

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2002-0063

WASTE DISCHARGE REQUIREMENTS
FOR
CITY OF EXETER
WASTEWATER TREATMENT FACILITY
TULARE COUNTY

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

1. City of Exeter (hereafter City or Discharger) owns and operates a wastewater treatment facility (WWTF) that provides sewerage service for about 9,400 residents. The Discharger recently expanded the treatment capacity of the WWTF to 1.94 million gallons per day (mgd) (as monthly average daily flow). The WWTF is approximately one mile southwest of Exeter at 1906 W. Meyers Road in Section 16, T19S, R26E, MDB&M, as shown on Attachment A, a part of this Order.
2. Waste Discharge Requirements (WDRs) Order No. 96-040, adopted by the Regional Board on 23 February 1996 for the Discharger, prescribed requirements for a discharge of up to 2.0 mgd disinfected secondary treated domestic wastewater to Outside Creek, a water of the U. S., under the National Pollutant Discharge Elimination System (NPDES). Order No. 96-040 prohibited the surface water discharge when the dilution ratio provided by waters in Outside Creek is less than 20:1. Effluent not discharged to Outside Creek is discharged to onsite ponds. Order No. 96-040 also prescribed requirements for recycling of effluent on nearby City-owned farmland.
3. The Discharger has not discharged to Outside Creek since 1996, and relies on onsite ponds for final effluent disposal by percolation and evaporation.
4. The Discharger submitted a Report of Waste Discharge (RWD), dated 15 August 2000, in support of a discharge of undisinfected secondary treated municipal wastewater exclusively to land (either to ponds or City-owned farmland). Although the Discharger submitted supplemental information on 23 and 30 January 2001, 9 March 2001, and 20 April 2001, the RWD is still incomplete. The Discharger requested that several items identified as outstanding in its RWD (e.g., an evaluation of compliance with current groundwater limitations and an updated wastewater management plan) be required pursuant to provisions in this Order.
5. Order No. 96-040, which expired 1 February 2001, does not reflect the configuration of the current WWTF. The purpose of this Order is to rescind Order No. 96-040 (and its NPDES Permit No. CA0080233) and update waste discharge requirements, in part, to ensure the discharge is consistent with Regional Board plans and policies and to prescribe the requirements that are effective in protecting existing and potential beneficial uses of receiving waters.
6. The WWTF receives domestic sewage from residential, industrial and commercial sources. Significant industrial users include approximately ten fruit packing houses, including an olive processing and packaging facility.

7. The City's sewer collection system extends approximately 30 linear miles, relies upon 7 lift stations, and ranges in age from the 1940s to 2000. In 2000, the City replaced the intercept line from the City to the WWTF. The Discharger's staff maintain and repair the collection system. The City does not have an active inflow and infiltration program, but does not have a significant inflow and infiltration problem according to the City's engineer, Quad Knopf, Inc.
8. The WWTF treatment system consists of a headworks, primary lift station, two oxidation ditches (one in use), three secondary sedimentation basins (one as backup), and chlorination equipment formerly used prior to discharging effluent to Outside Creek. While the outfall pipe to discharge effluent to Outside Creek is still in place, the Discharger indicates that it will seal the outfall pipe by June 2002. Treated wastewater from the secondary clarifiers is discharged to one or more of three ponds. The onsite ponds encompass about 13 acres. Two are 42 acre-feet in capacity, the third, 40 acre-feet. The WWTF flow diagram is depicted in Attachment B, a part of this Order.
9. WDRs Order No. 96-040 allowed the Discharger to recycle effluent from the ponds on 40 acres of a City-owned plum orchard (hereafter Use Area). The Discharger has existing pumps and pipelines to convey treated wastewater from the ponds to the Use Area. The Discharger last recycled effluent on the Use Area in 1995.
10. Water Reclamation Requirements Order No. 96-252 for Bruce Myers, adopted by the Regional Board on 20 September 1996, prescribes requirements for the recycling of WWTF effluent on 82 acres owned and farmed by Mr. Myers. The acreage is planted in plums (66 acres), nectarines (8 acres), and persimmons (8 acres). The Discharger has existing pumps and pipelines to convey treated wastewater from the ponds to Mr. Myer's farmland. To date, Mr. Myers has not recycled WWTF effluent on this property.
11. Discharger self-monitoring data from November 2000 to October 2001 characterize the discharge as follows:

<u>Constituent / Parameter</u>	<u>Units</u>	<u>Influent</u>	<u>Effluent</u>	<u>% Removal</u>
Monthly Average Daily Flow	mgd	0.94	0.94	N/A ¹
Settleable Solids	mL/L	ND ²	ND ²	N/A ¹
BOD ₅ ³	mg/L	190	2	99
TSS ⁴	mg/L	170	2	99
Nitrate (as N)	mg/L	---	5	N/A ¹
Chloride	mg/L	---	117	N/A ¹
EC ⁵	µmhos/cm	1150	1050	N/A ¹

- 1 Not applicable
- 2 Nondetect
- 3 5-day, 20°C biochemical oxygen demand
- 4 Total suspended solids
- 5 Conductivity at 25°C

12. The City obtains its source water from four wells drawing water from 85 to 280 feet below site grade. Levels of salinity as EC and TDS in the City's source water are below the recommended

State Maximum Contaminant Levels of 900 μ mhos/cm and 500 mg/L, respectively. Source water mineral quality is described as good in the City's 1994 Environmental Impact Report (EIR) for WWTF expansion project (described in Finding No. 51), and as indicated by the City's 1999 Annual Water Quality Report. Excerpts of this report are presented below.

<u>Constituent / Parameter</u>	<u>Units</u>	<u>Value</u>
EC	μ mhos/cm	598
Total Dissolved Solids (TDS)	mg/L	370
Sodium	mg/L	46
Chloride	mg/L	32
Nitrate (as N)	mg/L	5.8 ¹

¹ The Discharger attributes the high nitrate concentration in the City's source water to the long-term use of fertilizers by area orange growers.

13. For the period November 2000 to October 2001, the average EC of WWTF effluent was about 450 μ mhos/cm higher than source water EC. Occasionally, the increase in EC in effluent over source water EC exceeds 500 μ mhos/cm.
14. The WWTF produces approximately 23 dry metric tons of sludge annually. The Discharger dewateres sludge by discharging it to unlined sludge drying beds and has it trucked to McCarthy Family Farms where it is discharged to land for use as a soil amendment under Waste Discharge Requirements Order No. 94-125. The use of unlined sludge drying beds has a reasonable potential for degrading groundwater for waste constituents and their decomposition by-products. Accordingly, to be consistent with Regional Board policies, the Discharger must implement best practicable treatment and control (BPTC) for its sludge drying beds (e.g., provide containment). By letter dated 11 March 2002, the City states it has budgeted to line the sludge beds to meet BPTC. The City expects to complete this work by January 2004.
15. The Discharger was issued a Notice of Violation (NOV), dated 9 January 2002, for the following:
 - a. exceeding the effluent EC limit,
 - b. degrading groundwater with salts,
 - c. failure to submit complete self-monitoring reports,
 - d. failure to have compliance samples for BOD and total suspended solids analyzed by a certified laboratory, and
 - e. failure to implement control practices that protect groundwater.
16. The NOV documented that the bottom of a portion of one of the City's ponds was significantly deeper (i.e., 17 feet) than that disclosed by the City in its RWD. The Discharger excavated into this pond for construction fill. Effluent discharged to this pond collects exclusively in the deeper portion, as percolation rates accommodate all flow in this smaller portion.

Hydrology, Soils, and Land Use

17. The WWTF lies within the Tulare Lake Basin, specifically the Kaweah Delta Hydrologic Area (No. 558.10) as depicted on interagency hydrologic maps prepared by the California Department of Water Resources (DWR) in Spring 1986. Surface water drainage is to Outside Creek, which is tributary to Tule River below Lake Success. The WWTF is not within a 100-year floodplain, and all storm water runoff within the WWTF property is reportedly contained on-site.
18. The discharge area is in an arid climate characterized by hot dry summers and mild winters. The rainy season generally extends from November through March. Occasional rains occur during the spring and fall months, but summer months are dry. Average annual precipitation and evapotranspiration in the discharge area are 12 inches and 45 inches, respectively, according to information published by DWR.
19. Areal soils consist of the Exeter loam and Flamen loam. Both soils exhibit duripans (i.e., a type of claypan). Permeability above the duripan is moderate. Permeability within the duripan is slow. The WWTF's ponds are constructed through the duripan and exhibit exceptionally good permeability (2.7 inches/day or 82 feet/year).
20. Areal groundwater is approximately 40 feet below ground surface and flows southeasterly, according to information in *Lines of Equal Elevation of Water in Wells in Unconfined Aquifer*, published by DWR in Spring 2000.
21. In the process of crop irrigation, evaporation and crop transpiration remove water from soils and result in accumulation of residual salts in the soil root zone. These salts would retard or inhibit plant growth except for a fraction of irrigation water applied to leach the harmful salt from the root zone. Leached salts eventually enter groundwater and concentrate above the uppermost layer of the uppermost aquifer. Leaching factors vary according to the quality of irrigation water, but leaching is necessary in all cases to sustain irrigated agriculture. As this is the general condition throughout the valley floor, water supply wells for all beneficial uses typically are constructed to extract groundwater from below the uppermost layer. This uppermost layer has hydraulic continuity with the remainder of the aquifer.
22. Leachate from irrigated agriculture, with relatively low and seasonal rates, is generally dispersed near the groundwater surface. The discharge, by virtue of discharge rate, volume, and duration, has far greater horizontal and vertical impact in the immediate area than a comparable area of cropland. The extent to which percolating effluent descends into the main mass of the aquifer can be estimated by applying hydrogeologic judgment and is determinable through groundwater monitoring of conservative constituents in the discharge (e.g., chloride). Compliance with water quality objectives that are subject to practicable treatment and control (e.g., nitrogen compounds, bacteria) should be by means of wells extracting water from first encountered groundwater. Site-specific studies to determine the appropriate monitoring zones and geographical locations should be conducted by the Discharger subject to Executive Officer approval. This discharge has been occurring for years, has caused groundwater to contain concentrations of waste constituents in excess of natural background levels, and may be characterized with adequate monitoring.

