Permit No CA 0005241
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended, 33 U.S.C. 1251 et seq., (the "Act"),

Dry Creek Rancheria
3250 Highway 128 East
Dry Creek Rancheria, CA 95441

is authorized to discharge treated municipal wastewater from the Dry Creek Rancheria Wastewater Treatment Plant located at 3250 Highway 128 East, Dry Creek Rancheria , California to unnamed stream P1, tributary to the Russian River as described below:

Outfall Serial No.	Description of discharge	Latitude	Longitude
001	Wastewater Treatment Plant Effluent to P1	N. 38° 42' 06"	W. 122° 51' 26"

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein, and in the attached EPA Region 9 "Standard Federal NPDES Permit Conditions," dated June 3, 2002.

This permit shall become effective on: June 2, 2007 .

This permit and the authorization to discharge shall expire at midnight, June 1, 2012.

Signed this 30 day of April ., 2007.

For the Regional Administrator

Alexis Strauss, Director
Water Division

Part I EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Dry Creek Rancheria ("permittee") is authorized to discharge treated wastewater from Outfall 001 to Stream P1 as specified below:

Table 1: Oufall 001 Effluent Limitations and Monitoring Requirements

Parameter	Maximum Allowable Discharge Limitations						Monitoring Requirements	
	Mass Limits			Concentration Limits				
	Average Monthly	Average Weekly	Daily Maximum	Average Monthly	Average Weekly	Daily Maximum		
Flow	----	----	---	(1)	----	(1)	Continuous	meter
Ammonia (Total, as N)	----	----	----	(2)	----	(2)	Once/week	24 hr Composite
Biochemical Oxygen Demand (5-Day) (4)	13 lbs/day	25 lbs/day	33 lbs/day	10 mg/L	15 mg/l	20 mg/L	Once/week	24 hr Composite
Electrical Conductivity	-----	-----	----	(3)	-----	(3)	Once/week	Discrete
Total Coliform Bacteria	----	----	----	----	(5)	23 MPN/ 100 ml	Once/week or Once/day (7)	Discrete
Nitrate (measured as N)	----	----	----	10 mg/L	----	----	Once/week	24 hr Composite
Oil and Grease	----	----	----	10 mg/L	----	15 mg/L	Once/week	Discrete
Settleable Solids	----	----	----	1 ml/L	----	2 ml/L	Once/week	Discrete
Total Suspended Solids (5)	13 lbs/day	25 lbs/day	33 lbs/day	10 mg/L	15 mg/l	20 mg/L	Once/week	24 hr Composite
Total Dissolved Solids	-----	-----	----	(3)	-----	(3)	Once/week	24 hr Composite
Total Residual Chlorine	-----	-----	-----	0.01 mg/L	-----	0.02 mg/L	Once/week	Discrete
Turbidity (6)	----	----	----	2 NTU	----	5 NTU	Once/week or Continuous (7)	Discrete
Whole Effluent Toxicity, Chronic	----	----	----	(3)	----	(3)	Once/ year	24 hr Composite
Priority Pollutants	----	----	----	(3)	----	(3)	Once/ year	24 hr Composite

pH	The pH shall be within the range of 6.5 to 8.5 at all times.	Once/day	Discrete

Footnotes to Table 1: (see Next Page)

Footnotes to Table 1:

(1) Flow Restrictions for Discharges to Outfall 001:
The permittee shall minimize the discharge of advanced treated wastewater effluent to surface waters at all times by maximizing available irrigation, recycle, and re-use of treated wastewater.

There shall be no discharge of wastewater effluent to the Russian River or its tributaries from May 15 through September 30 each year.

During the period of October 1 through May 14, discharges of wastewater shall not exceed one percent of the flow of the Russian River. For purposes of this permit, compliance with the discharge rate limitation is determined as follows: 1) the discharge of advanced treated wastewater shall be adjusted at least once daily to avoid exceeding, to the extent practicable, one percent of the most recent daily flow measurement of the Russian River as measured at the Cloverdale USGS Gaging Station # 11463000, and; 2) in no case shall the total volume of advanced treated wastewater discharged in a calendar month exceed one percent of the total volume of the Russian River at the Cloverdale USGS Gaging Station in the same calendar month. During periods of discharge, the Cloverdale USGS Gaging Station shall be read at least once daily, and the effluent flow shall be set for no greater than one percent of the flow of the River at the time of the daily reading. At the beginning of the discharge season, the monthly flow volume comparisons shall be based on the date when the discharge commenced to the end of the calendar month. At the end of the discharge season, the monthly flow volume shall be based on the first day of the calendar month to the date when the discharge ceased for the season.

During the period of October 1 through May 14, the discharge of stored wastewater from on-site storage shall not exceed 50,000 gallons per day.

(2) Ammonia effluent limitations are pH and temperature dependent and are contained in Appendix B and Appendix C.

(3) Monitoring and reporting required. No limit set at this time.

(4) Both the influent and the effluent shall be monitored for Biochemical Oxygen Demand (5-day) and Suspended Solids by concentration. The arithmetic mean of effluent samples collected over a monthly period shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected over the same time period. (i.e., Must demonstrate 85% removal of BOD and TSS).

(5) Total Coliform Bacteria shall not exceed 2.2 MPN/100 ml as a weekly median.

(6) The daily average turbidity shall not exceed 2 NTU. Turbidity shall not exceed 5 NTU more than 5 percent of the time within a 24-hour period. At no time shall the turbidity exceed 10 NTU.

(7) Reclaimed water must be monitoring continuously for Turbidity and once per day for Total Coliform Bacteria.

B. Additional Monitoring Requirements

1. The permittee shall conduct effluent monitoring for the following parameters annually.

Priority Toxics Pollutants. The permittee shall monitor for the full list of priority pollutants as listed in the Code of Federal Regulations (CFR) at 40 CFR Part 122 Appendix J, Table 2)

Hardness ($CaCO_3$). The permittee shall monitor for hardness in addition to priority pollutants.

