements in February 1999, and submitted a draft copy of its proposed Industrial Pretreatment Program in December 2001. Central Valley Water Board staff reviewed the draft of the Industrial Pretreatment Program. The City submitted an August 2004 letter including a schedule to implement its proposed Industrial Pretreatment Program. However, the Industrial Pretreatment Program was never implemented and is not being administered by the City. This Order contains Provision F.16 that puts the City on a compliance schedule to implement its Industrial Pretreatment Program within two years of the adoption of this Order.

Site-Specific Conditions

- Source water is obtained from a series of groundwater wells owned by the City of Sanger. In the following table the first number listed is the average concentration and the values within the parentheses underneath are the range of the reported results. Results from the 2010 Consumer Confidence Report for the City of Sanger included the following values:

CITY OF SANGER – SOURCE WATER QUALITY

EC	TDS¹	Chloride	Sulfate	Nitrate as Nitrogen
<u>umhos/cm</u>	<u>mg/L</u>	<u>mg/L</u>	<u>mg/L</u>	<u>mg/L</u>
275	176	7.9	22	2.7
(130 – 590)	(89 – 360)	(2.1 – 31)	(5.5 – 72)	(nd ² – 7.6)

1. TDS = Total dissolved solids.

2. nd = not detected at a concentration greater than the laboratory practical quantitation (reporting) limit.

The results indicate very good water quality and are similar to the regional and upgradient groundwater quality discussed in Findings 21 and 24, below.

- The land surface in the vicinity of the WWTF and the Lincoln Ponds is generally flat with a slight slope to the southwest. Elevation at the WWTF is about 340 feet above mean sea level. The Kings River is about three quarters of a mile east/southeast of the WWTF, and it is about one mile northeast of the Lincoln Ponds. Collins Creek, a tributary to the Kings River, is directly adjacent the eastern property boundary of the WWTFs.
- According to Federal Emergency Management Agency maps (Map Number 06019C2160H), the Domestic WWTF itself is not located within a 100-year flood plain. Collins Creek that borders the WWTFs to the east is shown as being in a Zone A flood plain, which indicates a one percent chance of flooding annually. However, the City maintains a levee between the creek and the Domestic WWTF, which protects the area from flooding. The Lincoln Ponds are not within a 100-year flood plain.
- According to the Web Soil Survey published by the United States Department of Agriculture Natural Resources Conservation Service, soils at the WWTF are comprised primarily of the Grangeville sandy loam. The Grangeville sandy loam is

described as somewhat poorly drained, has high to very high transmissivity, and is a Class 1 soil. Class 1 soils have few limitations that restrict their use.

15. Soils in the area of the Lincoln Ponds consist of nearly equal percentages of Tujunga loamy sand and the Hanford sandy loam. The Tujunga loamy sand is described as somewhat excessively drained, has high to very high transmissivity, and is a Class 4s soil. Class 4 soils have severe limitations that reduce the choice of plants grown or require very careful management. The “s” subclass indicates the soil is limited mainly because it is shallow, droughty, or stony. The Hanford sandy loam is described as well drained, has high transmissivity, and is a Class 2s to 4s soil. Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.
16. According to the Department of Water Resources Land Use Map survey of Eastern Fresno County in 2009, the primary land uses in the vicinity of the site are: vineyards; deciduous fruits and nuts – primarily peaches, nectarines, and almonds; alfalfa; and oranges.
17. The Sanger area is characterized as semi-arid with hot dry summers and cool winters. Annual precipitation in the vicinity of the WWTF averages approximately 10 inches, the 100-year total annual precipitation is approximately 23 inches, and the reference evapotranspiration rate is approximately 53 inches per year.

Groundwater Conditions

18. Groundwater in the area occurs at various depths within an unconfined aquifer. The depth to water in the unconfined aquifer in the area of the WWTF is approximately 40 feet below the ground surface (bgs), according to information in *Lines of Equal Elevation of Water in Wells in Unconfined Aquifer*, published by DWR, Spring 2010. Regional flow of the unconfined aquifer is generally to the southwest.
19. The six wells, MW-1 through MW-6, that make up the City’s groundwater monitoring network have gone dry. Provision F.21 requires the City to submit a work plan to replace the currently dry groundwater monitoring well network and a time schedule for the wells to be installed within 12 months from the adoption date of this Order.
20. Finding 10 of WDRs Order 98-141 contains average results for EC and nitrate as nitrogen from groundwater samples collected in the Lincoln Ponds disposal area in 1996 and 1997. The average EC was listed as 220 umhos/cm, while the average nitrate as nitrate concentration was listed as 14 mg/L, which corresponds to a nitrate as nitrogen value of about 3.2 mg/L.
21. Regional groundwater quality data can be found on the Water Quality Portal web site, a cooperative service provided by the United States Geological Survey (USGS), the Environmental Protection Agency, and the National Water Quality Monitoring Council. A review of the USGS files indicates 18 well sites (some with more than one well present) are within a five mile radius of the WWTF. Total well depth information

(measured in feet below the ground surface [bgs]) and water quality data was available from four nearby well sites (USGS wells 363852119305201, 363914119335801, 364035119265401, and 364004119341201) from July 1987 to April 2013 and the averages are shown on the following table. Well 363852119305201 is about a mile east and upgradient of the Lincoln Ponds. Wells 363914119335801 and 364004119341201 are about two and three miles, respectively, west and downgradient of the Lincoln Ponds. Well 364035119265401 is about 4 miles east and upgradient of the Lincoln Ponds. All of the samples were collected on a single date, but some of the results are the averages of numerous results recorded on the day of sampling. A result listed by itself is a single sample result, while a value listed above results in parentheses, is the average result with the range of the results shown below in the parentheses.

REGIONAL GROUNDWATER RESULTS

Parameters	Well Number			
	<u>363852119305201</u>	<u>363914119335801</u>	<u>364004119341201</u>	<u>364035119265401</u>
Well Depth (feet bgs)	150	70	43	147
EC (umhos/cm)	278 (232 – 323)	584	451 (350 – 600)	331 (321 – 341)
TDS (mg/L)	169	na	na	237
Chloride (mg/L)	3.1	na	50 (30 – 85)	21
Sulfate (mg/L)	23	na	na	4
Nitrate as Nitrogen (mg/L)	6.4	na	4.6 (4.2 – 5.3)	3.5

Regional results are slightly higher than the 1996 and 1997 groundwater results from the area of the Lincoln Ponds (Finding 20), but are similar to results and ranges for the source water results discussed in Finding 11.

22. The City has installed a six well groundwater monitoring network around the Lincoln Ponds. The depth to water has ranged from about 20 feet bgs to currently as deep as 45 feet bgs. The primary direction of groundwater flow is to the southeast with flows to the east and south depending upon mounding and the presence of water in an adjacent unlined irrigation canal (Harp Ditch) that is operated by the Consolidated Irrigation District.
23. Monitoring wells MW-1 through MW-4 were installed in October 1996. MW-1 and MW-2 were installed as background wells with MW-3 and MW-4 intended as downgradient wells. WDRs Order 98-141 required additional evaluation of the groundwater monitoring well network, and MW-5 and MW-6 were installed as downgradient wells in 1998. While MW-1 was installed as a background well, it was set along the northern edge of the Lincoln Ponds and is affected by the discharge from the Domestic WWTF. MW-2 was installed within 50 feet from the unlined Harp

Ditch and the well is influenced by the ditch water. As noted in Finding 20, baseline EC and nitrate results collected in 1996 and 1997, reflect background groundwater quality prior to the discharge of effluent from the Domestic WWTF to the Lincoln Ponds.

24. The City also has a second six well groundwater monitoring network in place around both the Domestic WWTF and Industrial WWTF, and the land application areas used for the recycling of the Industrial effluent. Wells MW-101 and MW-102 provide monitoring that represents local groundwater quality unaffected by the discharges of waste, the results of which are consistent with data collected at the Lincoln Ponds in 1996. The averages of results since 2000 are presented on the following table.

UPGRADIENT GROUNDWATER RESULTS

<u>Well</u>	<u>TDS</u>	<u>EC</u>	<u>Bicarbonate</u>	<u>Calcium</u>	<u>Sodium</u>	<u>Chloride</u>	<u>Nitrate as Nitrogen</u>
	<u>mg/L</u>	<u>umhos/cm</u>	<u>mg/L</u>	<u>mg/L</u>	<u>mg/L</u>	<u>mg/L</u>	<u>mg/L</u>
MW-101	117	167	60	18	6.9	3.2	2.4
MW-102	152	234	98	24	7.5	4.6	2.2

25. The averages of groundwater analytical results from samples collected from the existing six-well groundwater monitoring well network around the Lincoln Ponds from November 2000 through August 2013 are summarized in the following table.

GROUNDWATER RESULTS

<u>Well</u>	<u>TDS</u>	<u>EC</u>	<u>Bicarbonate</u>	<u>Calcium</u>	<u>Sodium</u>	<u>Chloride</u>	<u>Nitrate as Nitrogen</u>
	<u>mg/L</u>	<u>umhos/cm</u>	<u>mg/L</u>	<u>mg/L</u>	<u>mg/L</u>	<u>mg/L</u>	<u>mg/L</u>
MW-1	392	576	113	37	53	49	16
MW-2	82	95	21	8	6	12	5
MW-3	185	273	38	13	28	31	12
MW-4	357	543	110	48	33	40	18
MW-5	430	672	116	34	73	62	18
MW-6	411	635	87	23	71	61	18

26. The results indicate that the discharge from the Domestic WWTF has degraded groundwater with respect to TDS, EC, sodium, and chloride, but that the degradation has generally not exceeded water quality objectives. The results also indicate the discharge from the Domestic WWTF has polluted groundwater with nitrate as nitrogen. Nitrate as nitrogen averages exceed the Primary Maximum Contaminant level (MCL) of 10 mg/L in all but MW-2.
27. MW-3 is a downgradient well, but it is situated on the downgradient edge of one of the “emergency use ponds” that is typically not used for the disposal of wastewater. MW-3 is about 200 feet from the Harp Ditch. MW-3 is affected by the discharge from the WWTF when the flow direction is in a more southerly direction and when the Harp Ditch does not contain water. Nitrate as nitrogen concentrations in MW-3 averaged 24.5 mg/L in 2006 and 2007, but the results have been less than the MCL of 10 mg/L

for nitrate as nitrogen since 2008 and have averaged 3.5 mg/L during that time period. Nitrate as nitrogen results from MW-4 through MW-6 routinely exceed the MCL of 10 mg/L and have since September 2005.