23. The Discharger monitors shallow groundwater with a network of four monitoring wells installed in 1996, as shown on Attachment C, a part of this Order. Local groundwater flow is toward the south or southeast. Natural groundwater on the east side of the San Joaquin Valley is of high quality, but none of the current monitoring wells are unaffected by WWTF discharges, and none provide data on natural background water quality. Current and past sludge handling and effluent disposal (percolation) practices have likely contributed to these impacts. Nitrate (as N) in the well closest to the unlined sludge drying beds has varied from 12 to 27 mg/L and averaged 22 mg/L from July 1996 to November 2000.
24. Land use in the WWTF vicinity is primarily agricultural. Crops grown within one mile of the WWTF include citrus, stone fruit (plums and nectarines), and persimmon, according to DWR land use data published in 1999. Most crops in this area are flood irrigated with groundwater and some surface water, according to Tulare County Agricultural Commissioner and interviews with WWTF operators.

Recycling

25. Domestic wastewater contains pathogens harmful to humans that are typically measured by means of total or fecal coliform, as indicator organisms. California Department of Health Services (DHS), which has primary Statewide responsibility for protecting public health, has established Statewide criteria in Title 22, CCR, section 60301 et seq., (hereafter Title 22) for the use of recycled water and has developed guidelines for specific uses. Revisions of the water recycling criteria in Title 22 became effective on 2 December 2000. The revised Title 22 expands the range of allowable uses of recycled water, establishes criteria for these uses, and clarifies some of the ambiguity contained in the previous regulations.
26. The 1988 Memorandum of Agreement (MOA) between DHS and the State Water Resources Control Board (SWRCB) on the use of recycled water establishes basic principles relative to the agencies and the regional boards. In addition, the MOA allocates primary areas of responsibility and authority between these agencies, and provides for methods and mechanisms necessary to assure ongoing, continuous future coordination of activities relative to the use of recycled water in California.
27. Title 22 section 60304(d) allows for the use of undisinfected secondary recycled water for prescribed applications involving certain food and seed crops, subject to various restrictions. Because undisinfected secondary recycled water would represent a potential public health threat if food or seed crops were directly or indirectly exposed to the undisinfected recycled water, it is imperative that the restrictions outlined with the identified uses under section 60304(d) are strictly complied with. If a recycler cannot provide the necessary assurances that applicable restrictions can be complied with at all times, it is appropriate for the Regional Board to either require a higher level of treatment (i.e., disinfection) or restrict applications of undisinfected secondary recycled water to crops not intended for human consumption (e.g., fodder and fiber crops).

28. The current City-owned Use Area is planted in plums. The Discharger has not submitted to DHS an Engineering Report, pursuant to Title 22 section 60323, for the recycling of WWTF effluent on the Use Area.

Beneficial Uses and Water Quality Objectives

29. The Regional Board adopted a *Water Quality Control Plan for the Tulare Lake, Second Edition* (hereafter Basin Plan), which designates beneficial uses, establishes narrative and numerical water quality objectives, and contains implementation plans and policies for protecting all waters of the Basin. The Basin Plan includes plans and policies of the SWRCB incorporated by reference. Pursuant to section 13263(a) of the California Water Code (CWC), waste discharge requirements must implement the Basin Plan.
30. The designated beneficial uses of Tule River below Lake Success, according to the Basin Plan, are municipal and domestic supply; agricultural supply; industrial service supply; industrial process supply; water contact recreation; noncontact water recreation; warm freshwater habitat; wildlife habitat; and groundwater recharge.
31. The WWTF is in Detailed Analysis Unit (DAU) No. 242 of the Kaweah Basin. The Basin Plan designates the beneficial uses of groundwater in this DAU as municipal and domestic supply, agricultural supply, industrial service supply, industrial process supply, water contact recreation, and noncontact water recreation.
32. Basin Plan water quality objectives to protect the above beneficial uses include a numerical objective for coliform and narrative objectives for chemical constituents in and toxicity of groundwater. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, or animals. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. The Basin Plan establishes numerical water quality objectives that quantify maximum permissible concentrations for groundwaters designated as municipal supply. These include maximum contaminant levels (MCLs) in Title 22, California Code of Regulations (CCR) (i.e., sections 64431, Inorganic Chemicals; 64431, Fluoride; 64443, Radioactivity; 64444, Organic Chemicals; and 64449, Secondary MCLs – Consumer Acceptance Limits).
33. As knowledge about concentrations harmful to public health is always growing, the Basin Plan's incorporation of MCLs by reference is prospective to incorporate changes to MCLs as changes in Title 22 take effect. The Basin Plan requires the application of objectives more stringent than MCLs as necessary to ensure that waters do not contain chemical constituents, toxic substances, radionuclides, or pesticides in concentrations that adversely affect domestic drinking water supply, agricultural supply, or some other beneficial use.
34. Quantifying a narrative water quality objective requires a site-specific evaluation of each waste constituent for consistency with the narrative objective using the procedures set forth in the Basin

Plan. These procedures require that the Regional Board consider, among other things, site-specific hydrogeologic and land use factors and relevant numerical criteria and guidelines developed or published by other agencies and organizations. The latter include the National Academy of Sciences, the University of California Cooperative Extension, and the Food and Agricultural Organization of the United Nations. Westcot and Ayers in a 1985 publication (*Water Quality for Agriculture, Food and Agriculture Organization of the United Nations — Irrigation and Drainage Paper No. 29*) provide detailed information to evaluate the quality of irrigation water necessary to sustain various crops. This publication is clear that considerable judgment should be used in applying the criteria and that appropriate irrigation management and crop variety selection can overcome some of the adverse impact where high water quality is not an option

35. The list of crops in Finding No. 24 is not intended as a definitive inventory of crops that are or could be grown in the area affected by the discharge, but is representative. Based on climate, soil type, and natural background water quality, other crops sensitive to salt and boron might be capable of being grown in the area, and changing market conditions could drive a change in cropping patterns, but neither is expected to necessitate greater protection than crops already identified.
36. The major constituents of concern in assessing the quality of water for agriculture are salinity (expressed as EC or TDS), boron, chloride, and sodium. In general, animal uses are less sensitive than crops for these constituents. Salinity reduces crop growth by reducing the ability of plant roots to absorb water. The salt tolerance of crops also depends on the frequency and type of irrigation (e.g., drip, furrow, or sprinkler irrigation). Sprinkler irrigation has the greatest impact due to foliar absorption of salt. Absorption and foliar injury are further influenced by high temperature, low humidity, and drying winds, type of sprinkler, and timing of irrigation. Boron is an essential element but can become toxic to some plants when concentrations in water even slightly exceed the amount required for optimal growth. Like salt tolerance, boron tolerance varies with the climate, the soil, and the crop. While boron sensitivity appears to affect a wide variety of crops, sodium and chloride toxicities are mostly limited to tree crops and woody perennials (e.g., citrus, stone-fruit, and vineyard). A predominance of sodium relative to other ions in irrigation water may disperse soil aggregates, which in turn, affects virtually all crops by decreasing the permeability of the soil by water and air.
37. *Water Quality for Agriculture* provides general salt tolerance guidelines for many common field, vegetable, forage, and tree crops. Yield reductions in nearly all crops are not evident when irrigating with water having an EC of less than 700 $\mu\text{mhos/cm}$. There is, however, an eight- to ten-fold range in salt tolerance of agricultural crops. It is possible to achieve full yield potential with waters having EC up to 3,000 $\mu\text{mhos/cm}$ if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop.
38. In determining the concentrations of salinity, boron, chloride, and sodium in groundwater associated with no adverse effects on agricultural beneficial use in a given area, it is likely that multiple criteria apply. While the most stringent concentration becomes the constraining criterion, it is not necessarily the concentration that is required to protect all crops typically grown in the area.

39. With respect to specific-ion toxicity, *Water Quality for Agriculture* and other similar references indicate that significant reductions in crop yields can be expected if boron content exceeds 0.7 mg/L for boron-sensitive crops (e.g., stone fruit). Similarly, reductions in yields of sodium- and chloride-sensitive crops are not evident when sprinkler irrigated with water containing sodium and chloride concentrations of up to 3 milliequivalents per liter (me/L) (i.e., 69 mg/L sodium and 106 mg/L chloride). If such crops are not sprinkler irrigated, the maximum concentrations of sodium and chloride associated with no apparent yield reduction may increase, however the extent of the increase is typically crop specific.

Degradation and Groundwater Limitations

40. SWRCB Resolution No. 68-16 (hereafter Resolution 68-16 or the "Antidegradation" Policy) requires the Regional Board in regulating discharge of waste to maintain high quality waters of the State until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Board's policies (i.e., quality that exceeds water quality objectives).
41. Domestic wastewater contains constituents such as oxygen demanding substances (i.e., BOD₅), salinity constituents, pathogens, nutrients (e.g., nitrate), organics, and metals. Discharge to land in a manner that allows waste infiltration and percolation may result in an increase in the concentration of one or more of these constituents in groundwater. To be permissible by the Regional Board, any increase in the concentration of these constituents in groundwater must be consistent with the antidegradation provisions of Resolution 68-16.
42. The discharge authorized herein and the treatment and storage facilities associated with the discharge of treated municipal wastewater, except for discharges of residual sludge and solid waste, are exempt from the requirements of Title 27, CCR, section 20005 et seq. (hereafter Title 27). The exemption, pursuant to section 20090(a) of Title 27, is based on the following:
- a. The waste consists primarily of domestic sewage and treated effluent;
 - b. The waste discharge requirements are consistent with water quality objectives; and
 - c. The treatment and storage facilities described herein are associated with a municipal wastewater treatment plant.
43. Excessive residual organic carbon in percolating effluent may result in prolonged periods of oxygen deficiency in groundwater. If effluent percolating to and mixing with groundwater contains more organic carbon than can be oxidized by microorganisms respiring on the residual oxygen in the effluent and available in the soil column, the soil and groundwater beneath percolation ponds will likely become anoxic. Further microbial decomposition of organic carbon in groundwater causes nitrate and oxidized forms of manganese and iron to substitute for oxygen as a terminal electron acceptor, reducing nitrate to nitrogen and transforming manganese and iron to more water-soluble reduced forms. Where groundwater underlying the WWTF contains dissolved manganese and iron

in elevated concentrations; it likely indicates organic overloading (e.g., from long term use of unlined sludge drying beds).

