

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2007-0153

WASTE DISCHARGE REQUIREMENTS
FOR
STOCO MUTUAL WATER AND SEWER COMPANY
WASTEWATER TREATMENT FACILITY
KERN COUNTY

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

1. The Stoco Mutual Water and Sewer Company, a mutual benefit corporation (hereafter Stoco), owns and operates the wastewater treatment facility (WWTF). The property on which the WWTF (APN No. 160-03-22) resides and where the discharge occurs is owned by Mohamed Hugais, et. al. The land on which the wastewater lift station (APN No. 160-030-08) resides is Goraya Mohammad, et. al. Stoco and the owner of the land on which the WWTF and lift station reside are hereafter jointly referred to as Discharger. The WWTF provides sewerage for the California Highway Patrol Office, a gas station, restaurants, and two motels.
2. The WWTF is along Interstate Five and the Stockdale Highway, approximately one-mile northeast of Tupman, in the northeast quarter of Section 6, T30S, R25E, MDB&M, as shown on Attachment A, which is attached hereto and made part of this Order by reference.
3. Waste Discharge Requirements (WDRs) Order No. 74-387 adopted on 26 July 1974, restricted the monthly average discharge flow to 0.05 mgd. The WDRs require that the Discharger maintain a minimum dissolved oxygen (DO) of 1.0 mg/L in the ponds to prevent nuisance.
4. The purpose of this Order is to rescind WDRs Order No. 74-387 and prescribe requirements that are consistent with Regional Water Board plans and policies.

Wastewater Treatment Facility

5. The WWTF consists of the wastewater collection system, an influent pump station, and two evaporation and percolation ponds (Ponds 1 and 2). Wastewater from the pump station is discharged to Pond 1, about 1,500 feet southeast of the pump station. Originally the WWTF was designed to discharge to a 2.67-acre primary unlined stabilization pond (Pond 1), followed by a 1.33-acre unlined polishing pond (Pond 2), each are about 8 ft deep. The Discharger has since "cross-cut" Pond 1 into four separate smaller ponds (Ponds 1.a. through 1.d.) that are about 2 – 3 feet deep. Wastewater is discharged to each pond as necessary. Pond 2 is rarely, if ever, used.
6. Currently, the Discharger does not have a method for removing headworks waste, but intends to install a grinder pump. Sludge, if removed from Pond 1.a. through 1.d., is

typically stockpiled onsite. If sludge is not removed, Pond 1.a. through 1.d. are dried and the sludge disced into the bottoms.

7. Historically, the WWTF was equipped with a wastewater flow meter, which is no longer functional. The Discharger is currently monitoring flow using water usage meter readings.
8. Data to characterize the discharge is limited; however, results from a June 2007 Regional Water Board staff inspection characterize the wastewater in Pond 1.a as follows:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Discharge</u>
Monthly Average Discharge Flow	mgd	0.02 to 0.03 ¹
Conventional Pollutants		
BOD ²	mg/L	16
TSS ³	mg/L	96
Salts		
Chloride	mg/L	100
Boron	mg/L	0.19
Sodium	mg/L	120
EC ⁴	µmhos/cm	880
Nitrogen Forms		
Nitrate as Nitrogen	mg/L	0.63
Total Nitrogen ⁵	mg/L	52

¹ Values estimated using water meter readings provided by the Discharger.

² 5-day biochemical oxygen demand (BOD)

³ Total suspended solids (TSS)

⁴ Electrical conductivity at 25°C (EC)

⁵ Calculated by summing the concentrations of nitrate as nitrogen and TKN, and assuming the concentration of nitrite is negligible.

9. Insufficient data exists to adequately characterize source water and discharge EC. However, based on the results from a June 2007 Regional Water Board staff inspection, the discharge is about 570 µmhos/cm greater than the source water.

Site-Specific Conditions

10. The WWTF 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 evaporation in the discharge area are about 5.69 inches and 108 inches, respectively, according to information published by California Department of Water Resources (DWR).
11. Soils in the area are of the Kimberlina series according to the USDA Natural Resources Conservation Service. Soils are sandy loams to a depth of approximately 3 feet. Soils

below 3 feet are typically stratified and sandy loams. Permeability is considered to be moderately rapid.

12. The WWTF is not within a 100-year floodplain according to Federal Emergency Management Agency maps.
13. The Discharger is not required to obtain coverage under a National Pollutant Discharge Elimination System general industrial storm water permit for the WWTF because all storm water runoff is retained onsite and does not discharge to a water of the United States.
14. Land use in the WWTF vicinity is agricultural with a confined animal operation less than one-mile northwest of the WWTF, and the community of Tupman one-mile southeast. The majority of the land use in the area is native vegetation. The primary crops grown within five miles of the WWTF include cotton, wheat, alfalfa, corn (forage), almonds, and to a lesser extent carrots, and grains according to DWR land use data published in 1998. Irrigation water is supplied by both groundwater and surface waters. Some salt sensitive crops (e.g., carrots, almonds) are grown in the area. The WWTF and its discharge is approximately two miles north of the Kern Water Bank Authority which recharges groundwater using high quality surface waters. Discharge from the WWTF is regionally downgradient of the Kern Water Bank Authority and a minor fraction of the total volume percolated.
15. The WWTF's ponds are in a remote location that limits public access; therefore, the potential for nuisance is minimal.