Chronic Toxicity. The requirements for monitoring acute and chronic toxicity are specified in Part IV of this permit.

2 The permittee shall conduct receiving water quality monitoring for pH, dissolved oxygen, turbidity and temperature weekly at the following locations during periods of discharge when water is present. Monitoring shall be conducted prior to 9:00 a.m.

M001U - Outfall 001 Upstream: Stream P1, Approximately 100' upstream of Outfall 001
M001D - Outfall 001 Downstream: Stream P1, at Rancheria Boundary

C. Receiving Water Limitations

1. The waste discharge shall not cause the dissolved oxygen concentration of the receiving waters to be depressed below 7.0 mg/l. In the event that the receiving waters are determined to have dissolved oxygen concentration of less than 7.0 mg/l, the discharge shall not depress the dissolved oxygen concentration below the existing level.

2. The discharge shall not cause the pH of the receiving waters to be depressed below 6.5 nor raised above 8.5. Within this range, the discharge shall not cause the pH of the receiving waters to be changed at any time more than 0.5 units from that which occurs naturally. If the pH of the receiving water is less than 6.5, the discharge shall not cause a further depression of the pH of the receiving water. If the pH of the receiving water is greater than 8.5, the discharge shall not cause a further increase in the pH of the receiving water.

3. The discharge shall not cause the turbidity of the receiving waters to be increased more than 20 percent above naturally occurring background levels.

4. The discharge shall not cause the receiving waters to contain floating materials, including, but not limited to, solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

5. The discharge shall not cause the receiving waters to contain taste- or odor-producing

substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.

6. The discharge shall not cause coloration of the receiving waters that causes nuisance or adversely affects beneficial uses.

7. The discharge shall not cause bottom deposits in the receiving waters to the extent that such deposits cause nuisance or adversely affect beneficial uses.

8. The discharge shall not contain concentrations of biostimulants that promote objectionable aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses of the receiving waters.

9. The discharge shall not cause the receiving waters to contain toxic substances in concentrations that are toxic to, degrade, or that produce detrimental physiological responses in humans or animals or cause acute or chronic toxicity in plants or aquatic life.

10. The following temperature limitations apply to the discharge to the receiving waters:

a. When the receiving water is below 58 ^{0} F, the discharge shall cause an increase of no more than 4^0 F in the receiving water, and shall not increase the temperature of the receiving water beyond 59 ^{0} F. No instantaneous increase in receiving water temperature shall exceed 4 ^{0} F at any time.

b. When the receiving water is between 59 ^{0}F and 67 ^{0}F, the discharge shall cause an increase of no more than 1 ^{0} F in the receiving water. No instantaneous increase in receiving water temperature shall exceed 1 ^{0} F at any time.

c. When the receiving water is above 68 ^{0} F, the discharge shall not cause an increase in temperature of the receiving water.

11. The discharge shall not cause an individual pesticide or combination of pesticides to be present in concentrations that adversely affect beneficial uses. There shall be no bioaccumulation of pesticide concentrations found in bottom sediments or aquatic life. The discharge shall not cause the receiving waters to contain concentrations of pesticides in excess of the limiting concentrations set forth in Table 3-2 of the Water Quality Control Plan for the North Coast Region ("Basin Plan").

12. The discharge shall not cause the receiving waters to contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water that cause nuisance or that otherwise adversely affect beneficial uses.

13. This discharge shall not cause a violation of any applicable water quality standards for receiving waters, and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water

Act, or amendments thereto, EPA will revise and modify this Permit in accordance with such more stringent standards.

14. The discharge shall not cause concentrations of chemical constituents to occur in excess of limits specified in Table 3-2 of the Basin Plan.

15. The discharge shall not cause concentrations of toxic pollutants in the water column, sediments, or biota that adversely affect beneficial uses.

Part II. SPECIAL CONDITIONS

A. Erosion Protection

The permittee shall design, install and maintain erosion protection measures to prevent erosion from the discharge point to receiving water.

B. Surface Water Discharge Operations Plan and Report

Within 90 days of permit adoption, a Surface Water Discharge Operations plan shall be developed and submitted to EPA for approval. This plan shall be prepared for use by plant personnel and shall detail procedures for determining discharge locations and discharge volumes in compliance with the permit. Procedures for adjusting discharges in order to prevent receiving water violations shall be detailed. The plan shall use background water quality data and flow as a basis for determining discharge volumes and locations.

The plan shall include the requirement to maintain a log of chlorine usage and the destination of effluent treated with chlorine (whether discharge is to surface waters or to reclaimed uses).

The permittee shall submit a yearly report documenting compliance with the Surface Water Discharge Operations plan and discharge limitations. The report shall at a minimum include documentation of compliance with all flow limitations including the 1% flow restriction to the Russian River and the prohibition of discharge to the Russian River from May 15 to September 30. The report shall include the total volume of treated wastewater re-used on-site, including total area of land irrigated. The report shall include a discussion of the expected reclamation activities for the upcoming year, including total acreage available for irrigation.

C. Reporting of Capacity Attainment and Planning

The permittee shall file a written report with EPA within ninety (90) days after the average dry-weather waste flow for any month that either equals or exceeds 90 percent of the annual dry weather design capacity of the waste treatment and/or disposal facilities. The permittee's senior administrative officer shall sign a letter which transmits that report and certifies that the policy-making body is adequately informed about it. The report shall include:

1. Average daily flow for the month, the date on which the instantaneous peak flow occurred, the rate of that peak flow, and the total flow for the day.

2. The permittee's best estimate of when the average daily dry weather flow rate will equal or exceed the design capacity of the facilities.