44. Degradation of groundwater by constituents (e.g., toxic chemicals) other than those specified in the groundwater limitations in this Order, and by constituents that can be effectively removed by conventional treatment (e.g., total coliform bacteria) is inconsistent with Resolution 68-16. Degradation of groundwater by waste constituents in the discharge after subjecting them to effective source control, treatment, and control may be determined consistent with Resolution 68-16, after consideration of reasonableness under the circumstances of the discharge. Some degradation of groundwater by the Discharger is consistent with Resolution 68-16 provided that the degradation is:
 - a. limited in extent;
 - b. restricted to waste constituents characteristic of municipal wastewater and not totally removable by best practicable treatment and control (BPTC) measures;
 - c. minimized by fully implementing, regularly maintaining, and optimally operating BPTC measures; and
 - d. demonstrated to be consistent with water quality objectives prescribed in the Basin Plan; and
 - e. justified to be consistent with the maximum benefit to the people of California.
45. Degradation of groundwater by constituents in the discharge after effective source control, treatment, and control may be determined consistent with maximum benefit to the people of California. This determination is based on considerations of reasonableness under the circumstances of the municipal discharge. Factors to be considered include:
 - a. past, present, and probable beneficial uses of the water (as specified in the Basin Plan);
 - b. economic and social costs, tangible and intangible, of the discharge compared to the benefits;
 - c. environmental aspects of the discharge; and
 - d. the implementation of feasible alternative treatment or control methods.
46. The WWTF described in Finding No. 8 provides treatment and control of the discharge that incorporates:
 - a. technology for secondary treatment of municipal wastewater;
 - b. concrete treatment structures;
 - c. an operation and maintenance manual;
 - d. staffing to assure proper operation and maintenance; and
 - e. groundwater monitoring.

47. Certain aspects of the Discharger's waste treatment and control practices have not been and are unlikely to be justified as BPTC, as described in Finding No. 14 and the attached Information Sheet. Deficiencies in treatment and control that cause or contribute to exceedances of Basin Plan numeric water quality objectives subject the Discharger to enforcement.
48. This Order represents the first of a two-phase approach to ensure a long-term discharge consistent with Regional Board plans and policies. It is appropriate that the Discharger to assemble the technical information necessary for the Regional Board to determine this, and that it receive reasonable time to conduct the requisite investigations. During the schedule set forth herein as reasonable for Phase 1, the Discharger must:
 - a. Conduct a hydrogeologic investigation of the area affected by the discharge to determine representative zones within the aquifer to monitor compliance with groundwater limitations;
 - b. Perform a comprehensive evaluation of the WWTF and the discharge to:
 - 1) Identify less than optimum treatment or control practices,
 - 2) Ensure full implementation of BPTC, and
 - 3) Provide optimal operation and maintenance; and,
 - c. Evaluate and propose, with supporting documentation, the appropriate level of degradation that complies with Resolution 68-16.
49. Following the completion of Phase 1 tasks, the Regional Board will evaluate evidence submitted by the Discharger and reopen this Order to consider final and long-term conditions of discharge that assure continued consistency with Resolution 68-16. These include waste-specific groundwater limitations based on information provided by the Discharger that reflect full implementation of BPTC and compliance with the most stringent applicable water quality objectives for that waste constituent.
50. Until the work required in Phase 1 is completed by the Discharger and reviewed by the Regional Board, it is reasonable that interim receiving water limitations directly implement Basin Plan water quality objectives. These groundwater limitations 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. Where the stringency of the criterion for the same waste constituent differs according to beneficial use, the most stringent criterion applies as the governing limitation for that waste constituent. Consideration of the factors in CWC section 13241, including economics, is unnecessary for this purpose. As interim groundwater limitations, the Phase 1 limitations are conditional, temporary, and convey no entitlement. Tasks assure that BPTC and the highest water quality consistent with the maximum benefit to the people of the State will be achieved at the end of the second phase. Accordingly, the discharge as authorized herein is consistent with the antidegradation provisions of Resolution 68-16.

CEQA

51. On 26 July 1994, the City of Exeter adopted an Environmental Impact Report (EIR) for the City's WWTF expansion project in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code section 21000 et seq.) and the State CEQA Guidelines. The EIR was based, in part, on the City's 1993 Facility Plan. The EIR describes the staged expansion of the WWTF's treatment and disposal capacities. Stage 1 improvements (1994-1995) included the construction of six acres of new effluent disposal ponds, irrigation pump station; secondary sedimentation basin, and sludge lagoons and drying beds; acquisition of permits for additional land for effluent recycling; and installation of groundwater monitoring wells. Stage 2 improvements (1997-1998) included a oxidation ditch and control building/laboratory. The EIR indicates that Stage 1 improvements will expand the City's capacity for effluent disposal, while Stage 2 improvements would expand the City's actual treatment capacity through the year 2013.
52. Both the Facility Plan and the EIR anticipated additional disposal capacity to include an additional 12 acres of ponds, additional recycling by irrigation of nearby crops, and continued discharge to Outside Creek during the winter months. The EIR indicates that discharge to Outside Creek must be chlorinated. The EIR finds that the increased discharge of effluent from the expanded WWTF will not adversely affect local surface or groundwater supplies, in part, because the Regional Board regulates the WWTF and discharge. Accordingly, because the EIR found that potential impacts on groundwater directly attributable to the WWTF expansion project are not significant, the EIR indicates that no groundwater mitigation measures are required.
53. The Regional Board considered the EIR as required by Title 14, CCR, section 15096. As a responsible agency, the Board found the City's EIR for the WWTF expansion project inadequate with respect to its sludge handling mitigation measures. To address the Regional Board's concerns, the City stated by letter dated 11 March 2001 that it has budgeted to line the WWTF's sludge drying beds to meet BPTC. The Discharger reports it will perform this work over the next two summers and anticipates completing this work by January 2004.

General Findings

54. Section 13267 of the CWC states, in part, that:

In conducting an investigation specified in [section 13267] subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report 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.

55. The monitoring and reporting program required by this Order and the attached Monitoring and Reporting Program No. R5-2002-63 are necessary to assure compliance with these waste discharge requirements. The Discharger operates the facility that discharges the waste subject to this Order.
56. The Regional Board considered all the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, in establishing the following conditions of discharge.
57. Pursuant to CWC 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.
58. The Regional Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
59. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Waste Discharge Requirements Order No. 90-040 is rescinded and that, pursuant to CWC sections 13263 and 13267, the City of Exeter, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, shall comply with the following:

[Note: Other prohibitions, conditions, definitions, and some methods of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated 1 March 1991.]

A. Discharge Prohibitions

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. Discharge of waste classified as 'hazardous,' as defined in section 2521(a) of Title 23, CCR, section 2510 et seq., or 'designated,' as defined in CWC section 13173, is prohibited.
3. Bypass or overflow of untreated or partially-treated waste is prohibited, except as allowed in Provision E.2 of Standard Provisions and Reporting Requirements.
4. Recycling of effluent to areas without Board-adopted water recycling requirements or waiver of said requirements is prohibited.

B. Discharge Specifications

1. **Until Provision G.5 is satisfied**, the monthly average daily discharge flow shall not exceed 1.07 mgd.

2. After Provision G.5 is satisfied, the monthly average daily discharge flow shall not exceed 1.3 mgd.
3. After Provision G.9 is satisfied, the monthly average daily discharge flow shall not exceed 1.94 mgd.
4. The discharge shall not exceed the following limits:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
Settleable Solids	mL/L	0.2	1.0
BOD ₅	mg/L	40	80
TSS	mg/L	40	80

5. The arithmetic mean of BOD₅ and of total suspended solids in effluent samples collected over a monthly period shall not exceed 20 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (80 percent removal).
6. The monthly average EC of the discharge shall not exceed the flow-weighted average EC of the source water plus 500 μ mhos/cm, or a total of 1,000 μ mhos/cm, whichever is less. The flow-weighted average for the source water shall be a moving average for the most recent twelve months.
7. The discharge shall not have a pH less than 6.0 or greater than 9.0.
8. Objectionable odors originating at the WWTF shall not be perceivable beyond the limits of the waste treatment areas and ponds.
9. As a means of discerning compliance with Discharge Specification B.8, the dissolved oxygen content in the upper zone (one foot) of wastewater in all ponds shall not be less than 1 mg/L.
10. Ponds shall be managed to prevent breeding of mosquitoes. In particular.
 - a. An erosion control plan should assure 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, and herbicides.
 - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.
 - d. Vegetation management operations in areas in which nesting birds have been observed shall be carried out either before or after, but not during, the April 1 to June 30 bird nesting season.

11. Freeboard shall never be less than two feet in any pond (measured vertically) or lesser freeboard if certified in writing by a California registered civil engineer as adequate to prevent overtopping, overflows, or levee failures.
12. As a means of discerning compliance with Discharge Specification B.11, the Discharger shall install and maintain in each pond permanent markers with calibration indicating the water level at design capacity and available operational freeboard. Upon the Discharger's written request, specific ponds may be exempt from this requirement. Such exemptions shall be subject to the Executive officer's written approval.
13. The WWTF shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year frequency.
14. The Discharger shall preclude public access to the waste treatment and effluent disposal facilities (i.e., ponds) through methods such as fences, signs, or other acceptable means.
15. 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.
16. On 15 November of each year, available storage capacity in ponds shall be at least equal to the volume necessary to comply with Discharge Specification B.15.
17. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of groundwater limitations.
18. In the event DHS recommends, as a result of its review of the Title 22 Engineering Report submitted pursuant to Provision G.6, that water recycled on the Use Area should be disinfected secondary-23 recycled water, the discharge to the Use Area shall be disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 23/100 mL utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 240/100 mL in more than one sample in any 30-day (i.e., monthly) period.

C. Sludge Specifications

Sludge 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 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 and legally used pursuant to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities.