Basin Plan, Beneficial Uses, and Regulatory Considerations

28. The *Water Quality Control Plan for the Tulare Lake Basin*, Second Edition, revised January 2004 (the "Basin Plan") designates beneficial uses, establishes narrative and numerical water quality objectives, contains implementation plans and policies for protecting all waters of the Basin, and incorporates, by reference, plans and policies of the State of California Water Quality Control Board. In accordance with Water Code section 13263(a), these waste discharge requirements implement the Basin Plan.
29. Surface drainage is to the southwest, but bluffs created by the river to the west of the WWTF direct local drainage south and southeast to the Kings River. The beneficial uses of this portion of the Kings River (Friant Kern to Peoples Weir), as stated in the Basin Plan, are municipal and domestic supply; agricultural supply; industrial process supply; groundwater recharge; water contact recreation; non-contact water recreation; warm freshwater habitat; and wildlife habitat.
30. The Domestic WWTF and Lincoln Ponds are in Detailed Analysis Unit 236 within the Kings Basin hydrologic unit. The Basin Plan designates the beneficial uses of underlying groundwater as municipal and domestic supply; agricultural supply; and industrial service and process supply.
31. 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.
32. The Basin Plan identifies the greatest long-term problem facing the entire Tulare Lake Basin as the increase in salinity in groundwater, which has accelerated due to the intensive use of soil and water resources by irrigated agriculture. The Basin Plan establishes several salt management requirements, including:
 - a. The incremental increase in salts from use and treatment must be controlled to the extent possible. The maximum electrical conductivity (EC) in the discharge shall not exceed the EC of the source water plus 500 umhos/cm. When the source water is from more than one source, the EC shall be a weighted average of all sources.
 - b. Discharges to areas that may recharge good quality groundwater shall not exceed an EC of 1,000 umhos/cm, a chloride content of 175 mg/L, or a boron content of 1.0 mg/L.
33. 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 municipal groundwater.

34. The Basin Plan's narrative water quality objectives for chemical constituents, at a minimum, require groundwater's designated as domestic or municipal supply to meet the MCLs specified in Title 22 of the California Code of Regulations (hereafter 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.
35. 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.
36. 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.
37. 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 umhos/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 umhos/cm if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop.
38. The list of crops in Finding 16 is not intended as a definitive inventory of crops that are or could be grown in the area where groundwater quality is potentially affected by the discharge, but it is representative of current and historical agricultural practices in the area.
39. The Central Valley Water Board is currently implementing the CV-SALTS initiative to develop a Basin Plan amendment that will establish a salt and nitrate management plan for the Central Valley. Through this effort the Basin Plan will be amended to define how the narrative water quality objectives are to be interpreted for the protection of agricultural use. If new information or evidence indicates that groundwater limitations different than those prescribed herein are appropriate, this Order will be reopened to incorporate such limits.

Antidegradation Analysis

40. 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 will not unreasonably affect present and anticipated future beneficial uses.
 - b. 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.
 - c. The discharger employs best practicable treatment or control (BPTC) to minimize degradation.
 - d. The degradation is consistent with the maximum benefit to the people of the State.
41. The Discharger has been monitoring groundwater quality at the site since 1996 prior to the use of The Lincoln Ponds. WDRs Order 98-141 did authorize some limited degradation of groundwater EC. This Order authorizes additional degradation.
42. Constituents of concern that have the potential to cause degradation of high quality waters include, in part, organics, nutrients, and salts.
 - a. The WWTF effectively reduces the influent BOD concentrations by over 97 percent (influent BOD average is 224 mg/L while the effluent average is 5 mg/L) reducing the organic load to the Lincoln Ponds and minimizing the potential for anoxic and reducing conditions in soil. These measures are expected to prevent odor and nuisance conditions and preclude the degradation of groundwater from organic loading. There were no exceedances of the BOD effluent limit observed in the effluent data review (January 2011 through August 2013).
 - b. For nitrogen, the discharge has caused pollution with nitrates as nitrogen beneath and downgradient of the Lincoln Ponds. This Order includes an effluent limit of 10 mg/L for total nitrogen to ensure that discharges to the Lincoln Ponds do not cause or contribute to the existing groundwater pollution. Provision F.19 of this Order includes a compliance schedule that requires the City to construct treatment units necessary to meet the total nitrogen effluent limit or otherwise modify the WWTF, Lincoln Ponds, and/or treatment or disposal operations to ensure compliance with groundwater limitations. Provision F.20 of this Order includes a compliance schedule that requires the City to evaluate groundwater cleanup alternatives necessary to meet the nitrate as nitrogen groundwater limit.
 - c. For salinity, the discharge with an average EC of 609 umhos/cm meets the Basin Plan limits of 500 plus source and the maximum EC of 1,000 umhos/cm for discharges to areas that may recharge good quality groundwater. The discharge may cause groundwater degradation with EC when compared to background

groundwater quality, but the discharge will not cause degradation exceeding water quality objectives.

43. This Order establishes effluent and groundwater limitations for the WWTF 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.
44. For organics and salts, current groundwater monitoring data indicates that groundwater has been degraded by the previous discharge, but the degradation has not caused exceedances of water quality objectives. The Discharger has implemented BPTC with respect to these constituents, so the degradation is allowable under Resolution 68-16.

For nitrate as nitrogen, current groundwater monitoring data indicates that the discharge has caused exceedances of the Primary MCL of 10 mg/L. The provisions of this Order require that the Discharger implement BPTC and contain a time schedule to bring the discharge into compliance with water quality objectives.

45. The Discharger provides treatment and control of the discharge that incorporates:
 - a. Screening to remove excess solids and a Vortex grit removal chamber to remove solids and grit from the waste stream.
 - b. Hauling of solids and grit offsite for disposal at an approved landfill.
 - c. Two Primary sedimentation basins to collect sludge.
 - d. Sludge removal and dewatering and drying in paved sludge drying beds equipped with underdrains to collect leachate.
 - e. Two 700,000 gallon aeration basins to reduce BOD concentrations.
 - f. Three Secondary clarifiers.
 - g. Organic loading at rates unlikely to cause unacceptable groundwater degradation.
 - h. Groundwater monitoring to monitor the impact of the discharge on groundwater.

Provision F.16 of this Order requires the City to implement an Industrial Pretreatment Program to ensure compliance with effluent and groundwater limitations.

Provision F.19 of this Order includes a compliance schedule that requires the City to construct treatment units necessary to meet the total nitrogen effluent limit or otherwise modify the Domestic WWTF, Lincoln Ponds, and/or treatment or disposal operations to ensure compliance with groundwater limitations.

Provision F.20 of this Order includes a compliance schedule that requires the City to evaluate whether the changes made to address the discharges from the ponds will be sufficient to address the impacted groundwater or whether other measures are

needed to mitigate these impacts, and will ultimately ensure that groundwater will meet the nitrate as nitrogen limit of 10 mg/L.

46. 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.

Water Recycling Regulatory Considerations

47. 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.
48. 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 Plant*. Resolution R5-2009-0028 encourages water recycling, water conservation, and regionalization of wastewater treatment facilities. It requires the municipal wastewater treatment agencies to document:
 - i. Efforts to promote new or expanded wastewater recycling opportunities and programs;
 - ii. Water conservation measures; and
 - iii. Regional wastewater management opportunities and solutions (e.g., regionalization).
49. The Discharger does not currently recycle effluent discharged from the Domestic WWTF. This Order requires the City to evaluate potential reclamation of the effluent from the Domestic WWTF. If recycling is proposed, the City will be required to submit a report of waste discharge describing the proposed discharge. In addition, a Title 22 Engineering Report will be required that requires approval by the California Department of Public Health (CDPH).

Other Regulatory Considerations

50. 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.

51. Based on the threat and complexity of the discharge, the facility is determined to be classified as 2B 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 B complexity, defined as: “Any discharger not included [as Category A] that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal) or any Class 2 or Class 3 waste management units.”

52. 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:
 - (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.

53. The discharge authorized herein and the treatment and storage facilities associated with the discharge, are exempt from the requirements of Title 27 section 20090(b) because:
 - i. the Central Valley Water Board is issuing WDRs,
 - ii. following completion of the improvements required by this Order, the discharge will be in compliance with the Basin Plan, and;
 - iii. the treated effluent discharged to the ponds does not need to be managed as hazardous waste.

54. The statistical data analysis methods of Title 27, section 20415(e) may be appropriate for determining whether the discharge complies with Groundwater Limitations specified in this Order.
55. The Discharger is not required to obtain coverage under a National Pollutant Discharge Elimination System General Industrial Storm Water Permit for the WWTF because all storm water runoff is retained onsite and does not discharge to a water of the United States.
56. 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.
57. 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 R5-2014-0004 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.

58. 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.
59. The City adopted a Final Environmental Impact Report (EIR) for the existing Domestic WWTF in June 1996 in accordance with the California Environmental Quality Act (Public Resources Code Section 21000, et seq.). Central Valley Water Board staff concurred with the findings of the Final EIR at the time, provided mitigation measures (disinfection of the secondary treated effluent and the installation of a groundwater monitoring network) were incorporated into the Final EIR.

60. As part of the proposed expansion documented in the 2006 Report, the Discharger certified a Final Environmental Impact Report (EIR) (SCH #2006051135) on 27 February 2009 in accordance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). The EIR describes the WWTF and proposed alternatives for modifications to increase the flow to 5.3 mgd, based on estimated population increases through 2035. Due to the declining economy in 2009, the proposed upgrades/changes to the WWTF have not yet been completed. The Central Valley Water Board commented on the EIR as a responsible agency.
61. The action of prescribing these WDRs, which impose regulatory requirements on the existing discharge in order to ensure the protection of groundwater resources, is exempt from the provisions of the CEQA in accordance with California Code of Regulations, title 14, section 15301, which exempts the “operation, repair, maintenance, [and] permitting ... of existing public or private structures, facilities, mechanical equipment, or topographical features” from environmental review. However, should the City choose to recycle treated wastewater from the Domestic WWTF to nearby farmlands, an additional CEQA evaluation may be required.
62. 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.
63. 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.
64. 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.
65. 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 uses.

Public Notice

66. All the above and the supplemental information and details in the attached Information Sheet were considered in establishing the following conditions of discharge.

67. 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.
68. All comments pertaining to the discharge were heard and considered in a public hearing.

IT IS HEREBY ORDERED that Order 98-141 is rescinded except for purposes of enforcement, and, pursuant to Water Code sections 13263 and 13267, the City of Sanger, 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 hazardous wastes, as that term is defined in California Code of Regulations, title 22, section 66261.1 et seq., are prohibited.
3. 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*.
4. Discharge of waste at a location or in a manner different from that described in the Findings is prohibited.
5. Discharge of toxic substances into the wastewater treatment system or land application areas such that biological treatment mechanisms are disrupted is prohibited.

B. Effluent Limitations

1. The discharge from the WWTF to the Lincoln Ponds shall not exceed the following for the constituents listed (Compliance shall be determined at EFF-001, as described in MRP R5-2014-0004):

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
Flow ¹	mgd	3.0	---
BOD	mg/L	40	80
TSS	mg/L	40	80

1. For compliance, flow shall be monitored at INF-001

2. The 12-month rolling average EC of the discharge shall not exceed the 12-month rolling average EC of the source water plus 500 umhos/cm, or a maximum of 1,000 umhos/cm, whichever is more stringent. Compliance with this effluent limitation shall be determined quarterly.
3. The monthly average concentration of total nitrogen in the discharge shall not exceed 10 mg/L, or the Discharger shall implement other measures to ensure discharges do not cause groundwater to exceed 10 mg/L of nitrate as nitrogen. The Discharger shall achieve compliance with this limit in accordance with Provision F.19.

C. Discharge Specifications

1. No waste constituent shall be released, discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations of this Order (with respect to total nitrogen in the effluent discharge, compliance with this specification shall be in accordance with Provision F.19).
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 disposal areas (Lincoln Ponds or other approved reuse areas) at all times.
4. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.
5. All conveyance, treatment, storage, and disposal 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 shall be prevented through such means as fences, signs, or acceptable alternatives.
7. Objectionable odors shall not be perceivable beyond the limits of the Domestic WWTF or Lincoln Pond property at an intensity that creates or threatens to create nuisance conditions.
8. Percolation ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the winter. 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.

9. 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.
10. 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.