3. The permittee's intended schedule for the studies, design, and other steps needed to provide additional capacity for the waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present facilities.

D. Reclaimed Water Limitations

1. The Tribe has voluntarily agreed to meet the following criteria contained in Title 22, California Code of Regulations for use of reclaimed water used on the Rancheria property. Therefore, the following requirements apply:

2. Reclaimed water shall be monitored continuously for turbidity and once per day for total coliform.

3. All reclamation equipment, pumps, pipings, valves, and outlets shall be appropriately marked to differentiate them from potable facilities. All reclamation distribution system piping shall be purple or adequately wrapped with purple tape.

4. All use areas where recycled water is used that are accessible to the public shall be posted with signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide, that include the following wording : "Recycled water - Do Not Drink" and the international symbol for non-potable water.

5. No physical connection shall be made or allowed to exist between any system and any separate system conveying potable water.

6. Direct or windblown spray of reclaimed water shall be confined to the designated land application area and shall be prevented from entering outdoor eating areas, dwellings, drinking water facilities, food handling facilities, and other locations where the public may be present. In addition, direct or windblown spray of reclaimed water shall not enter surface watercourses.

7. Application of wastewater to land shall not be applied to irrigation areas that exceed vegetative demand or field capacity, nor be applied to irrigation areas during periods when uncontrolled runoff may occur.

8. Areas irrigated with reclaimed water shall be managed to prevent ponding and conditions conducive to the proliferation of mosquitoes and other disease vectors, and to avoid creation of a public nuisance or health hazard. Irrigation water shall infiltrate completely within a 24-hour period.

9. A 15-foot buffer zone shall be maintained between any watercourse and the wetted area produced during land application of effluent.

10. A 50-foot buffer zone shall be maintained between any spring, domestic well or irrigation well and the wetted area produced during land application of effluent.

E. Reopener - This permit may be modified in accordance with the requirements set forth at 40 CFR Parts 122 and 124, to include appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any

EPA-approved new State or Tribal water quality standards.

Upon request from the discharger, monitoring requirements may be reduced to quarterly analysis after 24 months of sampling demonstrating no reasonable potential to cause or contribute to water quality standards. This may be applicable to the following parameters: ammonia, nitrate, and total dissolved solids.

Upon request from the discharger, receiving water quality monitoring may be reduced to monthly analysis after 24 months of sampling demonstrating no reasonable potential to cause or contribute to water quality standards

Part III. MONITORING AND REPORTING

A. Sample locations - Samples taken in compliance with the monitoring requirements specified in Part I, Section A, above, shall be taken at the following location(s):

1. Influent samples shall be taken after the last addition to the collection system prior to treatment.

2. Effluent samples shall be taken downstream from the last treatment process prior to discharge into receiving waters.

B. Reporting of Monitoring Results

1. Monitoring results obtained during the month shall be submitted on forms to be supplied by the Regional Administrator, to the extent that the information reported may be entered on the forms. The results of all monitoring required by this permit shall be submitted in such a format as to allow direct comparison with the limitations and requirements of the permit. Unless otherwise specified, discharge flows shall be reported in terms of the average flow over each monthly period and the maximum daily flow over that monthly period. If there is no discharge during the month, the reporting form shall be marked "No Discharge" and submitted in accordance with this section. Each monthly report is due by the 28th of the following month, i.e. January report is due by February 28. Duplicate signed copies of these, and all other reports required herein, shall be submitted to EPA at the following address:

U.S. EPA Region IX
NPDES/DMR, WTR-7
75 Hawthorne Street
San Francisco, California 94105-3901

2. Where quarterly monitoring is required for a continuous discharge, samples shall be taken during the months of January, April, July and October.

3. For effluent analyses, the permittee shall utilize an analytical method with the published Method Detection Limit (MDL, as defined in Appendix A. of this permit) that is lower than the effluent limitations (or lower than EPA's nationally recommended water quality criteria). If all published MDLs are higher than effluent limitations or water quality criteria concentrations, the permittee shall utilize the EPA approved analytical method with the lowest published MDL. In accordance with 40 CFR 122.45(c), effluent analyses for metals shall measure "total recoverable metals".

4. For the purposes of reporting, the permittee shall use the reporting threshold equivalent to the laboratory's MDL[1]. As such the permittee or its laboratory must

[1] Because MLs and MDLs specified in or approved under 40 CFR 136 are generally determined by the EPA using reagent water, matrix interferences in some wastewaters may result in a permittee being unable to achieve a required ML. In other cases, inappropriate laboratory techniques and poor quality assurance/quality control (QA/QC) procedures will result in a permittee failing to achieve a required

utilize a standard calibration where the lowest standard point is equal to or less than, the minimum level (ML), as defined in Appendix A of this permit.

For analytical results ≥ the laboratory's MDL and ≤ ML, the permittee shall report No Discharge/No Data (Not Quantifiable) ["NODI(Q)"] on the DMR form. Analytical results below the laboratory's MDL shall be reported as No Discharge/No Data (Below Detection Level) ["NODI(B)"].

As an attachment to the first DMR form submitted following the effective date of this permit, and at any time thereafter that the following information should change, the permittee shall report for all parameters with monitoring requirements: the analytical result; the analytical method number or title, preparation and analytical procedure, and published MDL; the laboratory MDL, standard deviation (S) from the laboratory's MDL study (see 40 CFR Part 136, Appendix B), and the number of replicate analyses used to compute the laboratory's MDL (n); and ML.

When requested by EPA, the permittee or its laboratory shall participate in the NPDES DMR-QA performance study and shall submit their study results to EPA. The permittee must have a success rate of at least 80 percent. (%).

5. Quality Assurance (QA) Manual

Sample collection will be performed as stated in the Quality Assurance (QA) Manual/QA Plan.