1. Sludge and solid waste shall be removed from screens, sumps, ponds, clarifiers, etc. as needed to ensure optimal plant operation.
2. Treatment and storage of sludge generated by the WWTF shall be confined to the WWTF property and conducted in a manner that precludes infiltration of waste constituents into soils in a mass or concentration that will violate Groundwater Limitations.
3. Any storage of residual sludge, solid waste, and biosolids on property of the WWTF shall be temporary 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 Groundwater Limitations.
4. Residual sludge, biosolids, and solid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27. Removal for further treatment, disposal, or reuse at sites (i.e. landfill, WWTF, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements issued by a regional water quality control board will satisfy this specification.
5. Use of biosolids as a soil amendment shall comply with valid waste discharge requirements issued by a regional water quality control board. In most cases, this will mean General Biosolids Order (SWRCB Water Quality Order No. 2000-10-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities). For a biosolids use project to be covered by the General Biosolids Order, the Discharger must file a complete Notice of Intent and receive a Notice of Applicability for each project.
6. Use and disposal of biosolids should comply with the self-implementing federal regulations of Title 40, Code of Federal Regulations (CFR), Part 503, which are subject to enforcement by the U. S. Environmental Protection Agency (EPA), not the Regional Board. If during the life of this Order the State accepts primacy for implementation of 40 CFR 503, the Regional Board may also initiate enforcement where appropriate.

D. Pretreatment Requirements

1. 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 that 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.
2. The Discharger shall implement the legal authorities, programs, and controls 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 processes, 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.

E. Recycling Specifications

1. The following specifications apply to the Use Area under the ownership and control of the Discharger described in Finding No. 9. The Discharger shall not initiate water recycling until Provision G.6 is satisfied.
2. Use of recycled water as permitted by this Order shall comply with all the terms and conditions of the most current Title 22 provisions and the Discharger's Title 22 Engineering Report, as approved by DHS.
3. The Discharger shall provide for appropriate backflow protection for potable water supplies as specified in Title 17, CCR, section 7604, or as specified by DHS.
4. Recycled water shall remain within the permitted Use Area.

5. Use of undisinfected recycled water shall be limited to flood irrigation of fodder, fiber, and seed crops, and of crops such as wine grapes that undergo extensive commercial, physical, or chemical processing before human consumption. Any irrigation of food crops with disinfected recycled water requires prior DHS Food and Drug Branch approval.
6. Application of wastewater, biosolids, and commercial fertilizer to the Use Area shall be at reasonable agronomic rates considering the crop, soil, climate, and irrigation management system. The annual nutrient loading of use areas, including the nutritive value of organic and chemical fertilizers and of the recycled water shall not exceed the crop demand.
7. The Discharger shall maintain the following setback distances from areas irrigated with recycled water:

<u>Setback Distance (feet)</u>	<u>To</u>
25	Property Line
30	Public Roads
50	Drainage Courses
100	Irrigation and Domestic Wells
150	Domestic Wells

8. The perimeter of use areas shall be graded to prevent ponding along public roads or other public areas.
9. Areas irrigated with recycled water shall be managed to prevent breeding of mosquitoes. More specifically:
 - a. All applied irrigation water must infiltrate completely within a 48-hour period.
 - b. Ditches not serving as wildlife habitat should be maintained free of emergent, marginal, and floating vegetation,
 - c. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store recycled water.
10. Recycled water shall be managed to minimize runoff onto adjacent properties not owned or controlled by the Discharger.
11. Recycled water used for irrigation shall be managed to minimize erosion.
12. Recycled water shall be managed to minimize contact with workers.
13. If recycled water is used for construction purposes, it shall comply with the most current edition of *Guidelines for Use of Recycled Water for Construction Purposes*. Other uses of recycled water not specifically authorized herein shall be subject to the approval of the Executive Officer and shall comply with Title 22.

14. Public contact with recycled water shall be precluded through such means as fences, signs, or acceptable alternatives. Signs with proper wording (shown below) of a size no less than four inches high by eight inches wide shall be placed at all areas of public access and around the perimeter of all areas used for effluent disposal or conveyance to alert the public of the use of recycled water. All signs shall present the international symbol similar to that shown in Attachment D and present the following wording:

RECYCLED WATER - DO NOT DRINK

AGUA DE DESPERDICIO RECLAMADA - POR FAVOR NO TOME

F. Groundwater Limitations

Release of waste constituents from any storage, treatment, or disposal component associated with the WWTF shall not, in combination with other sources of the waste constituents, cause groundwater within influence of the WWTF and discharge area(s) to contain waste constituents in concentrations in excess of natural background or that listed below, whichever is greater.

1. Total coliform organisms of 2.2 MPN/100 mL.
2. Chemical constituents in concentrations that adversely affect beneficial uses, including:
 - a. Constituent concentrations listed below:

<u>Constituent</u>	<u>Units</u>	<u>Limitation</u>
EC	µmhos/cm	900
Total Dissolved Solids ¹	mg/L	500
Total Nitrogen	mg/L	10

¹ A cumulative constituent comprised of dissolved matter consisting mainly of inorganic salts, small amounts of organic matter, and dissolved gases [e.g., ammonia, bicarbonate alkalinity, boron, calcium, chloride, copper, iron, magnesium, manganese, nitrate, phosphorus, potassium, sodium, silica, sulfate, total alkalinity]

- b. Constituents identified in Title 22 (refer to Finding No. 32) — except chloride, EC and Total Dissolved Solids — that are present in the discharge, the concentrations in the discharge or the Title 22 MCLs, including future changes to the MCLs as the changes take effect, whichever is more stringent.
 - c. Toxic constituents in concentrations that produce detrimental physiological responses in human, plant, or animal life, including but not limited to boron, chloride, and sodium in excess of concentrations in the discharge or that listed below, whichever is more stringent:

<u>Constituent</u>	<u>Units</u>	<u>Limitation</u>
Boron	mg/L	0.7
Chloride	mg/L	106
Sodium	mg/L	69

- d. Taste- or odor-producing constituents in concentrations that cause nuisance or adversely affect beneficial uses, including but not limited to ammonia (as N) in excess of 0.5 mg/L.

G. Provisions

1. The Discharger shall comply with Standard Provisions and Reporting Requirements for Waste Discharge Requirements, dated 1 March 1991, which are attached hereto and by reference a part of this Order. This attachment and its individual paragraphs are commonly referenced as Standard Provision(s).
2. The Discharger shall comply with Monitoring and Reporting Program (MRP) No. R5-2002-0063, that is part of this Order, and any revisions thereto as ordered by the Executive Officer.
3. The Discharger shall keep a copy of this Order, including its attachments and Standard Provisions, at the WWTF for reference by operating personnel. Key operating personnel shall be familiar with its contents.
4. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation 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. To demonstrate compliance with Title 16, CCR, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports 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.
5. The Discharger shall provide written certification from a California registered civil engineer that it has expanded the WWTF's effluent disposal capacity to 1.3 mgd. The certification is subject to the requirements of Provision G.4. Upon written acceptance of the certification by the Executive Officer, this Provision shall be considered satisfied.
6. At least **120 days** prior to initiating water recycling on the City-owned Use Area, the Discharger shall submit to the Regional Board and DHS a Title 22 Engineering Report pursuant to Title 22 section 60323. In preparing the Title 22 Engineering Report, the Discharger shall consult with the Food Safety Section of DHS Food and Drug Branch (DHS F&D), to compile a list of (a) specific crops approved by DHS F&D to receive recycled water (hereafter Approved Crop List) and (b) irrigation methods approved by DHS F&D for the application of recycled water on approved use areas (hereafter Approved Irrigation Methods). The Title 22 Engineering Report is subject to the requirements of Provision G.4 and is subject to DHS approval. Upon written acceptance of the Title 22 Engineering Report by the Executive Officer, this Provision shall be considered satisfied.
7. By **1 November 2002**, the Discharger shall submit a feasibility study that describes opportunities to recycle effluent on agricultural lands where fresh water is currently used. The

study shall also include implementation schedules for each identified opportunity. Upon written acceptance of the feasibility study by the Executive Officer, this Provision shall be considered satisfied.

8. The Discharger shall implement water recycling whenever and wherever a reasonable opportunity arises to supply recycled water in place of or as a supplement to the use of fresh water or better quality water, as for irrigation of commercial crops. This condition of discharge shall be self-implementing and subject to enforcement only if the Discharger cannot demonstrate to the satisfaction of the Regional Board that the exception was a recycling project not of maximum benefit to the people of the State.
9. For the Discharger to be permitted to increase its discharge to 1.94 mgd subsequent to satisfying Provision G.5, it must submit (a) a written report for accountability of compliance with Provision G.8, including plans to recycle wastewater or reasons why it is not possible to do so, and (b) written certification from a California registered civil engineer that it has expanded the WWTF's effluent disposal capacity to 1.94 mgd. The certification is subject to the requirements of Provision G.4. Upon written acceptance of the written report and certification by the Executive Officer, this Provision shall be considered satisfied.
10. The Discharger shall submit a work plan and implementation schedule for implementing corrective measures for the WWTF's sludge handling facilities to ensure consistent compliance with Discharge Specification B.17 and Sludge Specifications C.2 and C.3. The Discharger shall comply with the following compliance schedule in implementing the work required by this Provision:

<u>Task</u>	<u>Compliance Date</u>
a. Submit technical report describing a work plan and implementation schedule for modifying sludge handling facilities to reflect BPTC	1 June 2002
b. Implement work plan	30 days following Executive Officer approval of task 10.a
c. Submit status report	Every 180 days following completion of task 10.b
d. Submit technical report certifying that sludge handling facilities have been modified to reflect BPTC.	15 January 2004

Technical reports submitted pursuant to this Provision shall be subject to the requirements of Provision G.4 and are subject to Executive Officer approval.