D. Groundwater Limitations

1. Release of waste constituents associated with the discharge shall not cause or contribute to groundwater:
 - a. Containing constituent concentrations in excess of the concentrations specified below or natural background quality, whichever is greater:
 - (i) Nitrate as nitrogen of 10 mg/L¹.
 - (ii) For constituents identified in Title 22, the Primary and Secondary MCLs quantified therein.
 - b. Total Coliform Organisms of equal to or greater than 2.2 MPN/100 mL over any seven-day period.

¹Compliance shall be achieved in accordance with Provision F.20.

E. Solids and Sludge/Biosolids 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. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the WWTF. 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 sludge, residual sludge, solid waste, and biosolids at the WWTF shall be temporary (i.e., no longer than two years) 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. Sludge, 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, WWTFs, 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.

F. Provisions

1. The Discharger shall comply with the Standard Provisions and Reporting Requirements for Waste Discharge Requirements, dated 1 March 1991 (Standard Provisions), which are a part of this Order.
2. The Discharger shall comply with Monitoring and Reporting Program (MRP) R5-2014-0004, which is part of this Order, and any revisions thereto as adopted by the Central Valley Water Board or approved by the Executive Officer.

3. The Discharger shall keep at the WWTF office copies of this Order including its MRP, Information Sheet, Attachments, and Standard Provisions, for reference by operating personnel. Key operating personnel shall be familiar with its contents.
4. The Discharger shall not allow pollutant-free wastewater to be discharged into the WWTF collection, treatment, and disposal systems in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means storm water (i.e., inflow), groundwater (i.e., infiltration), cooling waters, and condensates that are essentially free of pollutants.
5. The Discharger must at all times properly operate and maintain its respective facilities and systems of treatment and control (and related appurtenances) that are installed or used to achieve compliance with the conditions of this Order. Proper operation and maintenance also include 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 only when the operation is necessary to achieve compliance with the conditions of the Order.
6. All technical reports and work plans required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of a person registered to practice in California pursuant to California Business and Professions Code Sections 6735, 7835, and 7835.1. As required by these laws, completed technical reports and work plans must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work. All reports required herein are required pursuant to California Water Code Section 13267.
7. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Accordingly, the Discharger shall submit to the Central Valley Water Board on or before each report due date the specified document or, if an action is specified, a written report detailing evidence of compliance with the date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter 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.
8. In the event of any change in control or ownership of land or waste treatment and storage facilities presently owned or controlled by the Discharger, the Discharger shall 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.

9. 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.
10. Effluent storage ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the winter. 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 storage capacity in the effluent storage ponds shall at least equal the volume necessary to comply with Provision F.10.
12. The Discharger shall submit the technical reports and work plans required by this Order for Central Valley Water Board staff consideration and incorporate comments they may have in a timely manner, as appropriate.
13. As a means of discerning compliance with Discharge Specification C.7, the dissolved oxygen (DO) content in the upper one foot of any wastewater pond shall not be less than 1.0 mg/L for three consecutive weekly sampling events. If the DO in any single pond is below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the findings to the Central Valley Water Board in writing within 10 days and shall include a specific plan to resolve the low DO results within 30 days.
14. 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.
15. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with this Order.
16. The City must implement an industrial pretreatment program that includes a source control program for industrial dischargers that assures compliance with

this Order. The City shall complete the following tasks no later than the dates in the following compliance schedule:

<u>Task</u>	<u>Task Description</u>	<u>Due date</u>
a.	Submit an Industrial Pretreatment Program that includes an industrial user source control program. The submittal must address the issues cited in the 8 June 2004 Central Valley Water Board staff letter commenting on the City's 18 October 2001 Industrial Pretreatment Program submittal. The Program is subject to Executive Officer approval.	8 August 2014
b.	Implement the Industrial Pretreatment Program	8 February 2016

17. The Discharger shall implement the necessary legal authorities, programs, and controls to ensure that the following incompatible wastes are not introduced to the treatment system, where incompatible wastes are:
- a. Wastes which create a fire or explosion hazard in the treatment works;
 - b. Wastes which will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0, unless the works is specially designed to accommodate such wastes;
 - c. Solid or viscous wastes in amounts which cause obstruction to flow in sewers, or which cause other interference with proper operation or treatment works;
 - d. Any waste, including oxygen demanding pollutants (BOD, etc.), released in such volume or strength as to cause inhibition or disruption in the treatment works, and subsequent treatment process upset and loss of treatment efficiency;
 - e. Heat in amounts that inhibit or disrupt biological activity in the treatment works, or that raise influent temperatures above 40 °C (104 °F), unless the treatment works is designed to accommodate such heat;
 - f. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

- g. Pollutants which result in the presence of toxic gases, vapors, or fumes within the treatment works in a quantity that may cause acute worker health and safety problems; and
 - h. Any trucked or hauled pollutants, except at points predesignated by the Discharger.
18. The Discharger shall implement the legal authorities, programs, and control necessary to ensure that indirect discharges do not introduce pollutants into the sewerage system that, either alone or in conjunction with a discharge or discharges from other sources:
- a. Flow through the system to the receiving water in quantities or concentrations that cause a violation of this Order, or
 - b. Inhibit or disrupt treatment process, treatment system operations, or sludge processes, use, or disposal and either cause a violation of this Order or prevent sludge use or disposal in accordance with this Order.
19. The Discharger shall comply with Effluent Limitation B.3 and Discharge Specification C.1 in accordance with the following compliance schedule:

<u>Task</u>	<u>Task Description</u>	<u>Due date</u>
a.	Submit a work plan and implementation schedule that identifies the specific measures the City will employ to ensure compliance with Effluent Limitation B.3 and Discharge Specification C.1 (e.g., lined storage ponds and effluent nitrogen application at agronomic rates). The work plan and implementation schedule shall be subject to the approval of the Executive Officer.	9 February 2015
b.	Begin implementation of the approved work plan and schedule.	In accordance with the approved schedule, but by no later than 8 February 2016
c.	Submit a technical report demonstrating complete implementation of the approved work plan and schedule. Upon receipt of written concurrence of Executive Officer, this provision shall be considered satisfied.	In accordance with the approved schedule, but by no later than 7 February 2020

20. The Discharger shall comply with Groundwater Limitation D.1.(i) in accordance with the following compliance schedule:

<u>Task</u>	<u>Task Description</u>	<u>Due date</u>
a.	Submit a work plan and time schedule that identifies the methods proposed for assessing the horizontal and vertical extent of nitrate nitrogen pollution in the vicinity of the Lincoln Ponds.	9 February 2015
b.	Submit a technical report that describes the horizontal and vertical extent of nitrate nitrogen pollution in the vicinity of the Lincoln Ponds. Provide an estimate of how long it will take for groundwater to meet applicable water quality objectives after the Discharger implements measures required under this Order.	In accordance with the approved schedule, but by no later than 9 February 2018
c.	Annually, submit a technical report analyzing groundwater quality and progress towards meeting applicable water quality objectives.	Annual progress report by 1 February of each year
d.	If the periodic monitoring required in Subsection c, above, indicates that it will take longer than 10 years from the adoption of this Order for groundwater to meet the nitrate as nitrogen limit of 10 mg/L, the Discharger shall submit a work plan with a compliance schedule for implementing additional measures to meet applicable water quality objectives. The proposed work plan and compliance schedule shall be subject to Executive Officer approval and may be incorporated into future Board Orders.	As required by the Executive Officer

21. The City shall at all times maintain an operational groundwater monitoring well network. If wells go dry, and remain dry for more than four consecutive quarters, or are otherwise rendered inoperable, they shall be augmented within six months of the last unsuccessful sampling event with in-kind wells drilled to monitor first encountered groundwater. The City shall obtain of replacement well locations and construction details by

submitting a technical report to the Central Valley Water Board for Executive Officer written approval. For monitoring wells 1 through 6, which have gone dry as described in Finding 19, the City shall follow the following schedule of Tasks for replacement:

<u>Task</u>	<u>Task Description</u>	<u>Due date</u>
a.	Submit a work plan for replacement groundwater monitoring wells MW-1 through MW-6.	8 April 2014
b.	Install and sample the replacement monitoring wells after receiving the Executive Officer's approval of the work plan required under Task a. The wells shall be sampled consistent with the requirements of Monitoring and Reporting Program R5-2014-0004.	9 February 2015

22. The Discharger shall evaluate land disposal options and expanded wastewater recycling and reclamation opportunities. If the evaluation shows that year-round or continuous reuse of all the wastewater is not practicable, consideration must be given to partial reuse of the flow and seasonal reuse. The City shall submit the results of its evaluation by **9 February 2015**.
23. 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.
24. 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.
25. 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.

26. 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.
27. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.
28. In the alternative to implementing Provisions F.16, F.17, and F.18 and associated monitoring requirements, the City may submit a comprehensive survey to the Board of all of the facilities that discharge non-domestic wastes into the collection system that serves the Domestic Wastewater Treatment Facility, including a demonstration that none of these facilities would threaten to introduce the incompatible wastes delineated in Provisions F.17 and F.18. This survey shall be submitted under penalty of perjury as required by the monitoring and reporting program, and shall be signed by a registered professional, as necessary. The City shall submit an updated survey to the Board by 31 January each year. The survey shall include, as a necessary component, site inspections conducted by the City to verify that incompatible wastes do not threaten to enter the collection system.

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 or with the WDRs 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 6 February 2014.

Original signed by:

PAMELA C. CREEDON, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2014-0004
FOR
CITY OF SANGER
DOMESTIC WASTEWATER TREATMENT FACILITY
FRESNO COUNTY

This Monitoring and Reporting Program (MRP) is required pursuant to California Water Code (CWC) section 13267.

The Discharger shall not implement any changes to this MRP unless and until the Central Valley Water Board adopts, or the Executive Officer issues, a revised MRP. Changes to sample location shall be established with concurrence of Central Valley Water Board staff, and a description of the revised stations shall be submitted for approval by the Executive Officer.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. All analyses shall be performed in accordance with **Standard Provisions and Reporting Requirements for Waste Discharge Requirements**, dated 1 March 1991 (Standard Provisions).

Field test instruments (such as pH) may be used provided that the operator is trained in the proper use of the instrument and each instrument is serviced and/or calibrated at the recommended frequency by the manufacturer or in accordance with manufacturer instructions.

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.

If monitoring consistently shows no significant variation in magnitude of a constituent concentration or parameter after at least 12 months of monitoring, the Discharger may request this MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency.

A glossary of terms used within this MRP is included on page 10.

The Discharger shall monitor the following locations to demonstrate compliance with the requirements of this Order:

Monitoring Location Name	Monitoring Location Description
INF-001	Location where a representative sample of the WWTF's influent can be obtained prior to any additives, treatment processes, and plant return flow.
EFF-001	Location where a representative sample of the WWTF's effluent can be obtained prior to discharge into the Lincoln Ponds.
MW-1 through MW-6	Groundwater Monitoring Wells MW-1 through MW-6 and any other wells added to the groundwater monitoring network.
SPL-001	Location where a representative sample of the City's water supply can be obtained.