The permittee shall develop a QA Manual/QA Plan for collection and analysis of

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ML. To distinguish between cases where a ML (or MDL) is not achieved due to poor laboratory technique and when matrix interferences do, in fact, occur, and to document that a discharge-specific MDL and ML are warranted, a permittee attempting to overcome matrix interference problems shall follow guidelines provided in *Guidance on Evaluation, Resolution, and Documentation of Analytical Problems Associated with Compliance Monitoring* (EPA 821-B-93-001, June 1993). In such a case, the permittee shall submit a report to EPA documenting that a discharge-specific MDL is warranted. Upon approval of this report by EPA, the permittee shall follow procedures set forth in 40 CFR 136, Appendix B, to determine the discharge-specific MDL and ML, which are also subject to EPA evaluation and approval. Additional guidance on development and review of discharge-specific MDLs is available in EPA's draft National Guidance for the Permitting, Monitoring, and Enforcement of Water Quality-Based Effluent Limitations Set Below Analytical Detection/Quantitative Levels, March 22, 1994, Appendix B.

samples. If the water samples are analyzed by an independent laboratory, the permittee shall ensure that the laboratory has a Quality Assurance (QA) Manual.

The purpose of the QA Manual is to assist in planning for the collection and analysis of samples and explaining data anomalies if they occur. As appropriate and applicable, the QA Manual shall include the details enumerated below. The QA Manual shall be retained on the permittee's premises and be available for review by EPA upon request. The permittee or the independent laboratory as the case may be shall review its QA Manual annually and revise it when appropriate. Throughout all field sampling and laboratory analyses, the permittee or the laboratory shall use quality assurance/quality control (QA/QC) procedures as documented in their QA Manual.

(i) Project Management including roles and responsibilities of the participants; purpose of sample collection; matrix to be sampled; the analytes or compounds being measured; applicable technical, regulatory, or program-specific action criteria; personnel qualification requirements for collecting samples.

(ii) Sample collection procedures; equipment used; the type and number of samples to be collected including QA/QC samples (i.e., background samples, duplicates, and equipment or field blanks); preservatives and holding times for the samples (see 40 CFR Part 136.3); and chain of custody procedures.

(iii) Identification of the laboratory to be used to analyse the samples; provisions for any proficiency demonstration that will be required by the laboratory before or after contract award such as passing a performance evaluation sample; analytical method to be used; method detection limit (MDL) and minimum level (ML) to be reported; required QC results to be reported (e.g., matrix spike recoveries, duplicate relative percent differences, blank contamination, laboratory control sample recoveries, surrogate spike recoveries, etc.) and acceptance criteria; and corrective actions to be taken by the permittee or the laboratory as a result of problems identified during QC checks.

(iv) Discussion of how the permittee will perform data review and requirements for reporting of results to EPA to include resolving of data quality issues and identifying limitations on the use of the data.

C. Monitoring and Records

In addition to the information requirements specified under 40 CFR 122.41(j)(3), records of monitoring information shall include: The laboratory(ies) which performed the analyses and any comment, case narrative, or summary of results produced by the laboratory. These should identify and discuss QA/QC analyses performed concurrently during sample analyses and whether project and 40 CFR 136

requirements were met. The summary of results must include information on initial and continuing calibration, surrogate analyses, blanks, duplicates, laboratory control samples, matrix spike and matrix spike duplicate results; and sample receipt condition, holding time, and preservation.

D. Twenty-Four Hour Reporting of Noncompliance

The permittee shall report any noncompliance which may endanger human health or the environment. This information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances to the following persons or their offices:

CWA Compliance Office Chief
USEPA
(415) 972-3505

and North Coast Regional Water Quality Control Board
(707) 576-2701

If the permittee is unsuccessful in contacting the persons above, the permittee shall report by 9 a.m. on the first business day following the noncompliance. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including dates and times, and, if the noncompliance has not been corrected, the time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

E. Intermittent Discharge Monitoring

If the discharge is intermittent rather than continuous, then on the first day of intermittent discharge, the permittee shall monitor and record data for all the characteristics listed in the monitoring requirements of Table 1 in Part I. A of this permit, after which the frequencies of analysis listed in the monitoring requirements shall apply for the duration of each such intermittent discharge. The permittee shall not be required to monitor more than the frequency required by the permit.

F. Monitoring Modification

Monitoring, analytical, and reporting requirements may be modified by the Regional Administrator upon due notice.

G. Operation

The facilities and/or systems shall be operated by an operator with training and/or certification equivalent to the requirements of the State of California, at the level appropriate to the facility and/or system.

Part IV. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The permittee shall conduct annual toxicity tests on 24-hour composite effluent samples, the first test within the first 90 days of discharge. Each year, the permittee shall conduct this routine toxicity testing at a different time of year from the previous years. Samples shall be collected for each point of discharge at the designated NPDES sampling station for the effluent (i.e., downstream from the last treatment process where a representative effluent sample can be obtained). A split of each sample shall be analyzed for all other monitored parameters at the minimum frequency of analysis specified by the effluent monitoring program.

A Species and Test Methods

Species and short-term test methods for estimating the chronic toxicity of NPDES effluents are found in the fourth edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA-821-R-02-013, October 2002; Table IA, 40 CFR Part 136). The permittee shall conduct static-renewal toxicity tests with the fathead minnow, *Pimephales promelas* (Larval Survival and Growth Test Method 1000.01); the daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0); and the green alga, *Selenastrum capricornutum*, (also named *Raphidocelis subcapitata)*. (Growth Test Method 1003.0).