11. By **1 August 2002**, the Discharger shall submit a technical report that contains a characterization of the discharge for appropriate constituents identified in Title 22 (as described in Finding No. 32). The report shall describe the sampling program utilized to characterize the discharge and the technical justification for selecting tested Title 22 constituents as being appropriate for the discharge. The report shall be subject to the requirements of Provision G.4 and is subject to Executive Officer approval.
12. By **1 September 2002**, the Discharger shall submit a technical report describing a sludge management plan that satisfies the information requirements of Attachment E *Information Needs For Sludge Management Plan*. The technical report submitted pursuant to this Provision shall be subject to the requirements of Provision G.4 and is subject to Executive Officer written approval.
13. By **1 November 2002**, the Discharger shall submit a technical report describing a salinity source control program. The technical report shall evaluate the results of an industrial survey conducted to identify significant contributors of high EC wastewaters to the treatment facility (e.g., olive processors), residential use of self-regulating water softeners, and other contributors of high EC wastewater. The technical report must include a summary of test results and average daily flows for each industrial contributor's wastewater, and a detailed description of the source control program proposed by the Discharger to regulate the discharge of salts to the WWTF. The technical report submitted pursuant to this Provision shall be subject to the requirements of Provision G.4 and is subject to Executive Officer approval. Annual monitoring reports summarizing progress towards compliance with Discharge Specification B.6 shall be submitted by **1 February** of each year.
14. **Hydrogeologic Evaluation and Groundwater Monitoring Tasks.** The Discharger shall complete a hydrogeologic investigation within the area affected and potentially affected by the WWTF and its discharge(s) to land. The technical report documenting the hydrogeologic investigation shall describe the area's hydrogeology, existing wells (active and otherwise), local well construction practices and standards, well restrictions, and groundwater extraction and recharge patterns. The technical report shall also discuss the potential horizontal and vertical extent of percolated effluent and adverse effects on receiving water quality from the WWTF and its discharge(s) to land. The technical report shall recommend and justify specific monitoring zones for determination of compliance with this Order's groundwater limitations and Provision G.20 regarding BPTC implementation.

Following completion of its hydrogeologic investigation, the Discharger shall submit a technical report describing a proposed modified groundwater monitoring well network. The technical report shall consist of a monitoring well installation work plan that satisfies Attachment F, *Standard Monitoring Well Provisions for Waste Discharge Requirements*. The network shall include one or more background monitoring wells and sufficient number of designated monitoring wells to evaluate performance of BPTC measures and compliance with this Order's groundwater limitations. These include monitoring wells immediately downgradient of representative treatment, storage, and disposal units that do or may release

waste constituents to groundwater with the exception of wastewater Use Areas to which the Discharger applies effluent at reasonable agronomic rates.

All wells shall comply with appropriate standards as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 94-81* (December 1981), and any more stringent standards adopted by the Discharger or county pursuant to CWC section 13801. The existing well network will be evaluated as part of this effort, and the proposed network should include existing monitoring wells where they will serve to measure compliance or provide other relevant information (e.g., depth to groundwater) and recommend their destruction if they will no longer serve a useful purpose.

The Discharger shall install approved monitoring wells, properly destroy ineffective wells, and commence groundwater monitoring in accord with this Order's Monitoring and Reporting Program (MRP). After the first sampling event, the Discharger shall report on its sampling protocol as specified in this Order's MRP. After one year of monitoring, the Discharger shall characterize natural background quality of monitored constituents in a technical report. The Discharger shall comply with the following compliance schedule in implementing the work required by this Provision:

<u>Task</u>	<u>Compliance Date</u>
a. Submit technical report: hydrogeologic investigation	1 November 2002
b. Submit technical report: revised monitoring well installation work plan	120 days following completion of task a
c. Implement monitoring well installation work plan	30 days following completion of task b
d. Complete monitoring well installation and well destruction and commence groundwater monitoring	60 days following completion of task c
e. Submit technical report: monitoring well installation report of results	30 days following completion of task d
f. Submit technical report on sampling procedures and proposed Data Analysis Methods as described in the MRP	1 st day of the second month following the first sampling event
g. Submit technical report: natural background quality	365 days following completion of task e

Technical reports submitted pursuant to this Provision shall be subject to the requirements of Provision G.4 and are subject to Executive Officer approval.

15. Compliance with groundwater limitations will be evaluated based on data collected from approved representative monitoring zones following completion of Provision G.14, task g.

Should the Discharger fail to comply with the schedule to characterize natural background groundwater quality at approved monitoring zones by the date specified in Provision G.14, task g, the Regional Board shall not consider the lack of natural background characterization as sufficient defense to enforcement for violations of Groundwater Limitations F.1 and F.2.

16. **BPTC Evaluation Tasks.** The Discharger shall propose a work plan and schedule for a systematic and comprehensive technical evaluation of each major component of the WWTF's waste treatment and control to determine for each waste constituent BPTC as required by Resolution 68-16. The technical report describing the work plan and schedule shall contain a preliminary evaluation of each component and propose a time schedule for completing the comprehensive technical evaluation. Following completion of the comprehensive technical evaluation, the Discharger shall submit a technical report describing the evaluation's results and critiquing each evaluated component with respect to BPTC and minimizing the discharge's impact on groundwater quality. Where deficiencies are documented, the technical report shall provide recommendations for necessary modifications (e.g., new or revised salinity source control measures, WWTF component upgrade and retrofit) to achieve BPTC and identify the source of funding and proposed schedule for modifications. The schedule shall be as short as practicable but in no case shall completion of the necessary modifications exceed four years past the Executive Officer's determination of the adequacy of the comprehensive technical evaluation, unless the schedule is reviewed and specifically approved by the Regional Board. The technical report shall include specific methods the Discharger proposes as a means to measure processes and assure continuous optimal performance of BPTC measures. The Discharger shall comply with the following compliance schedule in implementing the work required by this Provision:

<u>Task</u>	<u>Compliance Date</u>
a. Submit technical report: work plan and schedule for comprehensive evaluation	1 November 2002
b. Commence comprehensive evaluation	30 days following Executive Officer approval of task a
c. Complete comprehensive evaluation	As established by task a or 2 years following task b, whichever is sooner
d. Submit technical report: comprehensive evaluation results	60 days following completion of task c, or three years following Order adoption, whichever is sooner

<u>Task</u>	<u>Compliance Date</u>
e. Include in its annual report (described in the MRP) a description of the overall status of BPTC implementation and compliance with interim groundwater limitations over the past reporting year	Annually on 1 February following completion of task d

Technical reports submitted pursuant to this Provision shall be subject to the requirements of Provision G.4 and are subject to Executive Officer approval as to adequacy.

17. By **1 May 2005**, the Discharger shall submit a technical report that proposes specific numeric groundwater limitations for each waste constituent that reflects full implementation of BPTC and compliance with the most stringent applicable water quality objectives for that waste constituent. The most stringent applicable water quality objective shall be interpreted based on the Regional Board policy entitled "Application of Water Quality Objectives" on pages IV-21 through IV-23 of the Basin Plan. If the Discharger wishes the Regional Board to consider a proposed water quality limitation that is less stringent than the most stringent water quality objective necessary to protect the most sensitive beneficial use (e.g., sprinkler application of citrus trees), it must provide documentation necessary to support the proposed limitation. For example, where the stringency of a proposed water quality objective can vary according to land use and other factors, and the Discharger's BPTC cannot assure the most stringent objective will be met, the Discharger must provide documentation that a less stringent but attainable water quality objective is protective of all existing and probable beneficial uses. This documentation must be from public agencies and organizations with appropriate expertise and authority relative to the uses potentially affected by the less stringent objective, or the water necessary to sustain the uses. The Discharger should submit results of a validated groundwater model or other hydrogeologic information to support its proposal. The technical report submitted pursuant to this Provision shall be subject to the requirements of Provision G.4 and is subject to Executive Officer approval as to adequacy.
18. Upon completion of tasks set forth in Provisions G.16 and G.17, the Regional Board shall consider the evidence provided by the Discharger in determining whether the Discharger has justified its treatment and control methods as BPTC. Further, the Regional Board shall consider the Discharger's proposed waste-specific numeric groundwater limitation that both reflects full implementation of BPTC and complies with the applicable governing water quality objective. The Regional Board shall reopen and revise this Order to contain conditions designed to assure full implementation of BPTC and compliance with the maximum permissible groundwater limitation consistent with Resolution 68-16.
19. 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 stormwater (i.e., inflow), groundwater (i.e., infiltration), cooling waters, and condensates that are essentially free of pollutants.

20. The Discharger shall use best practicable treatment and control, including proper operation and maintenance, to comply with terms of this Order.
21. The Discharger shall report to the Regional Board any toxic chemical release data it reports to the local emergency services coordinator pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986" within 15 days of such reporting. If the Regional Board determines that the toxic waste constituent had or has a reasonable potential to cause or contribute to violation of a water quality objective, the Regional Board may reopen this Order and prescribe an effluent limitation for the constituent.
22. If the Regional Board determines that waste constituents in the discharge have reasonable potential to cause or contribute to an exceedance of a limit for groundwater, this Order may be enforced or, alternately, reopened for consideration of addition or revision of appropriate numerical effluent or groundwater limitations for the problem constituents.
23. 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 Regional 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 Regional Board by letter when it returns to compliance with the time schedule. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
24. 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 this office. To assume operation 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 address and telephone number of the persons responsible for contact with the Regional 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 California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.
25. The Regional Board will review this Order periodically and will revise requirements when necessary.

I, GARY M. CARLTON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 26 April 2002.



GARY M. CARLTON, Executive Officer

Order Attachments:

Monitoring Standard Provisions

A. Location Map

B. Flow Diagram

C. Monitoring Well Map

D. Recycled Water Sign Symbol

E. Information Needs for Sludge Management Plan

F. Standard Monitoring Well Provisions for Waste Discharge Requirements

G. Recommended Use Area Monitoring Form

Information Sheet

Standard Provisions (1 March 1991 version) (separate attachment to Discharger only)

das/jlk:fmc: 4/26/02

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

REVISED MONITORING AND REPORTING PROGRAM NO. R5-2002-0063
FOR
CITY OF EXETER
WASTEWATER TREATMENT FACILITY
TULARE COUNTY

This Monitoring and Reporting Program (MRP) is required pursuant to California Water Code section 13267. The Discharger shall not implement any changes to this MRP unless and until the Regional Board adopts or the Executive Officer issues a revised MRP. Influent and effluent sample station locations are depicted on Attachment B. Changes to these sample locations shall be established with concurrence of Regional Board's staff, and a description of the revised stations shall be submitted to the Regional Board and, following approval of the Executive Officer, attached by the Discharger to its copy of this Order. All samples should be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each sample shall be recorded on the sample chain of custody form. All analyses shall be performed in accordance with Standard Provisions, Provisions for Monitoring.

