

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105**

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

NPDES PERMIT NO. AZ0024589

In compliance with the provisions of the Clean Water Act ("CWA") (Public Law 92-500, as amended, 33 U.S.C. 1251 et seq.), the following discharger is authorized to discharge from the identified facility at the outfall location(s) specified below, in accordance with the effluent limits, monitoring requirements, and other conditions set forth in this permit:

Discharger Name	Tribal Utility Authority, White Mountain Apache Tribe
Discharger Address	P.O. Box 517
	Whiteriver, AZ 85941
Facility Name	Hon-Dah Regional Wastewater Treatment Facility
Facility Location Address	Hon-Dah
	Whiteriver, AZ 85941
	Navajo County
Facility Rating	minor

Outfall Number	General Type of Waste Discharged	Outfall Latitude	Outfall Longitude	Receiving Water
001	Treated Wastewater	34° 03' 49" N	-109° 55' 26" W	Bootleg Lake

This permit was issued on:	
This permit shall become effective on:	October 1 st , 2008
This permit shall expire at midnight on:	September 30 th , 2013
In accordance with 40 CFR 122.21(d), the discharger shall submit a new application for a permit at least 180 days before the expiration date of this permit, unless permission for a date no later than the permit expiration date has been granted by the Director.	

Signed this 11th day of September, 2008, for the Regional Administrator.

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Alexis Strauss, Director
Water Division

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Part I. EFFLUENT LIMITS AND MONITORING

A. Effluent Limits and Monitoring

1. Effluent Limits – Outfall Number 001

During the period beginning on the effective date of this permit and ending on the expiration date of this permit, the discharger is authorized to discharge treated domestic wastewater in compliance with the effluent limits and monitoring requirements specified in Table 1. Compliance with these requirements is monitored at the sample collection station (downstream of the UV disinfection unit and immediately prior to outfall 001) and at the influent distribution manhole (MH-S1), as shown on Attachment C. If there is no discharge at this outfall during any one month period, then report “C” in the “No Discharge” box on the DMR form for that month.

2. The discharge of pollutants at any point other than the outfall number specifically authorized in this permit is prohibited, and constitutes a violation thereof.

3. There shall be no discharge of pollutants to the receiving water that will:

- a. Settle to form objectionable deposits; float as debris, scum, oil, or other matter forming nuisances;

- b. Produce objectionable color, odor, taste, or turbidity;
 - c. Cause injury to, or be toxic to, or produce adverse physiological responses in humans, animals, or plants; or
 - d. Produce undesirable or nuisance aquatic life.
4. As additionally specified in the White Mountain Apache Tribe Water Quality Protection Ordinance,
- a. Tribal water shall be virtually free from pathogens which include bacteria, viruses or parasites. In particular, waters used for irrigation of table crops shall be virtually free of *Salmonella* and *Shigella* species.
 - b. Turbidity attributable to other than natural causes shall not reduce light transmission to the point that the aquatic biota is inhibited or that will cause an unaesthetic and substantial visible contrast with the natural appearance of the water. Specifically, turbidity shall not exceed 5 NTU over background when background turbidity is 50 NTU or less. When background turbidity is more than 50 NTU, there shall not be more than a 10% increase in turbidity. Background turbidity may be estimated by measuring levels upstream of the human-caused impacts or during zero runoff periods (greater than five (5) days after most recent event).
 - c. The radioactivity of Tribal water shall not exceed the maximum natural background concentrations in Tribal waters.
 - d. The introduction of heat by other than natural causes shall not increase the temperature of the receiving water (Bootleg Lake, with a designated use of Warmwater Habitat) more than 2.0 °C, based upon the monthly average of the maximum daily temperatures measured at mid-depth or three feet (whichever is less). In lakes, the temperature of the water column or epilimnion (if thermal stratification exists) shall not be raised more than 1.7° C (3° F) above that which existed before the addition of heat of artificial origin, based upon the average of temperatures taken from the surface to the bottom, or the surface to the bottom of the epilimnion (if stratified). Normal daily and seasonal variations of temperature that were present before the addition of heat from other than natural sources shall be maintained. In no case shall heat of artificial origin be permitted when the maximum temperature specified for the reach (32.2° C) would thereby be exceeded. High water temperatures caused by unusually high ambient air temperature are not violations of these standards. In cases where dissolved oxygen levels are within 0.5 mg/l of the limit, no increases in temperature will be allowed.
 - e. The discharge shall not cause the concentration of dissolved oxygen in the receiving waters to be less than 5.0 mg/L.
 - f. Existing mineral concentrations (total dissolved solids, chlorides, and sulfates) shall not be altered by the discharge in a way that would interfere with established

designated uses. No increase exceeding 1/5 of naturally-occurring levels shall be permitted.

g. The pH of the receiving water shall not fluctuate in excess of 1.0 pH unit over a period of 24 hours for other than natural causes, and shall remain within a range of 6.5-9.0.

h. Surface water shall be free of nitrogen and other dissolved gases at levels above 110% saturation when this supersaturation is attributable to municipal, industrial, or other discharges.

i. Total chlorine residual shall not exceed 0.1 mg/l.