INFLUENT MONITORING

Influent samples shall be collected at the inlet of the headworks at INF-001. Influent monitoring shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Continuous	Flow	mgd	Meter
Continuous	pH	pH Units	Meter
Twice Monthly	BOD ₅	mg/L	24-hour composite
Twice Monthly	TSS	mg/L	24-hour composite
Monthly	Monthly Average Daily Flow	mgd	Computed

EFFLUENT MONITORING

The Discharger shall monitor treated effluent at EFF-001 as follows. Effluent samples shall be representative of the volume and nature of the discharges. Time of collection of the samples shall be recorded. Effluent monitoring shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Continuous	Flow	mgd	Meter
Weekly	pH	pH Units	24-hour composite
Twice Monthly	EC	umhos/cm	24-hour composite
Twice Monthly	BOD ₅	mg/L	24-hour composite
Twice Monthly	TSS	mg/L	24-hour composite
Twice Monthly	Nitrate as nitrogen	mg/L	24-hour composite
Twice Monthly	TKN	mg/L	24-hour composite

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Twice Monthly	Total Nitrogen	mg/L	Computed
Twice Monthly	Ammonia	mg/L	24-hour composite
Annually	Boron	mg/L ¹	24-hour composite
Annually	Arsenic	mg/L ¹	24-hour composite
Annually	Cadmium	mg/L ¹	24-hour composite
Annually	Copper	mg/L ¹	24-hour composite
Annually	Lead	mg/L ¹	24-hour composite
Annually	Manganese	mg/L ¹	24-hour composite
Annually	Mercury	mg/L ¹	24-hour composite
Annually	Molybdenum	mg/L ¹	24-hour composite
Annually	Nickel	mg/L ¹	24-hour composite
Annually	Selenium	mg/L ¹	24-hour composite
Annually	Zinc	mg/L ¹	24-hour composite
Annually	General Minerals	mg/L ¹	24-hour composite

¹ mg/L or ug/L, as appropriate.

POND MONITORING

Effluent pond monitoring shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Weekly ¹	DO	mg/L ²	Grab
Weekly	Freeboard	Feet ³	Observation

¹ Measured between 8:00 and 9:00 am on the day of sample collection

² DO sample collected from within the upper one foot of all wastewater ponds containing effluent opposite the pond inlets.

³ To nearest tenth of a foot

Permanent markers (e.g., staff gauges) shall be placed in storage ponds. The markers shall have calibrations indicating water level at the design capacity and available operational freeboard.

The Discharger shall inspect the condition of the storage ponds once per week and write visual observations in a bound logbook. Notations shall include observations of whether weeds are developing in the water or along the bank, and their location; whether dead algae, vegetation, scum, or debris are accumulating on the storage pond surface and their location; whether burrowing animals or insects are present; and the color of the reservoirs (e.g., dark green, dull green, yellow, gray, tan, brown, etc.).

GROUNDWATER MONITORING

After measuring water levels and prior to collecting samples, each monitoring well (MW-1 through MW-6) shall be adequately purged to remove water that has been standing within the well screen and casing that may not be chemically representative of formation water. Depending on the hydraulic conductivity of the geologic setting, the volume removed during

purging is typically from 3 to 5 volumes of the standing water within the well casing and screen, or additionally the filter pack pore volume.

The Discharger shall monitor all wells in its Groundwater Monitoring Network, and any additional wells installed pursuant to this MRP, for the following:

<u>Frequency</u> ¹	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Quarterly/Semiannual	Depth to Groundwater	Feet ²	Measured
Quarterly/Semiannual	Groundwater Elevation	Feet ³	Computed
Quarterly/Semiannual	pH	pH Units	Grab
Quarterly/Semiannual	EC	umhos/cm	Grab
Quarterly/Semiannual	Nitrate as nitrogen	mg/L	Grab
Quarterly/Semiannual	TKN	mg/L	Grab
Quarterly/Semiannual	Ammonia	mg/L	Grab
Quarterly/Semiannual	Total Nitrogen	mg/L	Computed
Quarterly/Semiannual	General Minerals	mg/L	Grab

1. Newly installed groundwater monitoring wells will be sampled quarterly for a period of one year, and semiannually (twice/year) after 4 quarters of sampling data have been collected. If existing wells re-water due to a rise in the groundwater table, they shall be monitored semiannually.
2. To the nearest hundredth of a foot.
3. To the nearest hundredth of a foot above Mean Sea Level.

SOURCE WATER MONITORING

The Discharger shall monitor its source water, collect samples at SPL-1, and analyze them for the specified constituents shown on the following table.

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Quarterly	EC	mg/L	Computed average
Annually	General Minerals	mg/L	Computed average

SLUDGE/BIOSOLIDS MONITORING

Sludge and/or biosolids shall be sampled for the following constituents:

Arsenic	Lead	Nickel
Cadmium	Mercury	Selenium
Copper	Molybdenum	Zinc
Organic Nitrogen	Ammonia Nitrogen	Total Solids

Monitoring shall be conducted as required in Title 40 of the Code of Federal Regulations (40 CFR), Part 503.8(b)(4). The constituents listed above shall be monitored at the following frequency, depending on volume of sludge generated:

<u>Volume Generated (dry metric tons/year)</u>	<u>Frequency</u>
0 to 290	Annually
290 to 1,500	Quarterly
1,500 to 15,000	Bimonthly (six samples per year)
Greater than 15,000	Monthly

The Discharger shall demonstrate that treated sludge (i.e., biosolids) meets Class A or Class B pathogen reduction levels by one of the methods listed in 40 CFR, Part 503.32.

The Discharger shall track and keep records of the operational parameters used to achieve Vector Attraction Reduction requirements in 40 CFR, Part 503.33(b).

INDUSTRIAL PRETREATMENT PROGRAM MONITORING

The Discharger shall submit an annual report to the Central Valley Water Board, describing the Discharger's pretreatment activities over the previous 12 months. In the event that the Discharger is not in compliance with any conditions or requirements of this Order, the Discharger shall include the reasons for noncompliance and state how and when the Discharger shall comply with such conditions and requirements. This annual report shall be submitted by 28 February and shall contain, but not limited to items E.7.a through E.7.j of Standard Provisions dated 1 March 1991 (Standard Provisions).

In addition to the information required in the annual report, the Discharger shall report quarterly the information in E.7.d (1) through (7) of Standard Provisions. Quarterly reports shall also describe progress towards compliance with audit or pretreatment compliance inspection requirements. Quarterly reports shall be submitted by 1st day of the second month following the end of each quarter. The fourth quarterly report may be included as part of the annual report. If none of the aforementioned conditions exists, at a minimum, the Discharger must submit a letter certifying that all industries are in compliance and no violations or changes to the pretreatment program have occurred during the quarter.

REPORTING

All monitoring results shall be reported in **Quarterly Monitoring Reports**, which are due by the first day of the second month after the calendar quarter. Therefore, monitoring reports are due as follows:

- First Quarter Monitoring Report: **1 May**
- Second Quarter Monitoring Report: **1 August**
- Third Quarter Monitoring Report: **1 November**
- Fourth Quarter Monitoring Report: **1 February.**

A transmittal letter shall accompany each monitoring report. The transmittal letter shall discuss any violations that occurred during the reporting period and all actions taken or

planned for correcting violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions or a time schedule for implementing the corrective actions, reference to the previous correspondence is satisfactory.

The following information is to be included on all monitoring reports, as well as report transmittal letters:

City of Sanger
Sanger Domestic WWTF
MRP Order R5-2014-0004
Chief Plant Operator
Phone Number
E-Mail Address

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner that illustrates clearly, whether the Discharger complies with waste discharge requirements.

In addition to the details specified in Standard Provision C.3, monitoring information shall include the method detection limit (MDL) and the Reporting limit (RL) or practical quantitation limit (PQL). If the regulatory limit for a given constituent is less than the RL (or PQL), then any analytical results for that constituent that are below the RL (or PQL) but above the MDL shall be reported and flagged as estimated.

Laboratory analysis reports do not need to be included in the monitoring reports; however, the laboratory reports must be retained for a minimum of three years in accordance with Standard Provision C.3.

All monitoring reports shall comply with the signatory requirements in Standard Provision B.3. Monitoring data or discussions submitted concerning WWTF performance must also be signed and certified by the chief plant operator. If the chief plant operator is not in direct line of supervision of the laboratory function for a Discharger conducting any of its own analyses, reports must also be signed and certified by the chief of the laboratory.

All monitoring reports that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1.

A. All Quarterly Monitoring Reports shall include the following:

Wastewater Reporting:

1. The results of influent and effluent monitoring specified on pages 2 and 3.

2. For each month of the quarter, calculation of the maximum daily flow and the monthly average flow.
3. For each month of the quarter, calculation of the 12-month rolling average EC of the discharge using the EC value for that month averaged with the EC values for the previous 11 months.
4. For each month of the quarter, calculation of the monthly average effluent BOD and TSS concentrations, and calculation of the percent removal of BOD and TSS compared to the influent.
5. A summary of the notations made in the pond monitoring log during each quarter. The entire contents of the log for the reporting period do not need to be submitted.

Pond Monitoring Reporting

1. The results of the monitoring specified on page 3.

Groundwater Reporting:

1. The results of groundwater monitoring specified on pages 3 and 4.
2. For each monitoring well, a table showing constituent concentrations for the last five quarters, up through the current quarter.
3. A groundwater contour map based on groundwater elevations for that quarter. The map shall show the gradient and direction of groundwater flow under/around the facility and/or effluent disposal area(s). The map shall also include the locations of monitoring wells and wastewater storage and discharge areas.

Source Water Reporting

1. For each quarter, calculation of average EC of the source water for the most recent four quarters.

Pretreatment Reporting

1. For each quarter, a report describing the compliance status of any industrial user per the requirements of item E.7.d of the Standard Provisions.

B. Fourth Quarter Monitoring Reports, in addition to the above, shall include the following:

Wastewater Treatment Facility Information:

1. The names, certificate grades, and general responsibilities of all persons in charge of wastewater treatment and disposal.
2. The names and telephone numbers of persons to contact regarding the WWTF for emergency and routine situations.
3. A statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibrations (Standard Provision C.4).

4. A statement whether the current operation and maintenance manual, sampling plan, nutrient management plan, and contingency plan, reflect the WWTF as currently constructed and operated, and the dates when these documents were last reviewed for adequacy.

Sludge/Biosolids sampling records shall be retained for a minimum of five years. A log shall be kept of sludge quantities generated and of handling, application, and disposal activities. The frequency of entries is discretionary; however, the log should be complete enough to serve as a basis to report sludge monitoring. Sludge reporting shall include:

1. The results of sludge monitoring specified on page 4 and 5.
2. The amount of sludge generated that year, in dry metric tons, and the amount accumulated from previous years.
3. Demonstrations of pathogen reduction methods and vector attraction reduction methods, as described in 40 CFR Parts 503.17 and 503.27, and certifications.
4. A description of disposal methods, including the following information related to the disposal methods used at the WWTF. If more than one method is used, include the percentage of sludge production disposed of by each method.
 - a. For landfill disposal, include: the name and location of the landfill receiving the sludge, and the Order number of WDRs that regulate it.
 - b. For land application, include: the location of the site, and the Order number of any WDRs that regulate it.
 - c. For incineration, include: the name and location of the site where sludge incineration occurs, the Order number of WDRs that regulate the site, the disposal method of ash, and the name and location of the facility receiving ash (if applicable).
 - d. For composting, include: the location of the site, and the Order number of any WDRs that regulate it.