INFLUENT MONITORING

The Discharger shall collect influent samples at the headworks of the treatment facility prior to any treatment of waste. Time of a grab sample shall be recorded. Influent monitoring shall include at least the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Maximum Daily Flow	mgd	Continuous	Continuous
Average Daily Flow	mgd	Computed	Daily ¹
Monthly Average Flow	mgd	Computed	Monthly
Settleable Solids	mL/L	Grab	2/week ²
pH	pH units	Grab	2/week ²
BOD ₅ ³	mg/L	8-hr Composite ⁴	2/week ²
Monthly Average BOD ₅	mg/L	Calculated	Monthly
TSS ⁵	mg/L	8-hr Composite ⁴	2/week ²
Monthly Average TSS	mg/L	Calculated	Monthly

¹ Sample frequencies referenced hereafter in this program as daily shall not include weekends or holidays.

² On nonconsecutive days

³ Five-day, 20°C biochemical oxygen demand

⁴ 8-hour composite sampling as referred to in this program shall be flow-proportioned.

⁵ Total Suspended Solids

EFFLUENT MONITORING

The Discharger shall collect effluent samples at a point in the system following treatment and before discharge to the ponds (or Use Area, if applicable). Effluent samples shall be representative of the volume and nature of the discharge. Time of collection of a grab sample shall be recorded. Effluent monitoring shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency¹</u>
Settleable Solids	mL/L	Grab	Daily
pH	pH Units	Grab	Daily
Total Coliform Bacteria	MPN/100 ml	Grab	Daily ^{2,3}
BOD ₅			
Concentration	mg/L	8-hr Composite	Weekly
Monthly Average	mg/L	Calculated	Monthly
Percent Removal	%	Calculated	Monthly
TSS			
Concentration	mg/L	8-hr Composite	Weekly
Monthly Average	mg/L	Calculated	Monthly
Percent Removal	%	Calculated	Monthly
Total Dissolved Solids (TDS) ⁴	mg/L	8-hr Composite	2/Month ^{5,6}
EC ⁷	µmhos/cm	8-hr Composite	2/Week
Nitrate (as N)	mg/L	8-hr Composite	2/Month ⁶
Total Kjeldahl Nitrogen (TKN)	mg/L	8-hr Composite	2/Month ⁶
Total Nitrogen	mg/L	Calculated	2/Month ⁶
Ammonia	mg/L	8-hr Composite	2/Month ⁶
General Minerals ⁸	mg/L	Grab	Semiannually ⁹
Title 22 constituents ¹⁰	varies	8-hr Composite or Grab, whichever is appropriate	Tri-annually ¹¹

¹ If results of monitoring a pollutant appear to violate discharge specifications, but monitoring frequency is not sufficient to validate violation (e.g., the monthly mean for BOD₅), or indicate a violation and potential upset of the treatment process, the frequency of sampling shall be increased to confirm the magnitude and duration of violation, if any, and aid in identification and resolution of the problem.

² If required by Discharge Specification B.18

³ Daily when Discharging to the Use Area

⁴ TDS referenced hereafter in this program shall be determined using Environmental Protection Agency (EPA) Method No. 160.1 for combined organic and inorganic TDS and EPA Method No. 160.4 for inorganic TDS or equivalent analytical procedures specified in 40 Code of Federal Regulations (CFR) Part 136.

⁵ After six months, may be reduced to semiannually (April and October).

⁶ In nonconsecutive weeks coincident with influent EC sampling.

⁷ Conductivity at 25°C

⁸ General Minerals as referred to in this program shall include the constituents in the General Minerals Analyte List presented below.

⁹ April and October

¹⁰ Title 22 constituents, as used in this program, shall refer to constituents identified in the technical report submitted pursuant to Provision G.11.

¹¹ To coincide with source water testing performed by the City of Exeter for the Department of Health Services.

General Minerals Analyte List

Alkalinity (as CaCO ₃)	Carbonate (as CaCO ₃)	Manganese
Aluminum	Chloride	Phosphate
Bicarbonate (as CaCO ₃)	Hardness (as CaCO ₃)	Potassium
Boron	Iron	Sodium
Calcium	Magnesium	Sulfate

General Minerals Sample Collection and Preservation: With the exception of effluent samples, samples placed in an acid-preserved bottle must first be filtered through a 0.45 µm nominal pore size filter. If field filtering is not feasible, samples shall be collected in unpreserved containers and submitted to the laboratory within 24-hours with a request (on the chain-of-custody form) to immediately filter then preserve the sample.

POND MONITORING

Ponds shall be sampled systematically for the parameters specified below. Freeboard shall be monitored on all ponds in use to the nearest one tenth of a foot. Pond monitoring shall include at least the following:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency¹</u>
Dissolved Oxygen (DO)	mg/L	Grab ²	As Required ³
Freeboard	feet ⁴	Observation	Weekly

- ¹ If results of monitoring appear to violate effluent limitations, but monitoring frequency is not sufficient to validate violation or indicate a violation and potential upset of the treatment process (e.g., less than minimum dissolved oxygen concentration), the frequency of sampling shall be increased to confirm the magnitude and duration of violation, if any, and aid in identification and resolution of the problem.
- ² Samples shall be collected at a depth of one foot from each pond in use, opposite the inlet, and analyzed for DO. Samples shall be collected between 0700 and 0900 hours. If DO results for any pond in use indicate noncompliance with the effluent limit, the Discharger shall implement corrective measures as specified in the operation and maintenance manual and monitor said pond daily until its DO stabilizes above 1 mg/L.
- ³ If offensive odor detected by or brought to the attention of WWTF personnel, monitor affected pond(s) daily until dissolved oxygen > 1.0 mg/L. If DO results for any pond in use indicate noncompliance with Discharge Specification B.9, the Discharger shall implement corrective measures as specified in the O&M manual and monitor said pond daily until its DO stabilizes above 1.0 mg/L.
- ⁴ Freeboard shall be monitored to the nearest tenth of a foot.

In addition, the Discharger shall inspect the condition of 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 pond surface and their location; whether burrowing animals or insects are present; and the color of the ponds (e.g., dark sparkling green, dull green, yellow, gray, tan, brown, etc.). A summary of the entries made in the log during each month shall be submitted along with the monitoring report the following month. If the Discharger finds itself in violation of Discharge Specifications B.8, B.9, B.10, and B.11, the Discharger shall briefly explain the action taken or to be taken to correct the violation. The Discharger shall certify in each November monitoring report that it is in compliance with Discharge Specification B.16.

USE AREA MONITORING

The amounts of water and/or recycled water applied to the Use Area (in acre-feet) and amounts of chemical fertilizers (in pounds of nitrogen per acre) shall be measured and reported to the Regional Board quarterly in accordance with the following schedule:

<u>Monitoring Period</u>	<u>Data Due</u>
January – March	1 May
April – June	1 August
July – September	1 November
October - December	1 February

The Discharger shall utilize the form presented in Attachment G (or variation thereof subject to Regional Board staff approval) for reporting the Use Area monitoring data.

GROUNDWATER MONITORING

Prior to collecting samples and after measuring the water level, each monitoring well 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.

In the technical report submitted pursuant to Provision G.14 task f describing the results of the first sampling event performed pursuant to this program, the Discharger shall include a detailed description of the procedures and techniques for: (a) sample collection, including purging techniques, sampling equipment, and decontamination of sampling equipment; (b) sample preservation and shipment; (c) analytical procedures; and (d) chain of custody control. As it continues to monitor groundwater pursuant to this program, the Discharger shall report when it deviates from these procedures and techniques.

At least quarterly and concurrently with groundwater quality sampling, the Discharger shall measure the water level in each well as groundwater depth (in feet and hundredths) and as groundwater surface elevation (in feet and hundredths above mean sea level). The horizontal geodetic location for each monitoring well shall be provided where the point of beginning shall be described by the California State Plane Coordinate System, 1983 datum.

Samples shall be collected from approved monitoring wells and analyzed for the following constituents at the following frequency:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Frequency</u>
Depth to groundwater	To 0.01 foot hundredths	Measured	Quarterly ¹
Groundwater elevation	Above mean sea level, to 0.01 foot	Calculated	Quarterly ¹
∞ pH	pH Units	Grab	Quarterly ¹
∞ Total Organic Carbon	mg/L	Grab	Semiannually ²
Nitrogen compounds:			
∞ Ammonia (as NH ₃ -N)	mg/L	Grab	Semiannually ²
∞ Nitrate (as NO ₃ -N)	mg/L	Grab	Quarterly ¹
∞ Total Kjeldahl Nitrogen (TKN)	mg/L	Grab	Semiannually ²
∞ Total Organic Nitrogen (as N)	mg/L	Calculated	Semiannually ²
Salinity compounds/parameters:			
∞ EC	µmhos/cm	Grab	Quarterly ¹
∞ Chloride	mg/L	Grab	Quarterly ¹
∞ Total dissolved solids	mg/L	Grab	Quarterly ¹
SAR ³	None	Calculated	Semiannually ²
<u>General Minerals</u>	mg/L	Grab	Semiannually ²

¹ January, April, July, and October

² April and October

³ Sodium adsorption ratio (SAR) = $\frac{Na}{\sqrt{\frac{Ca + Mg}{2}}}$, where Na, Cl, and Mg are in meq/L

Additionally, the Discharger shall include in the Provision G.14 task f technical report a technical description of proposed Data Analysis Methods for evaluating groundwater monitoring data (e.g., equivalent or similar to that described in Title 27, section 20415(e)(7-10)), consisting, at a minimum, methods to: (a) characterize natural background water quality of monitored constituents; (b) determine statistically significant differences between background and compliance wells for constituents that do not have water quality objectives or have background concentrations that exceed water quality objectives; and (c) select the minimum sample size required for the proposed data analysis approach and, if greater than that required by this program (i.e., quarterly), identification of when and how the additional samples will be collected during the one-year groundwater characterization period.