B. Chronic Toxicity Monitoring Triggers

There are no chronic toxicity effluent limits for this discharge. For this discharge, the chronic toxicity monitoring triggers are any one test result greater than 1.6 TUc (during the monthly reporting period), or any one or more test results with a calculated median value greater than 1.0 TUc (during the monthly reporting period). Results shall be reported in TUc, where TUc = 100/NOEC. The No Observed Effect Concentration (NOEC) is the highest concentration of toxicant to which organisms are exposed in a short-term chronic test that causes no observable adverse effects on the test organisms (e.g., the highest concentration of toxicant in which the values for the observed responses are not statistically significantly different from the controls). This permit requires additional toxicity testing if a chronic toxicity monitoring trigger is exceeded.

C. Quality Assurance

1. Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual previously referenced. Additional requirements are specified, below.

2. The chronic instream waste concentrations (IWCs) for this discharge are 100% effluent and 62.5% effluent. A series of at least five effluent dilutions and a control shall be tested. At minimum, the dilution series shall include the IWCs and three dilutions below the IWCs (e.g., 100%, 62.5%, 50%, 25% and 12.5%).

3. Dilution water and control water should be laboratory water, as described in the test methods manual. If the dilution water is different from test organism culture water, then a second control using culture water shall be used

4. If organisms are not cultured in-house, then concurrent testing with a reference toxicant shall be conducted. If organisms are cultured in-house, then monthly reference toxicant testing is sufficient. Reference toxicant tests and effluent toxicity tests shall be conducted using the same test conditions (e.g., same test duration, etc.).

5. If either the reference toxicant test or effluent toxicity test do not meet all test acceptability criteria in the test methods manual, then the permittee must resample and retest within 14 days.

6. Because this permit requires sublethal hypothesis testing endpoints from Methods 1000.0, 1002.0, and 1003.0, with-in test variability must be reviewed and variability criteria (upper and lower PMSD bounds) must be applied, as specified under Section 10.2.8 of the test methods manual. The calculated PMSDs for both reference toxicant test and effluent toxicity test results must meet the upper and lower PMSD bounds variability criteria specified in Section 10 of the test methods manual, Table 6 - *Variability Criteria (Upper and Lower PMSD Bounds) for Sublethal Hypothesis Testing Endpoints Submitted Under NPDES Permits.*

7. If the discharged effluent is chlorinated, then chlorine shall not be removed from the effluent sample prior to toxicity testing without written approval by EPA.

8. Where total ammonia concentrations in the effluent are $\geq$5 mg/L, toxicity may be contributed by unionized ammonia. pH drift during the toxicity test may contribute to artifactual toxicity when ammonia or other pH-dependent toxicants (e.g., metals) are present. If sample toxicity is confirmed to be artifactual and due to pH drift (as determined through parallel testing described in Section 11.3.6.1 of the test methods manual), then, following written approval by EPA, the permittee may use procedures outlined in Section 11.3.6.2 of the test methods manual to control sample pH during the toxicity test.

D. <u>Initial Investigation TRE Workplan</u>

Within 90 days of the permit effective date, the permittee shall prepare and submit a copy of their Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan (1-2 pages) to EPA for review. This plan shall include steps the permittee intends to follow if toxicity is measured above the chronic toxicity monitoring triggers and should include, at minimum:

1. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.

2. A description of methods for maximizing in-house treatment system efficiency, good housekeeping practices, and a list of all chemicals used in operations at the facility.
3. If a Toxicity Identification Evaluation (TIE) is necessary, an indication of who would conduct the TIEs (i.e., an in-house expert or outside contractor).

E. Accelerated Toxicity Testing and TRE/TIE Process

1. If a chronic toxicity monitoring trigger is exceeded and the source of toxicity is known (e.g., a temporary plant upset), then the permittee shall conduct one additional toxicity test using the same species and test method. This test shall begin within 14 days of receipt of test results exceeding a chronic toxicity monitoring trigger. If the additional toxicity test does not exceed a chronic toxicity monitoring trigger, then the permittee may return to their regular testing frequency.

2. If a chronic toxicity monitoring trigger is exceeded and the source of toxicity is not known, then the permittee shall conduct four additional toxicity tests using the same species and test method, approximately every two weeks, over an eight week period. This testing shall begin within 14 days of receipt of test results exceeding a chronic toxicity monitoring trigger. If none of the additional toxicity tests exceed a chronic toxicity monitoring trigger, then the permittee may return to their regular testing frequency.

3. If one of the additional toxicity tests (in paragraphs a or b) exceeds a chronic toxicity monitoring trigger, then, within 14 days of receipt of this test result, the permittee shall initiate a TRE using the same species and test method and, as guidance, EPA manual *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (EPA 833-B-99-002, August 1999). In conjunction, the permittee shall develop and implement a Detailed TRE Workplan which shall include: further actions undertaken by the permittee to investigate, identify, and correct the causes of toxicity; actions the permittee will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and a schedule for these actions.

4. The permittee may initiate a Toxicity Identification Evaluation (TIE) as part of a TRE to identify the causes of toxicity, using as guidance EPA manuals: *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I* (EPA/600/6-91/005F, May 1992); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, September 1993); and *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, September 1993).

F. Reporting of Chronic Toxicity Monitoring Results

1. A full laboratory report for all toxicity testing shall be submitted as an attachment to the DMR for the month in which the toxicity test was conducted and shall also

include: the toxicity test results (in TUc, NOEC, and EC25 or IC25) reported according to the test methods manual chapter on Report Preparation and Test Review; the dates of sample collection and initiation of each toxicity test; all results for effluent parameters monitored concurrently with the toxicity test(s); and progress reports on TRE/TIE investigations.

2. The permittee shall notify EPA in writing within 14 days of exceedance of a chronic toxicity monitoring trigger. This notification shall describe actions the permittee has taken or will take to investigate, identify, and correct the causes of toxicity; the status of actions required by this permit; and schedule for actions not yet completed; or reason(s) that no action has been taken.