Water Recycling

16. The Discharger is not implementing water recycling. Flows at the WWTF are currently low and the Ponds remote. Given the existing conditions, water recycling is likely not feasible unless the flow increases and additional treatment is provided.

Groundwater Considerations

17. Regional groundwater is approximately 50 to 100 feet below ground surface (bgs) and flows generally north to northeasterly, with a perched groundwater table at about 20 feet bgs according to information in the Kern County Water Agency's *Water Supply Report 1999* (Water Supply Report), dated May 2003. In the discharge vicinity, the "modified E-clay" layer occurs about 350 to 400 feet bgs and is about 20 feet thick, according to *Geology of Fresh Ground-Water Basin, Central Valley, California, with Texture Maps and Sections*, by R. W. Page (U. S. Geological Survey Professional Paper 1401 – C, Washington, 1986). Regional groundwater data from the Water Supply Report indicates that the EC (converted from TDS) in the unconfined aquifer ranges from 850 to 1200 $\mu\text{mhos/cm}$. However, groundwater data within the area is limited.

18. The Discharger obtains its source water from an onsite well owned by the Discharger. The source water is of good quality according to data obtained from the State Water Board's Geotracker database. Excerpts of this data are presented below:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Value</u>
Arsenic	µg/L	5.9
Chloride	mg/L	19
EC	µmhos/cm	250
Nitrate (as N)	mg/L	1.5
TDS	mg/L	67

Basin Plan, Beneficial Uses, and Water Quality Objectives

19. The Water Quality Control Plan for the Tulare Lake Basin, 2nd Edition, (hereafter Basin Plan) designates beneficial uses, establishes numerical and narrative water quality objectives, contains implementation plans and policies for protecting all waters of the basin, and incorporates by reference plans and policies of the State Water Board. Pursuant to Section 13263(a) of the California Water Code (CWC), these waste discharge requirements implement the Basin Plan.
20. Water in the Tulare Lake Basin is in short supply, requiring importation of surface water from other parts of the State. The Basin Plan encourages recycling on irrigated crops wherever feasible and indicates that evaporation of recyclable wastewater is not an acceptable permanent disposal method where the opportunity exists to replace an existing use or proposed use of fresh water with recycled water. As indicated in Finding 16 above, the Discharger is not implementing water recycling. Recycling effluent in the future may be possible as development of land surrounding the area or site conditions change.
21. The WWTF is in Detailed Analysis Unit (DAU) No. 255 within the Kern County Basin hydrologic unit. The Basin Plan designates the beneficial uses of groundwater in this DAU as municipal and domestic supply, agricultural supply, industrial service supply, and wildlife habitat [supply].
22. The Basin Plan includes a water quality objective for chemical constituents that, at a minimum, require waters designated as domestic or municipal supply to meet the MCLs specified in Title 22. The Basin Plan recognizes that the Regional Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.
23. The Basin Plan establishes narrative water quality objectives for Chemical Constituents, Tastes and Odors, and Toxicity. The Toxicity objective, in summary, requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial uses. Quantifying a narrative water quality objective requires a

site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses.

24. The Basin Plan identifies the greatest long-term problem facing the entire Tulare Lake Basin as the increase in salinity in groundwater, which has accelerated due to the intensive use of soil and water resources by irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until there is a long-term solution to the salt imbalance. Until then, the Basin Plan establishes several salt management requirements, including:
- a. The incremental increase in salts from use and treatment must be controlled to the extent possible. The maximum EC shall not exceed the EC of the source water plus 500 $\mu\text{mhos/cm}$. When the source water is from more than one source, the EC shall be a weighted average of all sources.
 - b. Discharges to areas that may recharge good quality groundwaters shall not exceed an EC of 1,000 $\mu\text{mhos/cm}$, a chloride content of 175 mg/L, or boron content of 1.0 mg/L.

These effluent limits are considered best practicable treatment or control (BPTC).

25. The list of crops in Finding 14 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. Crops sensitive to salt and boron are currently being grown in the area are primarily due to the importation of high quality surface water.