Pretreatment Information

1. A discussion of Upset, Interference, or Pass Through incidents, if any, at the Domestic WWTF which the Discharger knows or suspects were caused by industrial users of the system.
2. The cumulative number of industrial users that the Discharger has notified regarding Baseline Monitoring Reports and the cumulative number of industrial user responses.
3. An updated list of the Discharger's industrial users including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The Discharger shall provide a brief explanation for each deletion.
4. A summary of the inspection and sampling activities conducted by the Discharger during the past year to gather information and data regarding the industrial users.

5. A summary of the compliance and enforcement activities during the past year. The summary shall include the names and addresses of the industrial users affected by the following actions:
 - a. Warning letters or notices of violation regarding the industrial user's apparent noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the apparent violation concerned the federal categorical standards or local discharge limitations;
 - b. Administrative Orders regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations;
 - c. Civil actions regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations;
 - d. Criminal actions regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations;
 - e. Assessment of monetary penalties. For each industrial user identify the amount of the penalties;
 - f. Restriction of flow to the treatment plant; or
 - g. Disconnection from discharge to the treatment plant.

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

Original signed by:

Ordered by:

PAMELA C. CREEDON, Executive Officer

6 February 2014

(Date)

GLOSSARY

BOD ₅	Five-day biochemical oxygen demand		
CBOD	Carbonaceous BOD		
DO	Dissolved oxygen		
EC	Electrical conductivity at 25° C		
FDS	Fixed dissolved solids		
NTU	Nephelometric turbidity unit		
TKN	Total Kjeldahl nitrogen		
TDS	Total dissolved solids		
TSS	Total suspended solids		
Continuous	The specified parameter shall be measured by a meter continuously.		
24-Hour Composite	Unless otherwise specified or approved, samples shall be a flow-proportioned composite consisting of at least eight aliquots.		
Daily	Samples shall be collected every day.		
Twice Weekly	Samples shall be collected at least twice per week on non-consecutive days.		
Weekly	Samples shall be collected at least once per week.		
Twice Monthly	Samples shall be collected at least twice per month during non-consecutive weeks.		
Monthly	Samples shall be collected at least once per month.		
Bimonthly	Samples shall be collected at least once every two months (i.e., six times per year) during non-consecutive months		
Quarterly	Samples shall be collected at least once per calendar quarter. Unless otherwise specified or approved, samples shall be collected in January, April, July, and October.		
Semiannually	Samples shall be collected at least once every six months (i.e., two times per year). Unless otherwise specified or approved, samples shall be collected in April and October.		
Annually	Samples shall be collected at least once per year. Unless otherwise specified or approved, samples shall be collected in October.		
mg/L	Milligrams per liter		
mL/L	Milliliters [of solids] per liter		
µg/L	Micrograms per liter		
µmhos/cm	Micromhos per centimeter		
mgd	Million gallons per day		
MPN/100 mL	Most probable number [of organisms] per 100 milliliters		
General Minerals	Analysis for General Minerals shall include at least the following:		
	Alkalinity	Chloride	Sodium
	Bicarbonate	Hardness	Sulfate
	Calcium	Magnesium	TDS
	Carbonate	Potassium	
	General Minerals analyses shall be accompanied by documentation of cation/anion balance.		

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

STANDARD PROVISIONS AND REPORTING REQUIREMENTS
FOR
WASTE DISCHARGE REQUIREMENTS

1 March 1991

A. General Provisions:

1. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, or protect the Discharger from liabilities under federal, state, or local laws. This Order does not convey any property rights or exclusive privileges.
2. The provisions of this Order are severable. If any provision of this Order is held invalid, the remainder of this Order shall not be affected.
3. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
 - a. Violation of any term or condition contained in this Order;
 - b. Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts;
 - c. A change in any condition that results in either a temporary or permanent need to reduce or eliminate the authorized discharge;
 - d. A material change in the character, location, or volume of discharge.
4. Before making a material change in the character, location, or volume of discharge, the discharger shall file a new Report of Waste Discharge with the Regional Board. A material change includes, but is not limited to, the following:
 - a. An increase in area or depth to be used for solid waste disposal beyond that specified in waste discharge requirements.
 - b. A significant change in disposal method, location or volume, e.g., change from land disposal to land treatment.
 - c. The addition of a major industrial, municipal or domestic waste discharge facility.
 - d. The addition of a major industrial waste discharge to a discharge of essentially domestic sewage, or the addition of a new process or product by an industrial facility resulting in a change in the character of the waste.

Waste Discharge to Land

5. Except for material determined to be confidential in accordance with California law and regulations, all reports prepared in accordance with terms of this Order shall be available for public inspection at the offices of the Board. Data on waste discharges, water quality, geology, and hydrogeology shall not be considered confidential.
6. The discharger shall take all reasonable steps to minimize any adverse impact to the waters of the state resulting from noncompliance with this Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature and impact of the noncompliance.
7. The discharger shall maintain in good working order and operate as efficiently as possible any facility, control system, or monitoring device installed to achieve compliance with the waste discharge requirements.
8. The discharger shall permit representatives of the Regional Board (hereafter Board) and the State Water Resources Control Board, upon presentations of credentials, to:
 - a. Enter premises where wastes are treated, stored, or disposed of and facilities in which any records are kept,
 - b. Copy any records required to be kept under terms and conditions of this Order,
 - c. Inspect at reasonable hours, monitoring equipment required by this Order, and
 - d. Sample, photograph and video tape any discharge, waste, waste management unit, or monitoring device.
9. For any electrically operated equipment at the site, the failure of which would cause loss of control or containment of waste materials, or violation of this Order, the discharger shall employ safeguards to prevent loss of control over wastes. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means.
10. The fact that it would have been necessary to halt or reduce the permitted activity in Order to maintain compliance with this Order shall not be a defense for the discharger's violations of the Order.
11. Neither the treatment nor the discharge shall create a condition of nuisance or pollution as defined by the California Water Code, Section 13050.
12. The discharge shall remain within the designated disposal area at all times.

B. General Reporting Requirements:

1. In the event the discharger does not comply or will be unable to comply with any prohibition or limitation of this Order for any reason, the discharger shall notify the Board by telephone at **(916) 464-3291** [*Note: Current phone numbers for all three Regional Board offices may be found on the internet at http://www.swrcb.ca.gov/rwqcb5/contact_us.*] as soon as it or its agents

Waste Discharge to Land

have knowledge of such noncompliance or potential for noncompliance, and shall confirm this notification in writing within **two weeks**. The written notification shall state the nature, time and cause of noncompliance, and shall include a timetable for corrective actions.

2. The discharger shall have a plan for preventing and controlling accidental discharges, and for minimizing the effect of such events.

This plan shall:

- a. Identify the possible sources of accidental loss or leakage of wastes from each waste management, treatment, or disposal facility.
- b. Evaluate the effectiveness of present waste management/treatment units and operational procedures, and identify needed changes of contingency plans.
- c. Predict the effectiveness of the proposed changes in waste management/treatment facilities and procedures and provide an implementation schedule containing interim and final dates when changes will be implemented.

The Board, after review of the plan, may establish conditions that it deems necessary to control leakages and minimize their effects.

3. All reports shall be signed by persons identified below:
 - a. For a corporation: by a principal executive officer of at least the level of senior vice-president.
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor.
 - c. For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected or appointed official.
 - d. A duly authorized representative of a person designated in 3a, 3b or 3c of this requirement if;
 - (1) the authorization is made in writing by a person described in 3a, 3b or 3c of this provision;
 - (2) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a waste management unit, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - (3) the written authorization is submitted to the Board

Waste Discharge to Land

Any person signing a document under this Section shall make the following certification:

“I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of the those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”

4. Technical and monitoring reports specified in this Order are requested pursuant to Section 13267 of the Water Code. Failing to furnish the reports by the specified deadlines and falsifying information in the reports, are misdemeanors that may result in assessment of civil liabilities against the discharger.
5. The discharger shall mail a copy of each monitoring report and any other reports required by this Order to:

California Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670-6114

Note: Current addresses for all three Regional Board offices may be found on the internet at http://www.swrcb.ca.gov/rwqcb5/contact_us.

or the current address if the office relocates.

C. Provisions for Monitoring:

1. All analyses shall be made in accordance with the latest edition of: (1) *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA 600 Series) and (2) *Test Methods for Evaluating Solid Waste* (SW 846-latest edition). The test method may be modified subject to application and approval of alternate test procedures under the Code of Federal Regulations (40 CFR 136).
2. Chemical, bacteriological, and bioassay analysis shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the discharger, analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Board staff. The Quality Assurance-Quality Control Program must conform to EPA guidelines or to procedures approved by the Board.

Unless otherwise specified, all metals shall be reported as Total Metals.

3. The discharger shall retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to

Waste Discharge to Land

complete the application for this Order. Records shall be maintained for a minimum of three years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive Officer.

Record of monitoring information shall include:

- a. the date, exact place, and time of sampling or measurements,
 - b. the individual(s) who performed the sampling of the measurements,
 - c. the date(s) analyses were performed,
 - d. the individual(s) who performed the analyses,
 - e. the laboratory which performed the analysis,
 - f. the analytical techniques or methods used, and
 - g. the results of such analyses.
4. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated at least yearly to ensure their continued accuracy.
 5. The discharger shall maintain a written sampling program sufficient to assure compliance with the terms of this Order. Anyone performing sampling on behalf of the discharger shall be familiar with the sampling plan.
 6. The discharger shall construct all monitoring wells to meet or exceed the standards stated in the State Department of Water Resources *Bulletin 74-81* and subsequent revisions, and shall comply with the reporting provisions for wells required by Water Code Sections 13750 through 13755.22

D. Standard Conditions for Facilities Subject to California Code of Regulations, Title 23, Division 3, Chapter 15 (Chapter 15)

1. All classified waste management units shall be designed under the direct supervision of a California registered civil engineer or a California certified engineering geologist. Designs shall include a Construction Quality Assurance Plan, the purpose of which is to:
 - a. demonstrate that the waste management unit has been constructed according to the specifications and plans as approved by the Board.
 - b. provide quality control on the materials and construction practices used to construct the waste management unit and prevent the use of inferior products and/or materials which do not meet the approved design plans or specifications.
2. Prior to the discharge of waste to any classified waste management unit, a California registered civil engineer or a California certified engineering geologist must certify that the waste management unit meets the construction or prescriptive standards and performance goals in Chapter 15, unless an engineered alternative has been approved by the Board. In the case of an engineered alternative, the registered civil engineer or a certified engineering geologist must

Waste Discharge to Land

certify that the waste management unit has been constructed in accordance with Board-approved plans and specifications.

3. Materials used to construct liners shall have appropriate physical and chemical properties to ensure containment of discharged wastes over the operating life, closure, and post-closure maintenance period of the waste management units.
4. Closure of each waste management unit shall be performed under the direct supervision of a California registered civil engineer or a California certified engineering geologist.

E. Conditions Applicable to Discharge Facilities Exempted from Chapter 15 Under Section 2511

1. If the discharger's wastewater treatment plant is publicly owned or regulated by the Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to California Code of Regulations, Title 23, Division 4, Chapter 14.
2. By-pass (the intentional diversion of waste streams from any portion of a treatment facility, except diversions designed to meet variable effluent limits) is prohibited. The Board may take enforcement action against the discharger for by-pass unless:
 - a. (1) By-pass was unavoidable to prevent loss of life, personal injury, or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a by-pass. Severe property damage does not mean economic loss caused by delays in production); and
 - (2) There were no feasible alternatives to by-pass, such as the use of auxiliary treatment facilities or retention of untreated waste. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a by-pass that would otherwise occur during normal periods of equipment downtime or preventive maintenance; or
 - b. (1) by-pass is required for essential maintenance to assure efficient operation; and
 - (2) neither effluent nor receiving water limitations are exceeded; and
 - (3) the discharger notifies the Board ten days in advance.