Part V. BIOSOLIDS

A. Biosolids (Sludge) Requirements

1. All biosolids generated by the permittee shall be reused or disposed of in compliance with the applicable portions of:

   a) 40 CFR 503 for biosolids that are land applied, placed in surface disposal sites (dedicated
   land disposal sites or monofills), or incinerated.

   b) 40 CFR 258 for biosolids disposed of in Municipal Solid Waste landfills.

   c) 40 CFR 257 for all biosolids disposal practices not covered under 40 CFR 258 or 503.

   d) 40 CFR 503 Subpart B (land application) for biosolids placed on the land for the purpose of providing nutrients or conditioning the soil for crops or vegetation.

   e) 40 CFR 503 Subpart C (surface disposal) for biosolids placed on the land for the purpose of disposal.

2. The permittee is responsible for assuring that all biosolids produced at its facility are used or disposed of in accordance with 40 CFR 257, 258, and 503, whether the permittee reuses or disposes of the biosolids itself or transfers them to another party for further treatment, reuse, or disposal. The permittee is responsible for informing subsequent preparers, appliers, or disposers of the requirements they must meet under 40 CFR 257, 258, and 503.

3. Duty to mitigate: The permittee shall take all reasonable steps to prevent or minimize any biosolids use or disposal which has a likelihood of adversely affecting human health or the environment.

4. No biosolids shall be allowed to enter wetlands or other waters of the United States.

5. Biosolids treatment, storage, and use or disposal shall not contaminate groundwater.

6. Biosolids treatment, storage, and use or disposal shall not create a nuisance such as objectionable odors or flies.

7. The permittee shall assure that haulers who transport biosolids off site for treatment, reuse, or disposal take all necessary measures to keep the biosolids contained.

8. If biosolids are stored for over two years from the time they are generated, the permittee must ensure compliance with all the requirements for surface disposal under

40 CFR 503 Subpart C, or must submit a written request to EPA with the information in 503.20 (b), requesting permission for longer temporary storage.

9. Biosolids containing more than 50 mg/kg PCB's shall be disposed of in accordance with 40 CFR 761.

10. Any biosolids treatment, disposal, or storage site shall have facilities adequate to divert surface runoff from the adjacent area, to protect the site boundaries from erosion, and to prevent any conditions that would cause drainage from the materials in the disposal site to escape from the site. Adequate protection is defined as protected from at least a 100-year storm and from the highest tidal stage that may occur.

11. Inspection and Entry: The permittee shall allow the Regional Administrator or an authorized representative thereof, upon the presentation of credentials, to:

    a) enter upon all premises where biosolids produced/treated by the permittee are treated, stored, used, or disposed, either by the permittee or by another party to whom the permittee transfers the biosolids for treatment, use, or disposal,

    b) have access to and copy any records that must be kept under the conditions of this permit or of 40 CFR 503, by the permittee or by another party to whom the permittee transfers the biosolids for further treatment, use, or disposal,

    c) inspect any facilities, equipment (including monitoring and control equipment), practices, or operations used in the biosolids treatment, storage, use, or disposal by the permittee or by another party to whom the permittee transfers the biosolids for treatment, use, or disposal.

12. Monitoring shall be conducted as follows. Monitoring is not required for biosolids shipped to an off-site POTW to be re-used or disposed by the recipient POTW, except as required by the recipient POTW.

    a) Biosolids shall be tested for the metals required in Section 503.16 (for land application) or 503.26 (for surface disposal), using the methods in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846), as required in 503.8(4), at the following minimum frequencies:

Volume (dry metric tons)	Frequency
0 - 290	once per year
290 - 1500	once per quarter
1500 - 15000	once per 60 days
> 15000	once per month

Sampling Plan - For accumulated, previously untested biosolids, the permittee shall develop a representative sampling plan, including number and location of sampling points, and collect representative samples. Test results shall be expressed in mg pollutant per kg biosolids on a 100% dry weight basis.

Sampling Requirements: Biosolids to be land applied shall be tested for TKN, ammonium-N, and nitrate-N at the frequencies required above.

b) Prior to land application, the permittee shall demonstrate that the biosolids meet Class A or Class B pathogen reduction levels by one of the methods listed in 503.32. Prior to disposal in a surface disposal site, the permittee shall demonstrate that the biosolids meet Class B levels or shall ensure that the site is covered at the end of each operating day.

c) For biosolids that are land applied or placed in a surface disposal site, the permittee shall track and keep records of the operational parameters used to achieve Vector Attraction Reduction requirements in 503.33(b).

d) Class 1 facilities (facilities with pretreatment programs or others designated as Class 1 by the Regional Administrator) and Federal facilities with > 5 MGD influent flow shall sample biosolids for pollutants listed under Section 307(a) of the Act (as required in the pretreatment section of the permit for POTW's with pretreatment programs.) Class 1 facilities and Federal Facilities with > 5 MGD influent flow shall test dioxin/dibenzofurans using a detection limit of < 1 pg/g during their next sampling period if they have not done so within the past 5 years and once per 5 years thereafter.

e) The biosolids shall be tested annually using the Toxicity Characteristic Leaching Procedure, or more frequently if necessary to determine hazardousness.

f) If biosolids are placed in a surface disposal site (dedicated land disposal site or monofill), a qualified groundwater scientist shall develop a groundwater monitoring program for the site, or shall certify that the placement of biosolids on the site will not contaminate an aquifer.

g) Biosolids placed in a municipal landfill shall be tested by the Paint Filter Test (method 9095) at the frequency in 12(a) above or more often if necessary to demonstrate that there are no free liquids.