Antidegradation Analysis

26. State Water Resources Control Board Resolution No. 68-16 ("Policy with Respect to Maintaining High Quality Waters of the State") (hereafter Resolution No. 68-16) prohibits degradation of groundwater unless it has been shown that:
- a. The degradation is consistent with the maximum benefit to the people of the State;
 - b. The degradation will not unreasonably affect present and anticipated future beneficial uses;
 - c. The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives; and
 - d. The discharger employs BPTC to minimize degradation.
27. The discharge is an existing discharge and will not change in character or volume from that allowed by WDRs Order No. 92-035. The overall mass of constituents, and therefore, the potential to impact water quality, remain unchanged.
28. This Order establishes groundwater limitations for the WWTF that will not unreasonably threaten present and anticipated beneficial uses or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan.

Other Regulatory Considerations

29. The United States Environmental Protection Agency (EPA) has promulgated biosolids reuse regulations in Title 40, Code of Federal Regulations, Part 503, Standards for the Use or Disposal of Sewage Sludge, which establishes management criteria for protection of ground and surface waters, sets application rates for heavy metals, and establishes stabilization and disinfection criteria. The Discharger may have separate and/or additional compliance, reporting, and permitting responsibilities to EPA. The RWD states that all biosolids will be hauled to a separate permitted facility.
30. As the discharge consists of treated domestic sewage and incidental discharges from treatment and storage facilities associated with a domestic wastewater treatment plant, and as these discharges are regulated by waste discharge requirements consistent with applicable water quality objectives, the WWTF and its discharge is exempt from containment pursuant to Title 27, Section 20090(a).

CEQA

31. The Discharger is not increasing discharge flow or changing the nature and character of its discharge, therefore the issuance of this Order is exempt from the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et, seq.) and the State CEQA guidelines (Title 14, Division 6, California Code of Regulations, as amended).

General Findings

32. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.
33. 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.
34. The Regional Water Board will review this Order periodically and will revise requirements when necessary.
35. California Water Code Section 13267(b) states that: "In conducting an investigation specified in 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.”

36. The technical reports required by this Order and the attached Monitoring and Reporting Program No. R5-2007-0153 are necessary to assure compliance with these waste discharge requirements. The Discharger operates the Facility that discharges the waste subject to this Order.

Public Notice

37. The Discharger and interested agencies and persons have been notified of the intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

38. All comments pertaining to the discharge were heard and considered in a public meeting.

IT IS HEREBY ORDERED that, Waste Discharge Requirements Order No. 98-005 is rescinded and that, pursuant to Sections 13263 and 13267 of the CWC, the Stoco Mutual Water and Sewer Company and 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:

A. Prohibitions

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. Bypass or overflow of untreated wastes, except as allowed by Provision E.2 of Standard Provisions and Reporting Requirements, is prohibited.
3. Discharge of waste classified as ‘hazardous’, as defined in Section 2521(a) of Title 23, California Code of Regulations, Section 2510 et seq., is prohibited. Discharge of waste classified as ‘designated,’ as defined in California Water Code Section 13173, in a manner that causes violation of groundwater limitations, is prohibited.

B. Effluent Limitations

1. The monthly average discharge flow shall not exceed 0.05 mgd.
2. The annual average EC of the discharge shall not exceed 1,000 µmhos/cm calculated on a monthly basis.

C. Discharge Specifications

1. All conveyance, treatment, storage, and disposal units shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
2. Public contact with effluent shall be precluded through such means as fences, signs, or acceptable alternatives.
3. Objectionable odors shall not be perceivable beyond the limits of the WWTF property at an intensity that creates or threatens to create nuisance conditions.
4. Disposal 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.
5. On or about **1 October** of each year, available disposal pond storage capacity shall at least equal the volume necessary to comply with Discharge Specification C.4.
6. Ponds shall be managed to prevent breeding of mosquitoes. In particular,
 - a. An erosion control plan should assure that 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 other 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 1 April to 30 June bird nesting season.
7. 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.

D. 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 undergone sufficient treatment and testing to qualify for reuse pursuant to

federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land reclamation.

1. Sludge and solid waste shall be removed from screens, sumps, aeration basins, 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.
3. Any handling and storage of residual sludge, solid waste, and biosolids on property of the WWTF shall be temporary (i.e., no longer than two years) and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations of this Order.
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, 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 or State Water Board or a local (e.g., county) program authorized by a regional water quality control board. In most cases, this means the General Biosolids Order (State Water Board Water Quality Order No. 2004-12-DWQ, "General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities"). For a biosolids use project to be authorized by the General Biosolids Order, the Discharger must file a complete Notice of Intent and receive a Notice of Applicability for each project.
6. Any proposed change in sludge use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

E. Pretreatment Requirements

1. The Discharger shall implement the necessary controls to ensure incompatible wastes are not introduced to the treatment system. These include, at a minimum: (a) wastes that create a fire or explosion hazard, or corrosive structural damage to the treatment works; (b) solid or viscous wastes in amounts that cause obstruction to flow in sewers, or which cause other interference with proper operation or treatment works; (c) petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through; (d) pollutants that result in the presence of toxic gases, vapors, or fumes within the treatment works; and (e) any trucked or hauled pollutants, except at points predesignated by the Discharger.