The network-wide false positive rate and statistical power are directly related. That is, as the false-positive rate increases, power, the ability of the statistical test to detect an actual release, also increases. Conversely, as the false-positive rate decreases, statistical power also decreases. Strategies to minimize the network-wide false positive rate and maximize a statistical test's power generally require careful review of the analytical data set, selection of a minimum number of representative wells and constituents

to compare, and a retesting procedure for wells when an elevated concentration is detected. A detailed discussion of these topics can be found in *Addendum to Interim Final Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities*, U.S. EPA, July 1992.. Due to the importance of these factors performing statistical analyses of groundwater data, the Discharger must also include in the Provision G.14 task f technical report a technical discussion on how it intends to (a) minimize network-wide false positive rate to less than five percent, and (b) maximize statistical power. As it continues to monitor groundwater pursuant to this program, the Discharger shall report when it deviates from the proposed Data Analysis Methods.

After one full year of groundwater monitoring, the Discharger shall analyze monitoring data from background well(s) to compute background water quality values for each monitored constituent and to perform an initial assessment of whether there is evidence of an impact from the discharge. To complete this task, the Discharger shall follow its proposed Data Analysis Methods described in the technical report required by Provision G.14 task f. Reports thereafter shall be submitted quarterly by the **1st day of the second month** after the prescribed sample collection and shall include the same analysis. The Discharger shall characterize groundwater quality using the proposed Data Analysis Method on the following constituents:

Groundwater Constituents to Evaluate Using Data Analysis Method

Alkalinity (as CaCO ₃)	Nitrate (as N)
Ammonia (as N)	Phosphate
Bicarbonate (as CaCO ₃)	Potassium
Boron	Sodium
Calcium	Sulfate
Chloride	TDS
Hardness (as CaCO ₃)	TKN
Iron	Total Nitrogen
Magnesium	TOC

WATER SUPPLY MONITORING

The supply water for City of Exeter shall be monitored as follows:

<u>Constituent</u>	<u>Units</u>	<u>Measurement</u>	<u>Frequency</u>
EC ³	µmhos/cm	Grab	Quarterly ^{2, 3}

¹ EC shall be reported as a flow-weighted average from all supply wells. Include copies of supporting calculations with monitoring reports.

² January, April, July and October

³ May be reduced to annually (October) after two years of quarterly sampling

Following two years of sampling in the manner specified, the Discharger may, following written approval by the Executive officer, establish a sampling station where a representative sample of the City's water supply can be obtained.

SLUDGE MONITORING

To ensure that discharges to the WWTF are not degrading sludge quality, the Discharger shall collect a composite sample of sludge at least annually in accordance with EPA's *POTW SLUDGE SAMPLING AND ANALYSIS GUIDANCE DOCUMENT, AUGUST 1989*, and test for metals:

Arsenic	Copper	Nickel
Cadmium	Lead	Selenium
Molybdenum	Mercury	Zinc

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 for part of the annual report. Prior to any disposal or land application of sewage sludge, or removal of sewage sludge from the WWTF, the monitoring and record keeping requirements of 40 CFR 503 shall be met.

REPORTING

The Discharger shall report monitoring data and information as required in this MRP and as required in the Standard Provisions and Reporting Requirements. All reports submitted in response to this MRP shall comply with the signatory requirements in Standard Provisions, General Reporting Requirements B.3. Daily, twice weekly, weekly, twice monthly, and monthly monitoring data shall be reported in monthly monitoring reports. Monthly monitoring reports shall be submitted to the Regional Board by the **1st day of second month following sampling**. Quarterly monitoring reports shall be submitted by **1st day of second month after the calendar quarter**.

Monitoring data and/or discussions submitted concerning WWTF performance must also be signed and certified by the chief plant operator. When reports contain laboratory analyses performed by the Discharger and the chief plant operator is not in the direct line of supervision of the laboratory, reports must also be signed and certified by the chief of the laboratory.

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. If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the discharge monitoring report.

The Discharger may also be requested to submit an annual report to the Regional Board with tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss any corrective actions the Discharger takes or plans to take to bring the discharge into full compliance with the waste discharge requirements.

By **1 February of each year**, the Discharger shall submit a written report to the Executive Officer containing the following:

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 calibration (Standard Provision C.4).
4. A statement whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment facility as currently constructed and operated, and the dates when these documents were last reviewed for adequacy.
5. The results of an annual evaluation conducted pursuant to Standard Provision E.4 and a figure depicting monthly average discharge flow for the past five years.
6. The most recent City of Exeter annual water supply report.
7. A summary of salinity source control accomplishments and progress towards consistent compliance with Discharge Specification B.6 (discharge EC limitation) pursuant to Provision G.13 of this Order.
8. A summary of groundwater monitoring in a format (both printed and electronic) selected in concurrence with Regional Board staff, including
 - a. Hydrographs showing the groundwater elevation in approved wells for at least the previous five years or to the extent that such data are available, whichever is fewer. The hydrographs should show groundwater elevation with respect to the elevations of the top and bottom of the screened interval and be presented at a scale of values appropriate to show trends or variations in groundwater elevation. The scale for the background plots shall be the same as that used to plot downgradient elevation data;
 - b. Graphs of the laboratory analytical data for samples taken from approved wells within at least the previous five calendar years (as data become available). Each such graph shall plot the concentration of one or more waste constituents specified below over time for a given monitoring well, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. For any given constituent, the scale for the background plots shall be the same as that used to plot downgradient data. Separate graphs shall show hydrologic equipotential gradients and equal concentration gradients for constituents below selected in concurrence with Regional Board staff.

Potential Groundwater Constituents to Evaluate

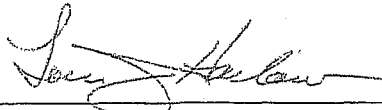
Alkalinity (as CaCO ₃)	Phosphate
Ammonia (as N)	Potassium
Boron	Sodium
Calcium	Sulfate
Chloride	TDS
Hardness (as CaCO ₃)	TKN

Potential Groundwater Constituents to Evaluate

Iron	Total Nitrogen
Magnesium	TOC
Nitrate (as N)	

- c. All monitoring analytical data obtained during the previous four quarterly reporting periods, presented in tabular form, as well as on 3.5" computer diskette.
 - d. A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned that may be needed to bring the Discharger into full compliance with the waste discharge requirements.
9. A summary of sludge monitoring, including
- a. Annual sludge production in dry tons and percent solids.
 - b. A schematic diagram showing sludge handling facilities and solids flow diagram.
 - c. 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 annual sludge production disposed of by each method.
 - i. For **landfill disposal**, include: (a) the Order numbers of WDRs that regulate the landfill(s) used, (b) the present classifications of the landfill(s) used, and (c) the names and locations of the facilities receiving sludge.
 - ii. For **land application**, include: (a) the locations of the site(s), and (b) the Order numbers of any WDRs that regulate the site(s).
 - iii. For **incineration**, include: (a) the names and location of the site(s) where sludge incineration occurs, (b) the Order numbers of WDRs that regulate the site(s), (c) the disposal method of ash, and (d) the names and locations of facilities receiving ash (if applicable).
 - iv. For **composting**, include: (a) the location of the site(s), and (b) the Order numbers of any WDRs that regulate the site(s).
10. A summary and discussion of the compliance record for the reporting period. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with this Order.

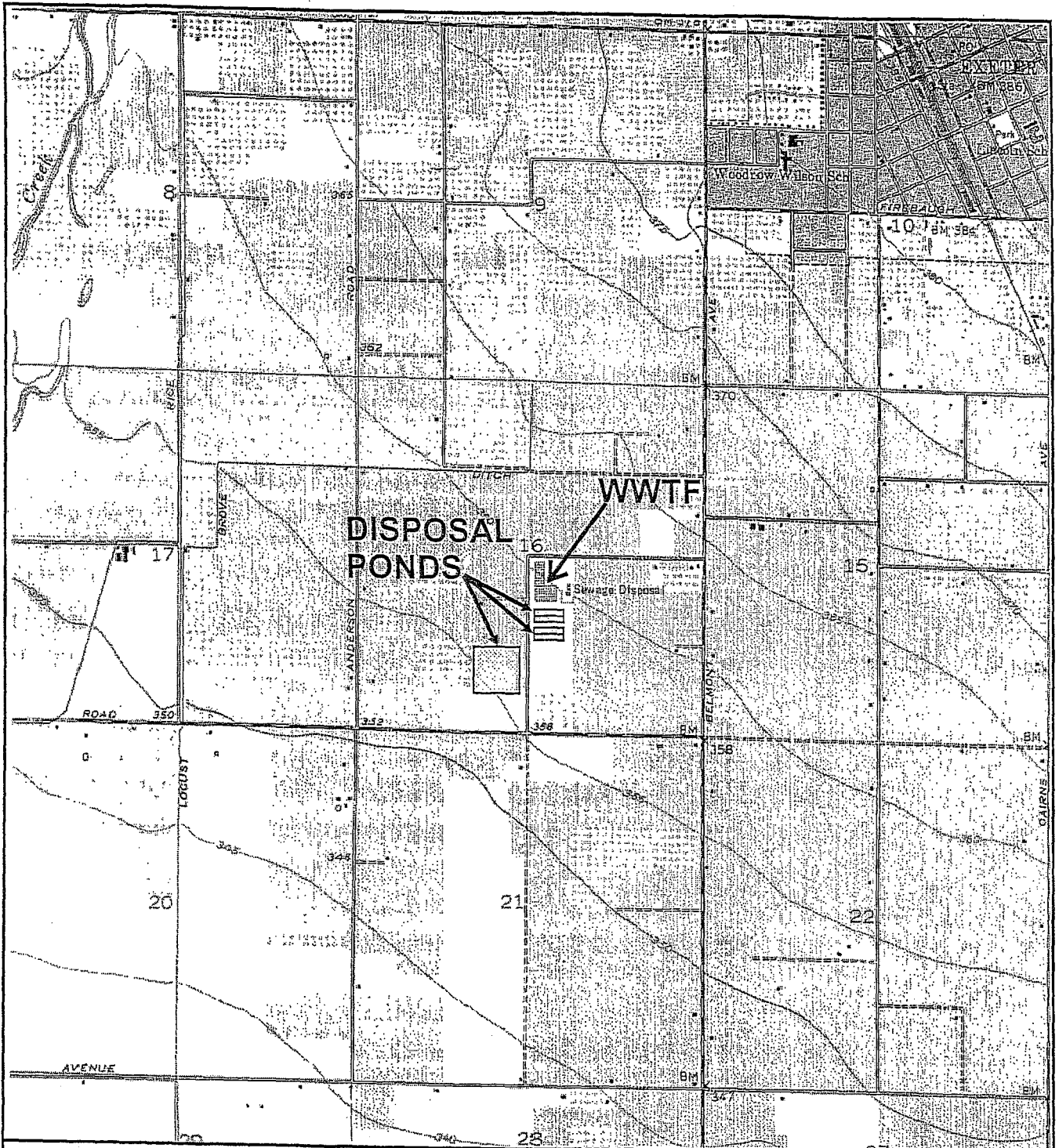
The Discharger shall implement the above monitoring program no later than 1 March 2004.