5. Samples taken in compliance with the effluent monitoring requirements specified in Part I of this permit shall be taken at the following locations:

a. Influent samples shall be taken after the last addition to the collection system and prior to inplant return flow and the first treatment process, where representative samples can be obtained.

b. Effluent samples shall be taken after inplant return flows and the last treatment process and prior to mixing with the receiving water, where representative samples can be obtained.

c. The discharge of toxic substances, including, but not limited to, pesticides, herbicides, heavy metals, and organic chemicals, is prohibited. Toxic substances shall not be present in the discharge above those levels identified in 40 C.F.R. § 131.36 (incorporated herein by reference except as given in section 3.5.Q of the Tribal Water Quality Protection Ordinance) as toxic to human, animal, plant, or aquatic life, or to interfere with the normal propagation, growth, and survival of the aquatic biota, including fish. As no mixing zone has been approved for this discharge, there shall be no chronic toxicity at the point of discharge.

B. Table 1. Effluent Limits and Monitoring Requirements

Parameter ⁽⁵⁾	Maximum Allowable Discharge Limits				Monitoring Requirements ⁽²⁾		
	Concentration and Loading						
	Average Monthly	Average Weekly	Maximum Daily	Units	Location	Frequency	Sample Type
Flow rate	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽¹⁾	mgd	Sampling Station	Weekly	Continuous
Biochemical oxygen demand (5-day) (Equivalent to Secondary Treatment)	45 68.1	65 98.4	— —	mg/L kg/day	Sampling St.	Monthly	Composite
	The average monthly percent removal shall not be less than 65 percent. ⁽³⁾			%	Inlet vs Sampling St.		
Dissolved Oxygen	Minimum of 5.0 mg/L at all times			mg/L	Sampling St.	Monthly	Composite
<i>E. Coli</i>	47.00 ⁽⁴⁾	—	88.00	CFU/100 mL	Sampling St.	Monthly	Grab
pH (hydrogen ion)	Within 6.5 and 9.0 at all times.			pH units	Sampling St.	Weekly	Grab
Temperature	⁽¹⁾	—	32.2	°C	Sampling St.	Weekly	Continuous
Total suspended solids (Equivalent to Secondary Treatment)	45 68.1	65 98.4	— —	mg/L kg/day	Sampling St.	Monthly	Composite
	The average monthly percent removal shall not be less than 65 percent. ⁽³⁾			%	Inlet vs Sampling St.		
Ammonia (as N) ⁽⁵⁾	⁽⁵⁾	—	⁽⁵⁾	mg/L	Sampling St.	Monthly	Composite
Oil and grease, total recoverable	10	—	15	mg/L	Sampling St.	Monthly	Grab
Phosphorous, Total	⁽¹⁾	—	⁽¹⁾	mg/L	Sampling St.	Monthly	Composite
Total Nitrate (as N)	⁽¹⁾	—	10.0	mg/L	Sampling St.	Monthly	Composite
Turbidity	—	—	25.00	NTU	Sampling St.	Monthly	Grab
Chronic Toxicity ⁽⁶⁾	⁽¹⁾	—	⁽¹⁾	TUc	Sampling Station	Once during final year of permit term	24-hr composite; see test procedure

(1) No effluent limits are set at this time, but monitoring and reporting is required.

(2) One set of samples must be taken concurrent with the required whole effluent toxicity monitoring.

(3) Both the influent and the effluent shall be monitored. The arithmetic mean of the Biochemical Oxygen Demand (5-day) by concentration, for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 35 percent of the arithmetic mean of the values, by concentration, for influent samples collected at approximately the same times during the same period.

(4) This value is a geometric mean for *E.Coli*.

(5) For total ammonia nitrogen (in mg N/L), the tribal Water Quality Protection Ordinance specifies ammonia limitations based on pH and temperature and calculated WQBELs are expressed based on these functions, as indicated in the tables in Appendix D to this permit. Monitoring for total ammonia nitrogen, pH, and temperature must be concurrent.