2. The Discharger shall implement the 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.

F. Groundwater Limitations

1. Release of waste constituents from any treatment or storage component associated with the WWTF shall not cause or contribute to groundwater:
 - a. Containing constituent concentrations in excess of the concentrations specified below or natural background quality, whichever is greater.
 - (i) Nitrate as nitrogen of 10 mg/L.
 - (ii) Total coliform organisms of 2.2 MPN/100 mL.
 - (iii) For constituents identified in Title 22, the MCLs quantified therein.
 - b. Containing taste or odor-producing constituents, or toxic substances, or any other constituents, in concentrations that cause nuisance or adversely affect beneficial uses.

G. Provisions

1. The Discharger shall comply with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991, which are part of this Order. This attachment and its individual paragraphs are referred to as Standard Provision(s).
2. The Discharger shall comply with Monitoring and Reporting Program (MRP) No. R5-2007-0153, which is part of this Order, and any revisions thereto as adopted by the Regional Water Board or approved by the Executive Officer. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger self-monitoring reports.
3. The Discharger shall keep at the WWTF a copy of this Order, including its MRP, Information Sheet, attachments, and Standard Provisions, for reference by operating personnel. Key operating personnel shall be familiar with its contents.
4. The Discharger shall not allow pollutant-free wastewater to be discharged into the Facility collection, treatment, and disposal systems in amounts that significantly diminish

the system's capability to comply with this Order. Pollutant-free wastewater means storm water (i.e., inflow), groundwater (i.e., infiltration), cooling waters, and condensates that are essentially free of pollutants.

5. The Discharger must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This Provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger only when the operation is necessary to achieve compliance with the conditions of the Order.
6. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1. To demonstrate compliance with sections 415 and 3065 of Title 16, CCR, 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.
7. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Accordingly, the Discharger shall submit to the Regional Water Board on or before each report due date the specified document or, if an action is specified, a written report detailing evidence of compliance with the date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the time schedule. Violations may result in enforcement action, including Regional Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
8. In the event of any change in control or ownership of land or waste treatment and storage facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the appropriate Regional Water Board office.
9. 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 Water Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be

considered a discharge without requirements, a violation of the California Water Code. If approved by the Executive Officer, the transfer request will be submitted to the Regional Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.

10. As a means of discerning compliance with Discharge Specification C.3, the dissolved oxygen content in the upper zone (1 foot) of effluent in disposal ponds shall not be less than 1.0 mg/L for three consecutive sampling events. Should the DO be below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the findings to the Regional Water Board and propose a remedial approach to resolve the low DO results **within 30 days**.
11. The Discharger shall maintain and operate all ponds sufficient to protect the integrity of containment levees and prevent overtopping or overflows.
12. The Discharger shall submit the technical reports and work plans required by this Order for Regional Water Board staff consideration and incorporate comments they may have in a timely manner, as appropriate. The Discharger shall proceed with all work required by the following provisions by the due dates specified.
13. **Solids Management.** By 1 January 2008, the Discharger shall submit a solids management plan that identifies measures taken or will be taken to ensure the proper handling and disposal of solids and efficient operation and maintenance. The plan shall have a time schedule for implementation of identified measures.

I, PAMELA C. CREEDON, 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 October 2007.

PAMELA C. CREEDON, Executive Officer

Order Attachments:

Monitoring and Reporting Program

A. Site Location Map

Information Sheet

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

ARP

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2007-0153
FOR
STOCO MUTUAL WATER AND SEWER COMPANY
WASTEWATER TREATMENT FACILITY
KERN COUNTY

This Monitoring and Reporting Program (MRP) is required pursuant to California Water Code (CWC) Section 13267. The Discharger shall not implement any changes to this MRP unless and until the Regional Water Board adopts or the Executive Officer issues a revised MRP. Changes to sample location shall be established with concurrence of Regional Water Board staff, and a description of the revised stations shall be submitted for approval by the Executive Officer. 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 and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991 (Standard Provisions). The results of analyses performed in accordance with specified test procedures, taken more frequently than required at the locations specified in this MRP, shall be reported to the Regional Water Board and used in determining compliance.

Field test instruments (such as pH) may be used provided that:

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

In addition to details specified in Standard Provision C.3 records of monitoring information shall also include the following:

1. Method detection limit (MDL);
2. Reporting limit (RL) (i.e., a practical quantitation limit or PQL); and
3. Documentation of cation/anion balance for general minerals analysis of supply water, and groundwater samples.