The permittee shall submit notice of an unanticipated by-pass as required in paragraph B.1. above.

3. A discharger that wishes to establish the affirmative defense of an upset (see definition in E.6 below) in an action brought for noncompliance shall demonstrate, through properly signed, contemporaneous operating logs, or other evidence, that:

Waste Discharge to Land

- a. an upset occurred and the cause(s) can be identified;
- b. the permitted facility was being properly operated at the time of the upset;
- c. the discharger submitted notice of the upset as required in paragraph B.1. above; and
- d. the discharger complied with any remedial measures required by waste discharge requirements.

In any enforcement proceeding, the discharger seeking to establish the occurrence of an upset has the burden of proof.

4. 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 Board by **31 January**.
5. Effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to disposal. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.
6. Definitions
 - a. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper action.
 - b. The monthly average discharge is the total discharge by volume during a calendar month divided by the number of days in the month that the facility was discharging. This number is to be reported in gallons per day or million gallons per day.

Where less than daily sampling is required by this Order, the monthly average shall be determined by the summation of all the measured discharges by the number of days during the month when the measurements were made.
 - c. The monthly average concentration is the arithmetic mean of measurements made during the month.
 - d. The "daily maximum" **discharge** is the total discharge by volume during any day.

Waste Discharge to Land

- e. The “daily maximum” **concentration** is the highest measurement made on any single discrete sample or composite sample.
- f. A “grab” sample is any sample collected in less than 15 minutes.
- g. Unless otherwise specified, a composite sample is a combination of individual samples collected over the specified sampling period;
 - (1) at equal time intervals, with a maximum interval of one hour
 - (2) at varying time intervals (average interval one hour or less) so that each sample represents an equal portion of the cumulative flow.

The duration of the sampling period shall be specified in the Monitoring and Reporting Program. The method of compositing shall be reported with the results.

7. Annual Pretreatment Report Requirements:

Applies to dischargers required to have a Pretreatment Program as stated in waste discharge requirements.)

The annual report shall be submitted **by 28 February** and include, but not be limited to, the following items:

- a. A summary of analytical results from representative, flow-proportioned, 24-hour composite sampling of the influent and effluent for those pollutants EPA has identified under Section 307(a) of the Clean Water Act which are known or suspected to be discharged by industrial users.

The discharger is not required to sample and analyze for asbestos until EPA promulgates an applicable analytical technique under 40 CFR (Code of Federal Regulations) Part 136. Sludge shall be sampled during the same 24-hour period and analyzed for the same pollutants as the influent and effluent sampling analysis. The sludge analyzed shall be a composite sample of a minimum of 12 discrete samples taken at equal time intervals over the 24-hour period. Wastewater and sludge sampling and analysis shall be performed at least annually. The discharger shall also provide any influent, effluent or sludge monitoring data for nonpriority pollutants which may be causing or contributing to Interference, Pass Through or adversely impacting sludge quality. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto.

- b. A discussion of Upset, Interference, or Pass Through incidents, if any, at the treatment plant which the discharger knows or suspects were caused by industrial users of the system. The discussion shall include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of the industrial user(s) responsible. The discussion shall also include a review of the applicable pollutant limitations to determine whether any

Waste Discharge to Land

additional limitations, or changes to existing requirements, may be necessary to prevent Pass Through, Interference, or noncompliance with sludge disposal requirements.

- c. The cumulative number of industrial users that the discharger has notified regarding Baseline Monitoring Reports and the cumulative number of industrial user responses.
- d. An updated list of the discharger's industrial users including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The discharger shall provide a brief explanation for each deletion. The list shall identify the industrial users subject to federal categorical standards by specifying which set(s) of standards are applicable. The list shall indicate which categorical industries, or specific pollutants from each industry, are subject to local limitations that are more stringent than the federal categorical standards. The discharger shall also list the noncategorical industrial users that are subject only to local discharge limitations. The discharger shall characterize the compliance status through the year of record of each industrial user by employing the following descriptions:
 - (1) Complied with baseline monitoring report requirements (where applicable);
 - (2) Consistently achieved compliance;
 - (3) Inconsistently achieved compliance;
 - (4) Significantly violated applicable pretreatment requirements as defined by 40 CFR 403.8(f)(2)(vii);
 - (5) Complied with schedule to achieve compliance (include the date final compliance is required);
 - (6) Did not achieve compliance and not on a compliance schedule;
 - (7) Compliance status unknown.

A report describing the compliance status of any industrial user characterized by the descriptions in items (d)(3) through (d)(7) above shall be **submitted quarterly from the annual report date** to EPA and the Board. The report shall identify the specific compliance status of each such industrial user. This quarterly reporting requirement shall commence upon issuance of this Order.

- e. A summary of the inspection and sampling activities conducted by the discharger during the past year to gather information and data regarding the industrial users. The summary shall include but not be limited to, a tabulation of categories of dischargers that were inspected and sampled; how many and how often; and incidents of noncompliance detected.

Waste Discharge to Land

- f. A summary of the compliance and enforcement activities during the past year. The summary shall include the names and addresses of the industrial users affected by the following actions:
- (1) Warning letters or notices of violation regarding the industrial user's apparent noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the apparent violation concerned the federal categorical standards or local discharge limitations;
 - (2) Administrative Orders regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations;
 - (3) Civil actions regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations;
 - (4) Criminal actions regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
 - (5) Assessment of monetary penalties. For each industrial user identify the amount of the penalties;
 - (6) Restriction of flow to the treatment plant; or
 - (7) Disconnection from discharge to the treatment plant.
- g. A description of any significant changes in operating the pretreatment program which differ from the discharger's approved Pretreatment Program, including, but not limited to, changes concerning: the program's administrative structure; local industrial discharge limitations; monitoring program or monitoring frequencies; legal authority of enforcement policy; funding mechanisms; resource requirements; and staffing levels.
- h. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases.
- i. A summary of public participation activities to involve and inform the public.
- j. A description of any changes in sludge disposal methods and a discussion of any concerns not described elsewhere in the report.

Duplicate signed copies of these reports shall be submitted to the Board and:

Regional Administrator
U.S. Environmental Protection Agency W-5
75 Hawthorne Street
San Francisco, CA 94105

and

State Water Resource Control Board
Division of Water Quality
P.O. Box 100
Sacramento, CA 95812

Revised January 2004 to update addresses and phone numbers

INFORMATION SHEET

ORDER R5-2014-0004
CITY OF SANGER
DOMESTIC WASTEWATER TREATMENT FACILITY
FRESNO COUNTY

The City of Sanger owns and operates both Domestic and Industrial wastewater treatment facilities. The two waste streams are for the most part separate and are not comingled. Sludge from both facilities is combined and dewatered onsite (the facilities are adjacent to one another). Discharges from the Domestic wastewater treatment facility (WWTF) are currently regulated by Waste Discharge Requirements (WDRs) Order 98-141, which allows for the discharge of up to 3.0 million gallons per day (mgd) of secondary treated wastewater to percolation basins designated the Lincoln Ponds. Discharges from the Industrial WWTF are regulated by WDR Order 98-131. The WDRs that are the subject of this Information Sheet will replace WDRs Order 98-141 and will only regulate discharges from the Domestic WWTF.

Background

The original WWTF was constructed in 1947 and it was modified in 1963 to allow for separate treatment of the industrial wastewater. Both treated domestic and industrial wastewater discharges were comingled at that time. The earliest WDRs Order for both the Domestic and Industrial WWTFs was WDRs Order 71-233, which was issued due to an upgrade of the wastewater treatment facilities and allowed a flow from the Domestic WWTF of 1.8 mgd and a flow of 1.5 mgd for the Industrial WWTF. The upgrade included requirements related to the construction of a new headworks structure, primary clarifier, aeration basins, secondary clarifiers, a digester, and sludge drying beds. WDRs Order 91-037 replaced WDRs Order 71-233 and allowed the same discharge of 1.8 mgd from the Domestic WWTF and 1.5 mgd from the Industrial WWTF.

A Cease and Desist Order (CDO) 91-038 was issued in conjunction with WDR Order 91-037, because the previous discharges from both WWTFs had caused organic and hydraulic overloading of the vadose zone and had subsequently degraded the underlying groundwater around the WWTFs. The CDO required the City to upgrade the WWTFs so the effluent would not degrade the underlying groundwater. In response, the City upgraded both of the WWTFs and provided a separate disposal site for the domestic effluent (Lincoln Ponds). The Central Valley Water Board rescinded CDO Order 91-038 on 15 January 2009.

In 1998, the Domestic WWTF was expanded and the flow increased to 3.0 mgd, while the Industrial WWTF was related to 1.3 mgd. WDRs (WDR Order 98-141 and WDR Order 98-131) were issued for each individual waste stream. WDR Order 98-141 was issued in June 1998 for the discharge of wastewater from the upgraded Domestic WWTF. The Domestic WWTF provides secondary treatment and the treated effluent is discharged to a series of percolation ponds designated the Lincoln Ponds. The Lincoln Ponds are about 3 miles south of the Domestic WWTF on the southern side of Lincoln Avenue. There are a total of six percolation ponds that cover about nine acres each. The total storage capacity is 328 acre feet. Three of the ponds are used for effluent disposal, and three are used only for "emergency purposes."

Effluent Characteristics

The City discharges about 1.6 mgd of wastewater to the Lincoln Ponds. Monitoring and Reporting Program (MRP) Order 98-141 requires the effluent to be tested for total suspended solids (TSS), biochemical oxygen demand (BOD), pH, and electrical conductivity (EC). The City tests the effluent for nitrate as nitrogen and has provided results since January 2012. The average effluent results since January 2011 through August 2013 (nitrate as nitrogen averages are from January 2012 through August 2013) are summarized in the following table.

SANGER DOMESTIC WWTF – EFFLUENT QUALITY

TSS	BOD	pH	EC	Nitrate as Nitrogen
<u>mg/L</u>	<u>mg/L</u>	<u>s.u.</u>	<u>umhos/cm</u>	<u>mg/L</u>
12	5	7.3	610	29

Nitrate as nitrogen concentrations in effluent are nearly three times the State's Primary maximum contaminant level (MCL) of 10 mg/L and are the likely cause of the elevated nitrate as nitrogen concentrations observed in monitoring wells downgradient of the Lincoln Ponds, as discussed in greater detail below.

Solids and Sludge/Biosolids Disposal

Solids removed by the Domestic WWTF bar screens and materials collected from the grit chamber are disposed of at a sanitary landfill. WDR Order 98-144 contains sludge/biosolids disposal specifications. The Discharger uses a gravity thickener and centrifuge to dewater the sludge prior to storing the dewatered sludge in 14 lined, paved, sludge drying beds equipped with underdrains to collect decant and route it back to either the Domestic or the Industrial WWTF. Dewatered sludge is stored onsite in the lined sludge drying beds for a minimum of two years, and is then hauled offsite for disposal by McCarthy Family Farms, a licensed hauler.

Groundwater Conditions

Six groundwater monitoring wells are present around the Lincoln Ponds. The primary groundwater flow direction is to the southeast towards the Kings River, but groundwater also flows to the east and south due to influences from the mounding of wastewater and due to nearby pumping activities. The depth of the wells ranges from 36 to 48 feet below the ground surface (bgs). Historically, the depth to water has ranged from about 17 to 45 feet bgs. In 2013, the depth to water ranged from about 32 feet bgs to 45 feet bgs and wells MW-1, MW-4, and MW-5 were found to be dry in July 2013.