13. The permittee shall comply with the following notification requirements:

a) At least 60 days prior to the use or disposal of any biosolids from this facility to a new or previously unreported site, the permittee shall submit a reuse/disposal plan to

EPA. The plan shall include results of the analyses required under the Monitoring Section above, a description and topographic map of the proposed site(s) for reuse or disposal, names and addresses of the applier(s) and site owner(s), and a listing of any state or local permits which must be obtained. For land application sites, the plan shall include a description of the crops or vegetation to be grown, proposed loading rates and nitrogen loadings to be used for the crops, and a groundwater monitoring plan if one exists. If the biosolids do not meet 503.13 Table 3 metals concentration limits, the permittee must notify EPA of any previous applications of biosolids subject to cumulative loading limits to the site, the cumulative amounts of pollutants applied to date, and background concentrations if known.

b) For biosolids that are land applied, the permittee shall notify the applier in writing of the nitrogen content of the biosolids, and of the applier's requirements under 503, including the requirement that the applier certify that the management practices, site restrictions, and any applicable vector attraction reduction requirements required in 40 CFR 503 Subpart B have been met. The permittee shall require the applier to certify at the end of 38 months following application of Class B biosolids that those harvesting restrictions in effect for up to 38 months have been met.

c) If biosolids are shipped to another State or to Indian Lands, the permittee must send 60 days prior notice of the shipment to the permitting authorities in the receiving State or Indian Land (the EPA Regional Office for that area and the State/Indian authorities).

d) Notification of non-compliance: The permittee shall notify EPA Region 9 of any non-compliance within 24 hours if the non-compliance may seriously endanger health or the environment. For other instances of non-compliance, the permittee shall notify EPA Region 9 and the Board of the non-compliance in writing within 5 working days of becoming aware of the non-compliance.

14. The permittee shall submit an annual biosolids report to EPA and the Board by February 19 of each year for the period covering the previous calendar year. The report shall include:

a) the amount of biosolids generated that year, in dry metric tons, and the amount accumulated from previous years.

b) results of all pollutant monitoring required in the Monitoring Section above.

c) Descriptions of pathogen reduction methods, vector attraction reduction methods, site and harvesting restrictions, and management practices, and certifications of these, as required in 503.17 and 503.27.

d) Results of any groundwater monitoring or certification by groundwater scientist that the application/disposal will not contaminate an aquifer.

e) Names and addresses of land appliers and surface disposal site operators, location of sites (latitude and longitude and names of sites); volumes applied (dry metric tons) and loading rates (metric tons/ha), dates of applications, crops grown and dates of seeding and harvesting.

f) Names, mailing addresses, and street addresses of persons who received biosolids for storage, further treatment, disposal in a municipal waste landfill, or for other reuse/disposal methods not covered above, and volumes delivered to each. Reports shall be submitted to:

U.S. EPA, WTR-7
Regional Biosolids Coordinator
75 Hawthorne St.
San Francisco, CA 94105-3901

Appendix A: STANDARD DEFINITIONS

1. A "composite sample" means, for flow rate measurements, the arithmetic mean of no fewer than eight (8) individual measurements taken at equal intervals for eight (8) hours or for the duration of discharge, whichever is shorter. For other than flow rate measurements, a composite sample means, a combination of either (8) individual portions obtained at equal time intervals for eight (8) hours or for the duration of the discharge, whichever is shorted. The volume of each individual portion shall be directly proportional to the discharge flow rate at the time of sampling. The sampling period shall coincide with the period of maximum discharge.

Sample collection, preservation and handling shall be performed as described in the most recent edition of 40 CFR 136.3 (Table II). Where collection, preservation and handling procedures are not outlined in 40 CFR 136.3, procedures outlined in the 20th edition of *Standard Methods for the Examination of Water and Wastewater* shall be used.

2. The "daily maximum concentration limit" means the measurement made on any single discrete sample or composite sample.

3. The "daily maximum mass limit" means the total discharge by mass during any calendar day.

4. A "discrete" or "grab"sample means an individual sample collected from a single location at a specific time, or over a period of time not exceeding 15 minutes. Sample collection, preservation and handling shall be performed as described in the most recent edition of 40 CFR 136.3 (Table II). Where collection, preservation and handling procedures are not outlined in 40 CFR 136.3, procedures outlined in the 20th edition of *Standard Methods for the Examination of Water and Wastewater* shall be used.

5. The "Method Detection Limit (MDL)" is the minimum concentration of an analyte that can be detected with 99 percent confidence that the analyte concentration is greater than zero, as defined by the specific laboratory method listed in 40 CFR part 136. The procedure for determination of a laboratory MDL is in 40 CFR Part 136, Appendix B.

6. The "Minimum Level (ML)" is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all of the method-specified sample weights, volumes, and processing steps have been followed (as defined in EPA's draft *National Guidance for the Permitting, Monitoring, and Enforcement of Water Quality-Based Effluent Limitations Set Below Analytical Detection/Quantitative Levels*, March 22, 1994). Promulgated method-specific MLs are contained in 40 CFR Part 136, Appendix A and must be utilized if available. If a promulgated method-specific ML is not available, then an interim ML shall be calculated. The interim ML is equal to 3.18 times the promulgated method-specific MDL rounded to the nearest multiple of 1, 2, 5, 10, 20, 50, etc.

When neither an ML nor an MDL are available under 40 CFR 136, an interim ML should be

calculated by multiplying the best estimate of detection by a factor of 3.18; when a range of detection is given, the lower end value of the range of detection should be used to calculate the ML. At this point in the calculation, a different procedure is used for metals than for non-metals.

a. For metals: due to laboratory calibration practices, calculated MLs for metals may be rounded to the nearest whole number.

b. For non-metals: because analytical instruments are generally calibrated using the ML as the lowest calibration standard, the calculated ML is then rounded to the nearest multiple of (1, 2, or 5) $\times 10^n$, where n is zero or an integer. (For example: if an MDL is 2.5 μg/L, then the calculated ML is 2.5 μg/L $\times$ 3.18 = 7.95 μg/L. The multiple of (1, 2, or 5) $\times 10^n$ nearest to 7.95 is $1 \times 10^1 = 10$ μg/L, so the calculated ML (rounded to the nearest whole number) is 10 μg/L.)