All laboratory results shall be reported down to the MDL. Non-detected results shall be reported as less than the MDL (<MDL). Results above the MDL, but below the concentration of the lowest calibration standard for multipoint calibration methods or below the reporting limit for other methods shall be flagged as estimated.

All analyses shall be performed in accordance with the latest edition of *Guidelines Establishing Test Procedures for Analysis of Pollutants*, promulgated by EPA (40 CFR 136) or other procedures approved by the Executive Officer, provided the methods have method detection limits equal to or lower than the analytical methods specified in this MRP. In reporting data, the Discharger shall indicate whether any analysis was performed using a method not in conformance with EPA's Guidelines. Analyses may also comply with the methods and holding

times specified in: *Methods for Chemical Analysis of Water and Wastes* (EPA-600/4-79-020, 1983); *Methods for Determination of Inorganic Substance in Environmental Samples* (EPA/600/R-93/100, 1993); *Standard Methods for the Examination of Water and Wastewater*, 20th Edition (WEF, APHA, AWWA); and *Soil, Plant and Water Reference Methods for the Western Region*, 2003, 2nd Edition, 2003.

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

DISCHARGE MONITORING

The Discharger shall collect discharge samples opposite of the intent in one of Ponds 1.a through 1.d whichever has most recently received wastewater. Time of collection of a grab sample shall be recorded. Discharge monitoring shall include the following:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Monthly Average Daily Flow	mgd	Estimate ¹	1/Month
pH	s.u. ²	Grab	1/Week
BOD ₅ ³	mg/L	Grab	1/Month
TSS ⁴	mg/L	Grab	1/Month
EC ⁵	µmhos/cm	Grab	1/Month

¹ Flow estimates may be obtained from water meter readings. Explain all assumptions and the method for determining flow.

² Standard Units

³ Five day biochemical oxygen demand (BOD₅)

⁴ Total suspended solids (TSS)

⁵ Electrical conductivity at 25°C (EC)

POND MONITORING

Ponds 1.a. through 1.d, and Pond 2 shall be sampled systematically for the parameters specified below. Pond monitoring shall include at least the following:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
DO ^{1,2}	mg/L	Grab ³	1/Week

¹ Dissolved oxygen (DO)

² To address potential for the creation of objectionable odors, the DO content in the upper zone (one foot) of either effluent storage reservoir should not be less than 1.0 mg/L for three consecutive sampling events. If results of monitoring indicate DO concentrations less than 1.0 mg/L, but monitoring frequency is not sufficient to validate the results, the frequency of sampling shall be increased to confirm the magnitude and duration of such low concentrations of DO, if any, and aid in identification and resolution of the problem.

³ Samples shall be collected at a depth of one foot from the storage reservoirs, opposite the inlet, and

analyzed for DO. Samples shall be collected between 0700 and 0900 hours. In addition, the Discharger shall inspect the condition of Ponds 1.a. through 1.d, and 2 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 disposal pond surface and their location; whether burrowing animals or insects are present; and the color of the reservoirs (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.

SOURCE WATER MONITORING

The Discharger's municipal source water supply shall be monitored as follows:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Measurement</u>	<u>Frequency</u>
EC ¹	µmhos/cm	Grab	1/Year ²

¹ Report as a flow-weighted average from all supply wells and include copies of supporting calculations with monitoring reports.

² In October

SLUDGE MONITORING

To ensure that industrial and other discharges to the wastewater treatment facility are not interfering with treatment process, the Discharger shall collect a composite sample of sludge annually, as set forth by Title 40 Code of Federal Regulations (CFR) Part 503.16. Any Notice of Necessary Information (NANI) form prepared for submittal to the United States Environmental Protection Agency shall be forwarded to the Regional Water Board.

Composite samples shall be collected in accordance with the Environmental Protection Agency's *POTW Sludge Sampling And Analysis Guidance Document* (EPA/ 833B89100, August 1989) and test for metals:

Arsenic	Copper	Nickel
Cadmium	Lead	Selenium
Molybdenum	Mercury	Zinc

The control of pathogens and the reduction of vector attraction shall be achieved in accordance with the Environmental Protection Agency's *Control of Pathogens and Vectors In sewage Sludge* (EPA/625-R-92/013, July 2003).

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, a log should be complete enough to serve as a basis for part of the annual report.

REPORTING

The Discharger shall report monitoring data and information as required in this MRP and as required in the Standard Provisions. Daily, weekly, monthly, and quarterly data shall be reported **in quarterly** monitoring reports.

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.

A. Quarterly Reports

Daily, weekly, monthly, and quarterly monitoring data shall be reported in quarterly monitoring reports. Quarterly monitoring reports shall be submitted to the Regional Water Board **by the 1st day of the second month after the calendar quarter** (i.e., the 1st Quarter Report is due by 1 May, 2nd Quarter Report is due by 1 August, and the 3rd Quarter Report is due 1 November). Quarterly monitoring reports shall include all monitoring data required in the monthly monitoring schedule, and the data from quarterly monitoring events.