In December 2013, the City notified Central Valley Water Board staff that all six of its groundwater monitoring wells around the Lincoln Ponds (MW-1 through MW-6) had gone dry. This Order contains Provision F.21 that requires the City to submit a work plan describing the installation of replacement groundwater monitoring wells and includes a time schedule requiring the wells to be installed in no greater than one year from the adoption of this Order.

MW-1 and MW-2 were installed as background wells, but MW-1 is set along the northern edge of the Lincoln Ponds and is affected by the City's discharge to the ponds. MW-2 is set at the

northeast corner of the Lincoln Ponds, but is about 50 feet from a nearby unlined irrigation canal (Harp Ditch), that dilutes groundwater concentrations in MW-2. The City also maintains and monitors a six well groundwater monitoring network around the Industrial WWTF to monitor for potential impacts from the operation of the Industrial WWTF discharges. MW-101 and MW-102 provide upgradient groundwater monitoring for the Industrial WWTF. Groundwater samples are collected annually from the wells and the averages of the results for MW-101 and MW-102 since 2000 through 2012 are presented on the following table.

UPGRADIENT GROUNDWATER RESULTS

Well Number	TDS mg/L	EC umhos/cm	Bicarbonate mg/L	Calcium mg/L	Sodium mg/L	Chloride mg/L	Nitrate as Nitrogen mg/L
MW-101	117	167	60	18	6.9	3.2	2.4
MW-102	152	234	98	24	7.5	4.6	2.2

Analytical results for the wells used to monitor water quality in the vicinity of the Lincoln Ponds, MW-1 through MW-6, are presented below.

SANGER DOMESTIC WWTF GROUNDWATER RESULTS

Well Number	TDS mg/L	EC umhos/cm	Bicarbonate mg/L	Calcium mg/L	Sodium mg/L	Chloride mg/L	Nitrate as Nitrogen mg/L
MW-1	392	576	113	37	53	49	16
MW-2	82	95	21	8	6	12	5
MW-3	185	273	38	13	28	31	12
MW-4	357	543	110	48	33	40	18
MW-5	430	672	116	34	73	62	18
MW-6	411	635	87	23	71	61	18

Groundwater results are compared to various water quality objectives to assess degradation/pollution. Water quality objectives are discussed in detail in the *Water Quality Control Plan for the Tulare Lake Basin, Second Edition*. Typical water quality objectives include Primary and Secondary MCLs, Agricultural, and Drinking Water limits. Comparing the results of MW-101 and MW-102 to those from MW-1, MW-4, MW-5, and MW-6 shown above indicates the discharge has degraded groundwater in the vicinity of the Lincoln Ponds. However, with the exception of nitrate as nitrogen, the concentrations are less than applicable water quality objectives. Groundwater EC is less than the most stringent Agricultural goal of 700 umhos/cm and TDS and chloride are less than their respective Secondary MCLS.

Nitrate as nitrogen concentrations are elevated compared to upgradient concentrations, and are nearly twice the State Primary MCL of 10 mg/L. The results indicate the City's discharges to the Lincoln Ponds have polluted the underlying groundwater with respect to nitrate as nitrogen. Monitoring of nitrate as nitrogen, nitrate, Total Kjeldahl Nitrogen (TKN), ammonia, and total nitrogen is included in Monitoring and Reporting Program R5-2014-0004 for both effluent and groundwater monitoring.

Source Water

Source water is from a series of groundwater wells and the data was presented in a 2010 Consumer Confidence Report for the City of Sanger. Source water quality for 2010 is summarized in the following table. The first number listed is the average concentration and the values within the parentheses underneath are the range of the reported results.

CITY OF SANGER – SOURCE WATER QUALITY

EC <u>umhos/cm</u>	TDS <u>mg/L</u>	Chloride <u>mg/L</u>	Sulfate <u>mg/L</u>	Nitrate as Nitrogen <u>mg/L</u>
275 (130 – 590)	176 (89 – 360)	7.9 (2.1 – 31)	22 (5.5 – 72)	2.7 (nd ¹ – 7.6)

1. nd = not detected at a concentration greater than the laboratory practical quantitation (reporting) limit.

Compliance History

Discharge Specification B.1 of WDRs Order 98-141 requires the 30-day dry weather discharge to be no greater than 3.0 mgd. The average discharge to the Lincoln Ponds has averaged about 1.6 mgd since January 2010, well below the 3.0 mgd limit.

Discharge Specification B.4 of WDRs Order 98-141 requires the effluent to meet the following limits for biochemical oxygen demand (BOD) and total suspended solids (TSS):

<u>Constituents</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
BOD/TSS	mg/L	40	80

The Discharger has been compliant with the BOD and TSS limits, with no exceedances of the limits since January 2011.

Discharge Specification B. 7 of WDRs Order 98-141 requires the effluent to be less than or equal to the EC of the source water plus 500 umhos/cm. The resulting EC limit has ranged from 680 umhos/cm to 965 umhos/cm. The effluent EC is typically compliant with the limit, exceeding it only twice in over 125 samples analyzed since January 2011. The EC exceedances were 690 umhos/cm during December 2011 and 740 umhos/cm during January 2012. Both values are less than the secondary MCL of 900 mg/L.

Nitrate as nitrogen is not a part of the current MRP Order 98-141, but the City does analyze the effluent for nitrate as nitrogen and provided results from January 2012 through August 2013. The results indicate the effluent nitrate as nitrogen concentrations average about 29 mg/L. Groundwater downgradient of the Lincoln Ponds has nitrate as nitrogen concentrations that average about 18 mg/L, nearly twice the primary MCL of 10 mg/L.

Provision E.6 of WDR Order 98-141 requires the City to implement an Industrial Pretreatment Program by February 1999. The City adopted City Ordinance No. 990 in February 1999 and submitted a draft Industrial Pretreatment Program to the Central Valley Water Board.

However, the Industrial Pretreatment Program was never implemented. This Order contains Provision F.16, which requires the City to implement its Industrial Pretreatment Program within two years of the adoption of this Order.

The WWTF has been inspected six times since June 1995 and two Notices of Violation (NOVs) were issued in 2000 and 2008. The violations that led to the NOVs typically included:

- Violation of Discharge Specification B.7 exceeding the EC effluent limit;
- Violation of Provision E.1, late and/or incomplete self-monitoring reports (SMRs);
- Violation of Provision E.2 (Standard Provisions), failing to properly maintain the WWTF; and
- Violation of Provision E.2 (Standard Provisions), failing to properly sign and certify SMRs.

Except as noted above, the discharge has since January 2011, generally complied with the effluent limits in WDR Order 98-141 and submits its Self-Monitoring Reports (SMRs) complete and on time. The WWTF was inspected on 5 June 2013 and appeared to be well maintained with no apparent operational issues noted.

Basin Plan, Beneficial Uses, and Regulatory Considerations

The Basin Plan indicates the greatest long-term problem facing the entire Tulare Lake Basin is increasing salinity in groundwater, a process accelerated by man's activities and particularly affected by intensive irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until there is a long-term solution to the salt imbalance. The Central Valley Water Board encourages proactive management of waste streams by dischargers to control addition of salt through use, and has established an incremental EC limitation of 500 $\mu\text{mhos/cm}$ as a measure of the maximum permissible addition of salt constituents through use. Also, the Basin Plan limits discharges to areas that may recharge good quality groundwater's to no more than an EC of 1,000 $\mu\text{mhos/cm}$, a chloride content of 175 mg/L, or boron content of 1.0 mg/L. The City is currently compliant with these limits.

Antidegradation

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 will not unreasonably affect present and anticipated future beneficial uses.
- b. 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
- c. The discharger employs best practicable treatment or control (BPTC) to minimize degradation.

- d. The degradation is consistent with the maximum benefit to the people of the State.

Degradation of groundwater by some of the typical waste constituents released with discharge from a municipal wastewater utility after effective source control, treatment, and control is consistent with maximum benefit to the people of the State. The technology, energy, and waste management advantages of municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impacts on water quality will be substantially less. Economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, and therefore sufficient reason to accommodate growth and groundwater degradation provided terms of the Basin Plan are met.

WDR Order 98-141 authorized some groundwater degradation with respect to EC. Groundwater monitoring results indicate average EC concentrations in downgradient groundwater monitoring wells range from about 550 umhos/cm to 670 umhos/cm. Finding 10 of WDR Order 98-141 notes that, at the time, the EC and nitrate as nitrogen levels in groundwater in the vicinity of the disposal area (Lincoln Ponds) averaged 220 umhos/cm and 3.2 mg/L, respectively. The results indicate the City has degraded groundwater with respect to EC. However, the groundwater averages are less than applicable water quality objectives such as the Secondary MCL of 900 umhos/cm.

For salinity, the Basin Plan contains effluent limits (EC of SW + 500 μ mhos/cm, 1,000 umhos/cm max; chloride - 175 mg/L; and boron - 1.0 mg/L) that are considered best practicable treatment or control. Quality of the first encountered groundwater beneath the Lincoln Ponds is good, with EC values in background wells averaging about 170 umhos/cm to 230 umhos/cm. Chloride and boron concentrations in effluent are not known at this time, but they are included in MRP Order R5-2014-0004.

Recent groundwater monitoring data (Groundwater Results table on page 3) show nitrate as nitrogen results have averaged from 16 to 18 mg/L in wells downgradient of the Lincoln Ponds, about 5 times the 1996 average of 3.2 in groundwater and nearly twice the Primary MCL of 10 mg/L. The discharge has polluted the underlying groundwater with nitrate as nitrogen. The WDRs contain Provision F.19 requiring a Work Plan that sets forth the scope and schedule for a systematic and comprehensive technical evaluation of the Domestic WWTF's treatment and disposal system to control the concentrations of nitrate as nitrogen in the effluent. Furthermore, Provision F.20 of this Order includes a compliance schedule that requires the City to evaluate whether the changes made to address the discharges from the ponds will be sufficient to address the impacted groundwater or whether other measures are needed to mitigate these impacts, and will ultimately ensure that groundwater will meet the nitrate as nitrogen limit of 10 mg/L.

The WDRs contain Effluent Limitation B.1 requiring the BOD and TSS concentrations in effluent to be less than a monthly average of 40 mg/L and a daily maximum of 80 mg/L. The Discharger is currently compliant with these limits with an average BOD concentration of 5.0 mg/L since 2011.

The Order establishes effluent limits and groundwater limits for the WWTF 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. The Order contains requirements for groundwater monitoring to assure that the highest water quality consistent with the maximum benefit to the people of the State will be achieved.

Title 27

California Code of Regulations, title 27, section 20005 et seq. (Title 27) contains regulations to address certain discharges to land. Title 27 establishes a waste classification system, specifies siting and construction standards for full containment of classified waste, requires extensive monitoring of groundwater and the unsaturated zone for any indication of failure of containment, and specifies closure and post-closure maintenance requirements. Generally, no degradation of groundwater quality by any waste constituent in a classified waste is acceptable under Title 27 regulations.