7. The "monthly or weekly average concentration limit", other than for fecal or total coliform bacteria, means the arithmetic mean of consecutive measurements made during calendar month or weekly period, respectively. The "monthly or weekly average" concentration for fecal or total coliform bacteria means the geometric mean of measurements made during a monthly or weekly period, respectively. The geometric mean is the nth root of the product of n numbers.

8. The "monthly or weekly average mass limitation" means the total discharge by mass during a calendar monthly or weekly period, respectively, divided by the number of days in the period that the facility was discharging. Where less than daily sampling is required by this permit, the monthly or weekly average value shall be determined by the summation of all the measured discharges by mass divided by the number of days during the monthly or weekly period when the measurements were made.

9. A "24-hour composite sample" means either: (i) a time-proportioned mixture of not less than eight (8) discrete aliquots obtained at equal time intervals. The volume of each aliquot shall be directly proportional to the discharge flow rate at the time of sampling, but not less 100 ml; or (ii) a flow-proportional combination of individual samples obtained at regular intervals over a 24-hour sampling period. The volume of each sample shall be proportional to the flow rate during the 24-hour sampling period. Sample collection, preservation and handling shall be performed as described in the most recent edition of 40 CFR Part 136.3 (Table II). Where collection, preservation and handling procedures are not outlined in 40 CFR Part 136.3, procedures outlined in the 20th edition of *Standard Methods for the Examination of Water and Wastewater* shall be used.

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Appendix B

AMBIENT WATER QUALITY CRITERIA RECOMMENDED TO PROTECT FRESHWATER AQUATIC LIFE

Total Ammonia, as Nitrogen

Temperature and pH-Dependent Values of the CCC (Chronic Criterion) For Fish Early Stages Present

Continuous Concentration Criteria for Fish Early Life Stages Present, 30-day avg (mg N/l)										
pH	Temperature, °C									
	0	14	16	18	20	22	24	26	28	30
6.5	6.67	6.67	6.06	5.33	4.68	4.12	3.62	3.18	2.8	2.46
6.6	6.57	6.57	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42
6.7	6.44	6.44	5.86	5.15	4.52	3.98	3.50	3.07	2.70	2.37
6.8	6.29	6.29	5.72	5.03	4.42	3.89	3.42	2.00	2.64	2.32
6.9	6.12	6.12	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25
7.0	5.91	5.91	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18
7.1	5.67	5.67	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09
7.2	5.39	5.39	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99
7.3	5.08	5.08	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87
7.4	4.73	4.73	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74
7.5	4.36	4.36	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61
7.6	3.98	3.98	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.47
7.7	3.58	3.58	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32
7.8	3.18	3.18	2.89	2.54	2.23	1.96	1.73	1.52	1.33	1.17
7.9	2.80	2.80	2.54	2.24	1.96	1.73	1.52	1.33	1.17	1.03
8.0	2.43	2.43	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897
8.1	2.10	2.10	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773
8.2	1.79	1.79	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661
8.3	1.52	1.52	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562
8.4	1.29	1.29	1.17	1.03	0.906	0.796	0.700	0.615	0.541	0.475
8.5	1.09	1.09	0.990	0.870	0.765	0.672	0.591	0.520	0.457	0.401
8.6	0.920	0.920	0.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339
8.7	0.778	0.778	0.707	0.622	0.547	0.480	0.422	0.371	0.326	0.287
8.8	0.661	0.661	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244
8.9	0.565	0.565	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208
9.0	0.486	0.486	0.442	0.389	0.342	0.300	0.264	0.232	0.204	0.179

$$CCC_{early\ life\ present} = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}} \right) \cdot MIN\left(2.85, 1.45 \cdot 10^{0.028(25-T)}\right)$$

$$CCC_{early\ life\ absent(tablenotshown)} = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}} \right) \cdot MIN\left(2.85, 1.45 \cdot 10^{0.028(25-T)}\right)$$

Note: T is temperature in °C

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Appendix C

AMBIENT WATER QUALITY CRITERIA RECOMMENDED TO PROTECT FRESHWATER AQUATIC LIFE

Total Ammonia, as Nitrogen

pH-Dependent Values of the CMC (Acute Criterion)

Maximum Concentration Criteria 1-hr avg (mg N/l)*		
pH	Salmonids Present	Salmonids Absent
6.5	32.6	48.8
6.6	31.3	46.8
6.7	29.8	44.6
6.8	28.0	42.0
6.9	26.2	39.2
7.0	24.1	36.1
7.1	21.9	32.9
7.2	19.7	29.5
7.3	17.5	26.2
7.4	15.3	23.0
7.5	13.3	19.9
7.6	11.4	17.0
7.7	9.64	14.4
7.8	8.11	12.1
7.9	6.77	10.1
8.0	5.62	8.41
8.1	4.64	6.95
8.2	3.83	5.73
8.3	3.15	4.71
8.4	2.59	3.88
8.5	2.14	3.20
8.6	1.77	2.65
8.7	1.47	2.20
8.8	1.23	1.84
8.9	1.04	1.56
9.0	0.885	1.32

* Criteria Maximum Concentration (CMC) with Salmonids Present

$$CMC = \frac{0.275}{1 + 10^{(7.204 - pH)}} + \frac{39.0}{1 + 10^{(pH - 7.204)}}$$

* Criteria Maximum Concentration (CMC) with Salmonids Absent

$$CMC = \frac{0.411}{1 + 10^{(7.204 - pH)}} + \frac{58.4}{1 + 10^{(pH - 7.204)}}$$