B. Annual Reports

An Annual Report shall be prepared as a fourth quarter monitoring report. The Annual Report will include all monitoring data required in the quarterly schedule plus the results of any annually sampled constituents (general minerals, selected metals, etc). The Annual Report shall be submitted to the Regional Board **by 1 February of the year following the year the samples were collected**. In addition to the data normally presented, the Annual Report shall include 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 calibrations (Standard Provision C.4);
4. A statement whether the current operation and maintenance manual, and contingency plan, reflect the WWTF 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 Provisions E.4 and a figure depicting monthly average discharge flow for the previous five calendar years;
6. 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; and
 - 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 sludge production disposed of by each method.
 - i. For **landfill disposal**, include (a) the Order numbers 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 the sludge.
 - ii. For **land application**, include: (a) the locations of the site(s), and (b) the Order number of any WDRs that regulates 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); and
 - iv. For **composting**, include: (a) the location of the site(s), and (b) the order numbers of any WDRs that regulate the site(s).
7. 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.

All technical reports required herein must be overseen and certified by a California registered civil engineer, certified engineering geologist, or certified hydrogeologist in accordance with California Business and Professions Code, sections 6735, 7835, and 7835.1.

All reports submitted in response to this Order shall comply with the signatory requirements in Standard Provision B.3.

A transmittal letter shall accompany each self-monitoring report. The letter shall discuss any violations during the reporting period and all actions taken or planned for correcting violations, such as operation or facility modifications. If the Discharger has previously submitted a report

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STOCO MUTUAL WATER AND SEWER COMPANY WWTF
KERN COUNTY

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describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory.

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KERN COUNTY

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

Ordered by: _____

PAMELA C. CREEDON, Executive Officer

26 October 2007

(Date)

ARP

INFORMATION SHEET

ORDER NO. R5-2007-0153
STOCO MUTUAL WATER AND SEWER COMPANY WWTF
KERN COUNTY

Background

The Stoco Mutual Water and Sewer Company operates a wastewater collection, treatment, and disposal facility (WWTF) to provide sewerage services to for the California Highway Patrol Office, a gas station, restaurants, and two motels at the junction of Interstate Five and the Stockdale Highway. The property on which the WWTF (APN No. 160 03 22) resides and where the discharge occurs is owned by Mohamed Hugais, et. al. The land on which the wastewater lift station (APN No. 160 030 08) resides is Goraya Mohammad, et. al. Stoco and the owner of the land on which the WWTF and lift station reside are hereafter jointly referred to as Discharger. The WWTF has an estimated flow between 0.02 to 0.03 million gallons per day (mgd).

Waste Discharge Requirements (WDRs) Order No. 94-387 adopted by the Regional Water Board on 26 July 1974, limits the discharge to 0.05 mgd. The WDRs require the Discharger maintain a minimum dissolved oxygen (DO) concentration of 1.0 mg/L in the ponds to prevent nuisance odor conditions.

The WWTF consists of the wastewater collection system, influent pump station, and two evaporation and percolation ponds (Ponds 1 and 2). Pond 1 is 2.67-acre and Pond 2, which is rarely used, is 1.33-acre. Ponds 1 and 2 are about 8 ft deep. The Discharger “cross cut” Pond 1 into four separate smaller ponds (Ponds 1.a. through 1.d.) that are about 2 – 3 feet deep. Wastewater is discharged to each pond as necessary.

The Discharger is not increasing discharge flow or changing the nature and character of the discharge, but the WDRs need to be updated to reflect its current WWTF and Regional Water Board plans and policies.

Solids and Biosolids Disposal

The WWTF does not have headworks, but the Discharger intends to install grinder pumps, which will reduce headworks waste. Sludge, if removed from the ponds is typically stockpiled onsite and applied to areas surrounding the WWTF. If not removed, it is disked into the bottom of the ponds, once dried.

Groundwater Conditions

Regional groundwater is approximately 50 to 100 feet below ground surface and flows generally north to northeasterly, with a perched groundwater table at about 20 feet bgs. In the discharge vicinity, the “modified E-clay” layer occurs about 350 to 400 feet bgs and is about 20 feet thick. Regional groundwater data from the Water Supply Report indicates that the EC (converted from TDS) in the unconfined aquifer ranges from 850 to 1200 μ mhos/cm. However, groundwater data within the area is limited.

The WWTF and its discharge is approximately two miles north of the Kern Water Bank Authority which recharges groundwater using high quality surface waters. Discharge from the

WWTF is regionally downgradient of the Kern Water Bank Authority and a minor fraction of the total volume percolated.