The discharge of effluent and the operation of treatment or storage facilities associated with a sewage treatment and storage facility can be allowed without requiring compliance with Title 27, provided any resulting degradation of groundwater is in accordance with the Basin Plan, that the discharge is regulated by WDRs, and that the waste need not be managed as hazardous waste. The discharge is currently polluting groundwater with nitrate as nitrogen, but Provision F.19 requires the Discharger to meet an effluent limit of 10 mg/L for nitrate as nitrogen or implement other measures to protect groundwater quality. The compliance schedule in Provisions F.19 and F.20 require the City to implement measures to assure compliance with water quality objectives. The application of these schedules is consistent with the Basin Plan. The compliance schedules ensure that the Title 27 wastewater exemption will be applicable to the discharge to the Lincoln Ponds.

CEQA

As part of the proposed expansion documented in the 2006 Report, the Discharger certified a Final Environmental Impact Report (EIR) (SCH #2006051135) on 27 February 2009 in accordance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). The EIR describes the WWTF and proposed alternatives for modifications to increase the flow to 5.3 mgd, based on estimated population increases through 2035. Due to the declining economy in 2009, the proposed upgrades/changes to the WWTF have not yet been completed. The Central Valley Water Board commented on the EIR as a responsible agency.

The action of prescribing these WDRs, which impose regulatory requirements on the existing discharge in order to ensure the protection of groundwater resources, is exempt from the provisions of the CEQA in accordance with California Code of Regulations, title 14, section 15301, which exempts the "operation, repair, maintenance, [and] permitting ... of existing public or private structures, facilities, mechanical equipment, or topographical features" from environmental review. However, should the City choose to recycle treated wastewater from the Domestic WWTF to nearby farmlands, an additional CEQA evaluation may be required.

Proposed Order Terms and Conditions

Discharge Prohibitions, Effluent Limitations, Discharge Specifications, and Provisions

The proposed Order would prohibit discharge to surface waters and water drainage courses.

The proposed Order would keep the monthly average daily discharge flow limit at 3.0 mgd.

The proposed Order would prescribe effluent limits for BOD and TSS of 40 mg/L (monthly average), and 80 mg/L (daily maximum).

The proposed Order would require the Discharger to implement an Industrial Pretreatment Program no later than two years from the adoption of the proposed Order.

The discharge requirements regarding dissolved oxygen and freeboard are consistent with Central Valley Water Board policy for the prevention of nuisance conditions, and are applied to all such facilities.

The proposed WDRs would prescribe groundwater limitations that implement water quality objectives for groundwater from the Basin Plan. The limitations require that the discharge not cause or contribute to exceedance of these objectives or natural background water quality, whichever is greatest.

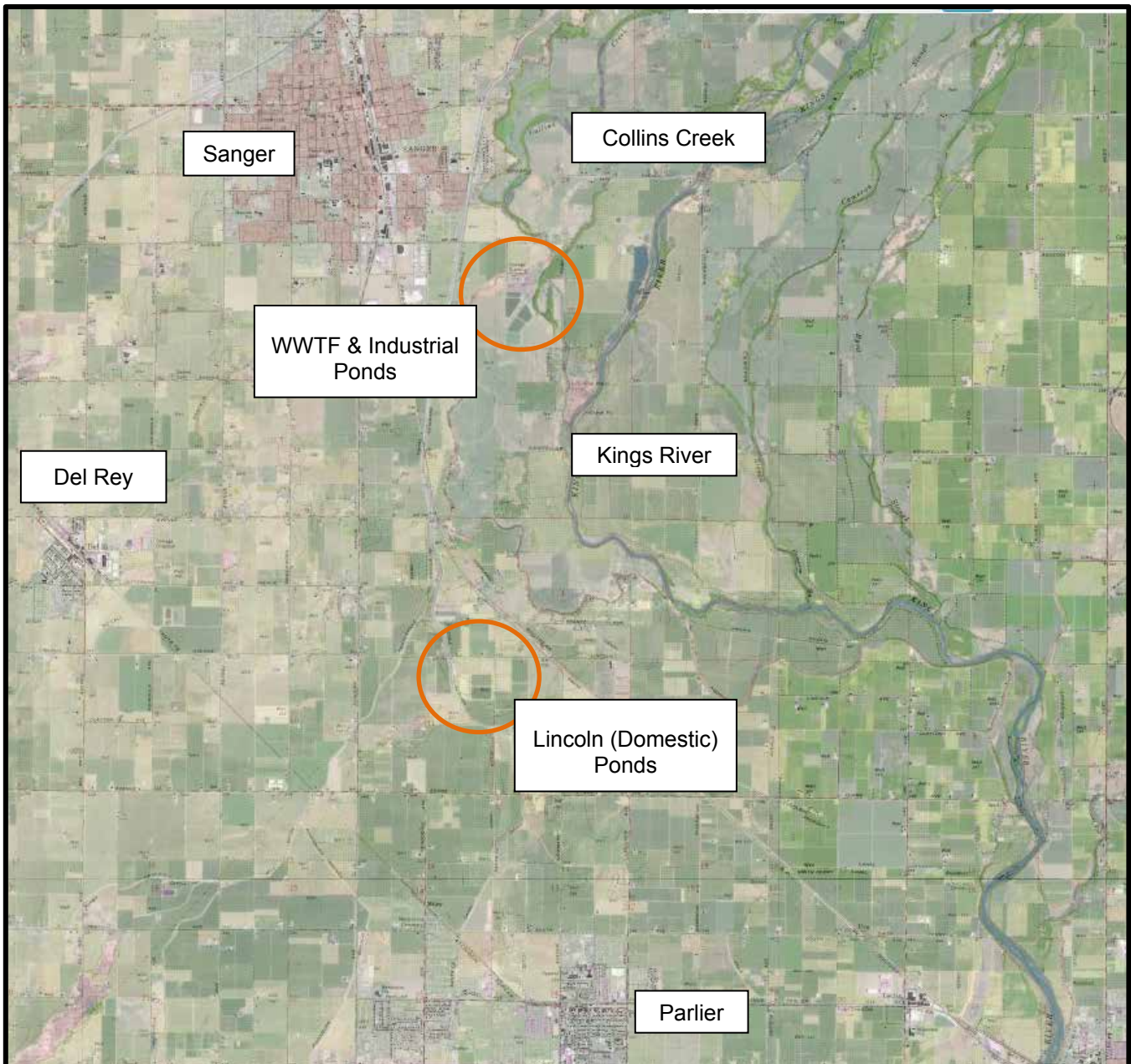
Monitoring Requirements

Water Code section 13267 authorizes the Central Valley Water Board to require monitoring and technical reports as necessary to investigate the impact of a waste discharge on waters of the State. Water Code Section 13268 authorizes assessment of civil administrative liability where appropriate.

The proposed Order includes influent, effluent, groundwater, pond, and source water, solids and sludge/biosolids, and industrial pretreatment monitoring. The monitoring is necessary to evaluate the extent of the potential degradation from the discharge.

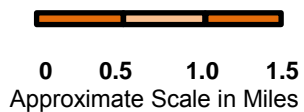
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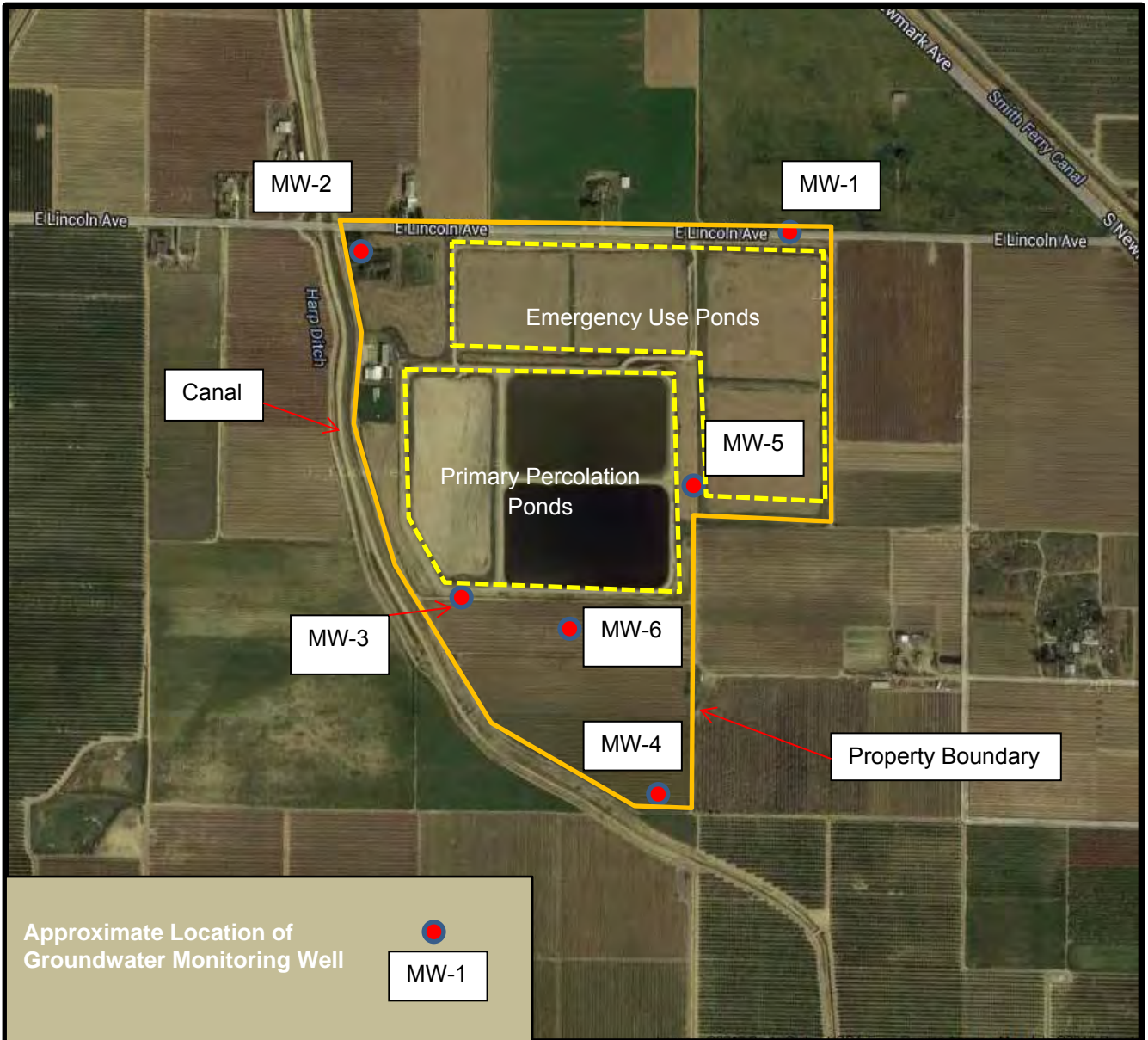
The conditions of discharge in the proposed Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. The proposed Order would set limitations based on the information provided thus far. If applicable laws and regulations change, or once new information is obtained that will change the overall discharge and its potential to impact groundwater, it may be appropriate to reopen the Order.



LOCATION MAP

ORDER R5-2014-0004
WASTE DISCHARGE REQUIREMENTS
FOR
CITY OF SANGER
DOMESTIC WASTEWATER TREATMENT FACILITY
FRESNO COUNTY





SITE MAP
LINCOLN PONDS DISPOSAL AREA
 ORDER R5-2014-0004
 WASTE DISCHARGE REQUIREMENTS
 FOR
 CITY OF SANGER
 DOMESTIC WASTEWATER TREATMENT FACILITY
 FRESNO COUNTY