THOMAS R. PINKOS, Executive Officer

23 February 2004

(Date)

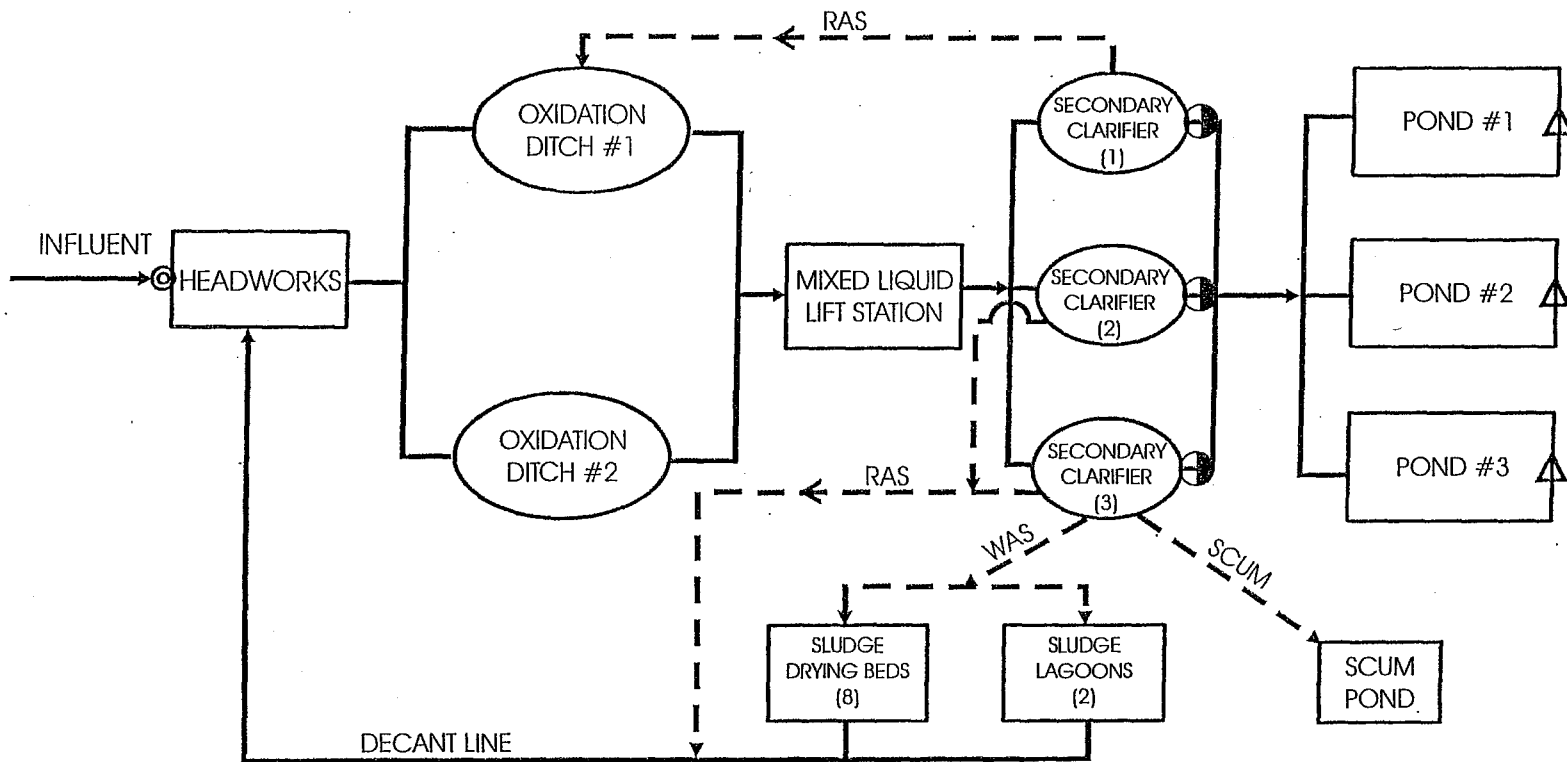


LEGEND



MAP SOURCE: EXETER 7.5' USGS QUADRANGLE

ATTACHMENT A
 WASTE DISCHARGE REQUIREMENTS
 ORDER NO. R5-2002-0063
 LOCATION MAP
 CITY OF EXETER
 WASTEWATER TREATMENT FACILITY
 TULARE COUNTY
 SECTION 16&18, T19S, R26E, MDB&M



LEGEND

- ⊙ INFLUENT SAMPLING POINT
- EFFLUENT SAMPLING POINT
- △ POND SAMPLING POINT

ATTACHMENT B

WASTE DISCHARGE REQUIREMENTS
ORDER NO. R5-2002-0063

FLOW DIAGRAM

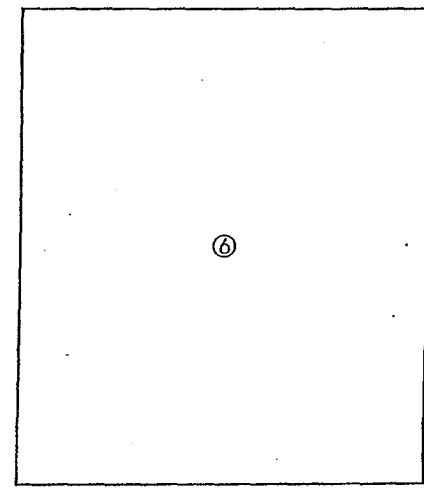
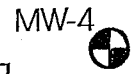
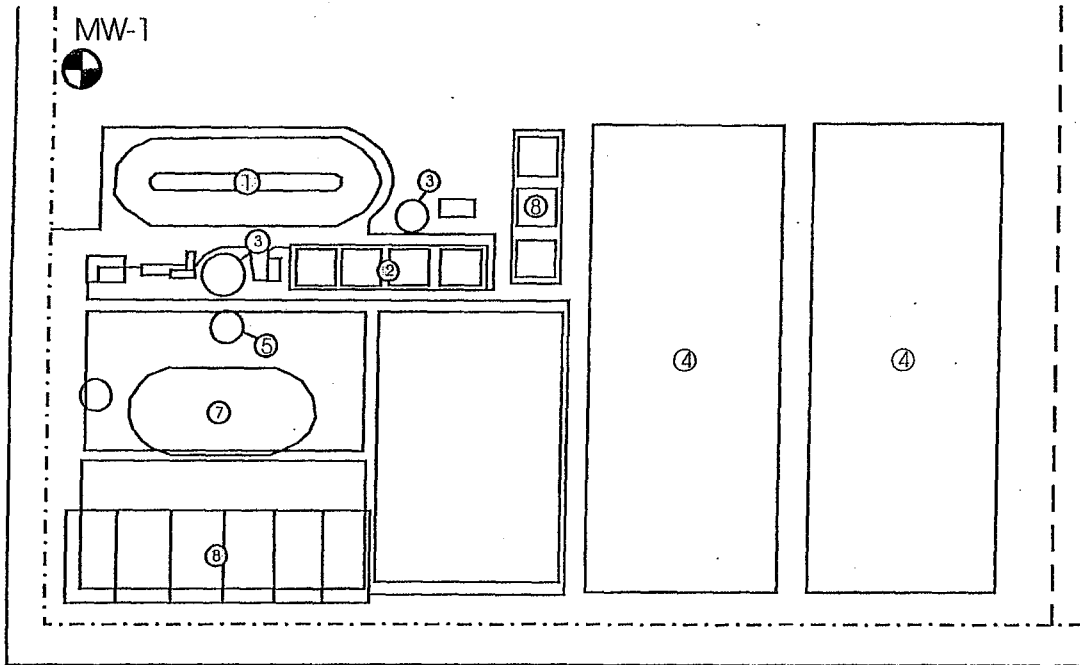
CITY OF EXETER
WASTEWATER TREATMENT FACILITY
TULARE COUNTY

ATTACHMENT C

WASTE DISCHARGE REQUIREMENTS
ORDER NO. R5-2002-0063

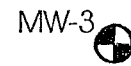
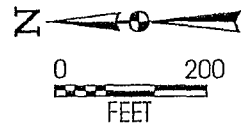
MONITORING WELL MAP

CITY OF EXETER
WASTEWATER TREATMENT FACILITY
TULARE COUNTY



LEGEND

- ① OXIDATION DITCH
- ② SLUDGE DRYING BEDS
- ③ SECONDARY CLARIFIER
- ④ STORAGE/PERCOLATION POND
- ⑤ SECONDARY CLARIFIER
- ⑥ STORAGE/PERCOLATION POND
- ⑦ OXIDATION DITCH
- ⑧ SLUDGE DRYING BEDS





ATTACHMENT D
WASTE DISCHARGE REQUIREMENTS
ORDER NO. R5-2002-0063
SYMBOL FOR RECYCLE WATER SIGNS
CITY OF EXETER
WASTEWATER TREATMENT FACILITY
TULARE COUNTY