Compliance History

On 11 June 2007, the Discharger was issued a Notice of Violation (NOV) for not submitted several years of self monitoring reports (SMRs).

Basin Plan, Beneficial Uses, and Regulatory Considerations

The Basin Plan indicates that the greatest long-term problem facing the entire Tulare Lake Basin is increasing salinity in groundwater, a process accelerated by man's activities and particularly affected by intensive irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until there is a long-term solution to the salt imbalance. The Regional Water Board encourages proactive management of waste streams by dischargers to control addition of salt through use, and has established an incremental EC limitation of 500 $\mu\text{mhos/cm}$ or a maximum of 1,000 $\mu\text{mhos/cm}$, as the measure of the maximum permissible addition of salt constituents through use.

Discharges to areas that may recharge good quality groundwaters shall not exceed an EC of 1,000 $\mu\text{mhos/cm}$, a chloride content of 175 mg/L, or boron content of 1.0 mg/L.

Antidegradation

The antidegradation directives of State Water Board Resolution No. 68-16 (Resolution No. 68-16), "Statement of Policy With Respect to Maintaining High Quality Waters in California," or "Antidegradation Policy" require that waters of the State that are better in quality than established water quality objectives be maintained "consistent with the maximum benefit to the people of the State." Waters can be of high quality for some constituents or beneficial uses and not others. Policy and procedures for complying with this directive are set forth in the basin plan.

The discharge is an existing discharge and will not change in character or volume from that allowed by WDRs Order No. 92-035. The overall mass of constituents, and therefore, the potential to impact water quality, remain unchanged.

Title 27

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

Discharges of domestic sewage and treated effluent can be treated and controlled to a degree that will not result in unreasonable degradation of groundwater. For this reason, they have

been conditionally exempted from Title 27. Treatment and storage facilities for sludge that are part of the WWTF are considered exempt from Title 27 under section 20090(a), provided that the facilities not result in a violation of any water quality objective. However, residual sludge (for the purposes of the proposed Order, sludge that will not be subjected to further treatment by the WWTF) is not exempt from Title 27. Solid waste (e.g., grit and screenings) that results from treatment of domestic sewage and industrial waste also is not exempt from Title 27. This residual sludge and solid waste are subject to the provisions of Title 27.

Accordingly, the municipal discharge of effluent and the operation of treatment or storage facilities associated with a municipal wastewater treatment plant can be allowed without requiring compliance with Title 27, but only if resulting degradation of groundwater is in accordance with the Basin Plan.

CEQA

The Discharger is not increasing discharge flow or changing the nature and character of the discharge, therefore the issuance of this Order is exempt from the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et, seq.) and the State CEQA guidelines (Title 14, Division 6, California Code of Regulations, as amended).

Proposed Order Terms and Conditions

Discharge Prohibitions, Effluent Limitations, Discharge Specifications, and Provisions

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

The proposed Order would establish an effluent limitation for EC that reflects the Regional Water Board policy for managing the salts within the Tulare Lake Basin. Based on one sample taken during an inspection, the EC of the discharge is 880 $\mu\text{mhos/cm}$. Although the discharge is primarily domestic wastewater, it is a commercial discharge, and therefore does not have the same elements of a municipal wastewater treatment facility. As a non-municipal WWTF, it should not be expected to meet the salinity standard of 500 $\mu\text{mhos/cm}$ plus source water EC. The proposed annual average EC limit of 1,000 $\mu\text{mhos/cm}$ would protect existing beneficial uses.

The existing and proposed WDRs do not include five-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS) limits. The Basin Plan specifies varying levels of treatment based on site-specific conditions. The Basin Plan does not specify BOD and TSS limits if the discharge, as is in this case, is a relatively minor discharge in an isolated area where there is little risk of nuisance or water quality degradation.

The proposed WDRs include a provision requiring the Discharger maintain a DO in the ponds of at least 1.0 mg/L to prevent nuisance conditions.

The proposed WDRs would prescribe groundwater limitations that implement water quality objectives for groundwater from the Basin Plan. The limitations require that the discharge not

cause or contribute to exceedances of these objectives or natural background water quality, whichever is greater.

The proposed WDRs would require the Discharger to submit a solids management plan and time schedule to implement measures to ensure proper handling and disposal of solids and efficient operation and maintenance.

Monitoring Requirements

Section 13267 of the CWC authorizes the Regional Water Board to require monitoring and technical reports as necessary to investigate the impact of a waste discharge on waters of the State. In recent years there has been an increased emphasis on obtaining all necessary information, assuring the information is timely as well as representative and accurate, and thereby improving accountability of any discharger for meeting the conditions of discharge. Section 13268 of the CWC authorizes assessment of civil administrative liability where appropriate.

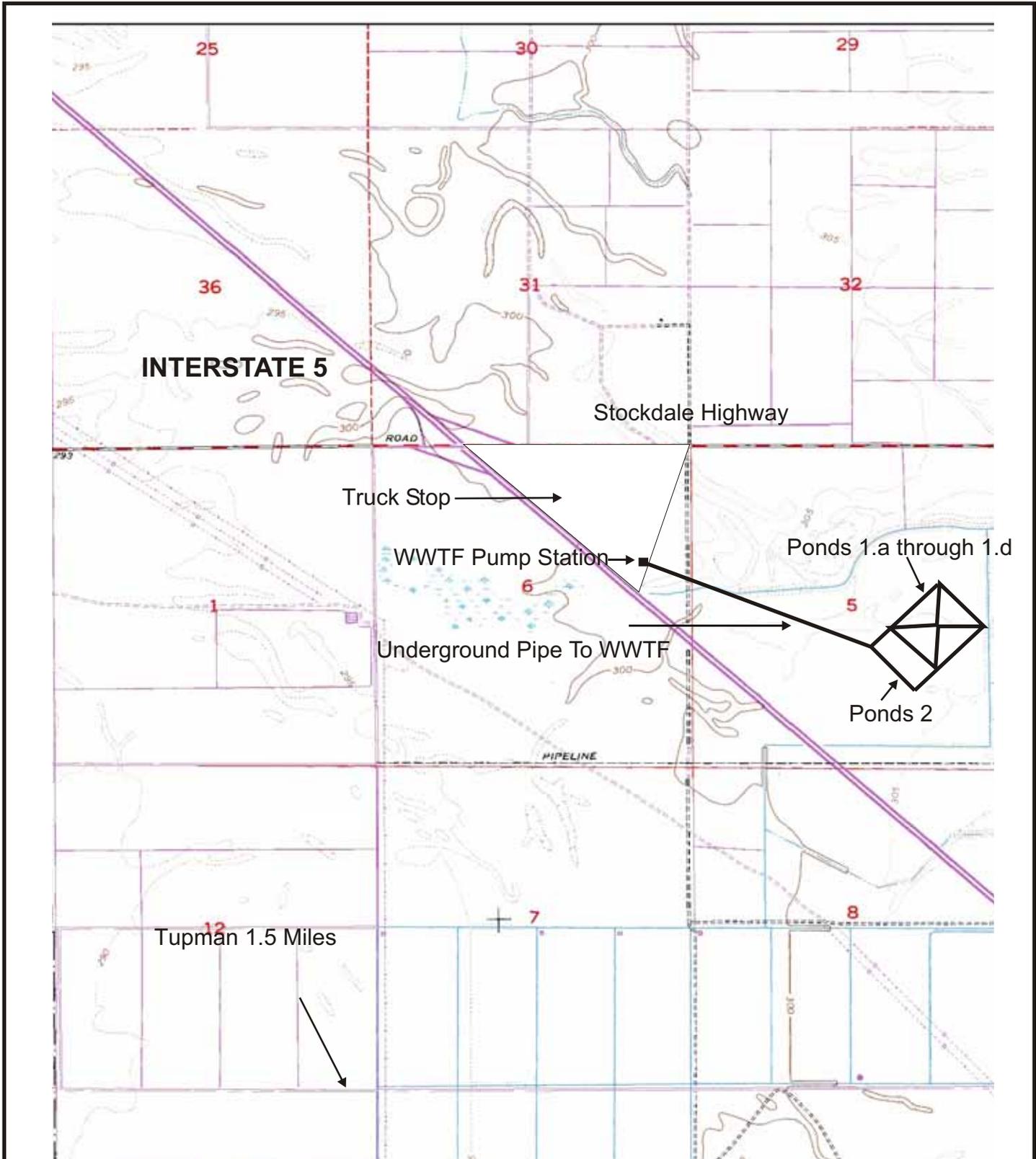
The proposed Order includes discharge monitoring requirements, pond monitoring, sludge monitoring, and water supply monitoring. The monitoring is necessary to evaluate groundwater quality and the extent of the degradation from the discharge.

The proposed Order does not require freeboard monitoring. Inner levee failures between Ponds 1.a through 1.d would not result in overtopping of Pond 1. If flows increase, additional monitoring may be necessary.

Reopener

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

ARP



Map Source:
 TUPMAN 7.5 Minute USGS Quadrangle
 Section 6, T30S, R25E, MDB&M



SCALE
 1 INCH = 2,000 FEET

*WWTF and street locations approximate

SITE LOCATION MAP

ORDER NO. R5 -2007-0153

WASTE DISCHARGE REQUIREMENTS
 FOR

STOCO MUTUAL WATER AND SEWER COMPANY
 WASTEWATER TREATMENT FACILITY
 KERN COUNTY

ATTACHMENT A