(6) See Part II.E of this permit for details of the one-time chronic WET test requirement

Part II. SPECIAL CONDITIONS

A. Best Management Practices and Pollution Prevention

In accordance with 40 CFR 122.44(k)(4), the permittee shall develop and implement appropriate pollution prevention measures or Best Management Practices (“BMPs”) designed to control or abate the discharge of pollutants, including:

1. The White Mountain Apache Tribe shall produce an operators' manual for the facility. The Tribe shall submit the manual to EPA within 6 months for review. The manual shall include at a minimum:
 - a. A schedule of maintenance activities, including at a minimum inspection of manhole flow-splitting points for obstruction, inspection of UV disinfection system bulbs for fouling/coating, testing of the UV system power panel, checking of the outfall pipe screen for clogging, and calibration of sampling equipment (e.g. pH/Temperature probes)
 - b. Standardized procedures for sample collection, including a requirement that date and time of day be recorded for each sample taken (see Standard Permit Conditions, attachment A to this permit, section A.1.j.(3)).
 - c. Differences in operating procedure for warm (ponds freely aerated, artificial wetland growing) and cold (ponds iced over, wetland plants senescent) seasons.

B. Permit Reopener(s)

1. In accordance with 40 CFR 122 and 124, this permit may be modified by EPA to include effluent limits, monitoring, or other conditions to implement new regulations, including EPA-approved water quality standards; or to address new information indicating the presence of effluent toxicity or the reasonable potential for the discharge to cause or contribute to exceedances of water quality standards.
2. In accordance with 40 CFR 122.44(c), EPA may promptly modify or revoke and reissue any permit issued to a treatment works treating domestic sewage (including “sludge only facilities”) to incorporate any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the CWA, if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or controls a pollutant or practice not limited in the permit.
3. In order to accommodate possible changes to the White Mountain Apache Tribe Water Quality Protection Ordinance that EPA has been appraised of by the Tribe’s Department of Hydrology & Water Resources, this permit may be modified to reflect altered Mixing Zone, Bacteria Indicator Organism, or other Tribal standards that may be submitted to EPA at the conclusion of the Tribe’s current triennial water quality standards review process.

C. Twenty-four Hour Reporting of Noncompliance

1. In accordance with 40 CFR 122.41(l)(6)(i), (ii), and (iii), the following condition is expressly incorporated into this permit. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances, to EPA and the White Mountain Apache Tribe Environmental Planning Office. The permittee shall notify EPA and the White Mountain Apache Tribe Environmental Planning Office at the following telephone numbers:

U.S. Environmental Protection Agency
CWA Compliance Office (WTR-7)
(415) 972-3577

Environmental Planning Office
White Mountain Apache Tribe
P.O. Box 2109
Whiteriver, AZ 85941
(928)-338-2466
Attn: Ann-Denise Taylor

A written submission shall also be provided within five 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 exact dates and times; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

2. The following information shall be included as information which must be reported within 24 hours under this paragraph.

- a. Any unanticipated bypass which exceeds any effluent limit in the permit (see 40 CFR 122.44(g)).
- b. Any upset which exceeds any effluent limit in the permit.
- c. Violation of a maximum daily discharge limit for any of the pollutants listed by the director in the permit to be reported within 24 hours (see 40 CFR 122.44(g)).

3. The Director may waive the written report on a case-by-case basis for reports required under paragraph B.2, if the oral report has been received within 24 hours.

D. General Monitoring and Reporting

1. All monitoring shall be conducted in accordance with 40 CFR 136 test methods, unless otherwise specified in this permit. For influent and effluent analyses required in Table 1 of this permit, the permittee shall utilize 40 CFR 136 test methods with MDLs and MLs that are lower than the effluent limits in Table 1 of this permit and the water quality criteria concentrations in the White Mountain Apache Tribe Water Quality

Protection Ordinance. If all MDLs or MLs are higher than these effluent limits or criteria concentrations, then the permittee shall utilize the test method with the lowest MDL or ML. In this context, the permittee shall ensure that the laboratory utilizes a standard calibration where the lowest standard point is equal to or less than the ML. Influent and effluent analyses for metals shall measure “total recoverable metal”, except as provided under 40 CFR 122.45(c).

2. The permittee shall develop a Quality Assurance (“QA”) Manual for the field collection and laboratory analysis of samples. 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. At a minimum, the QA Manual shall include the following:

- a. Identification of project management and a description of the 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;
- b. Description of sample collection procedures; equipment used; the type and number of samples to be collected including QA/Quality Control (“QC”) samples; preservatives and holding times for the samples (see 40 CFR 136.3); and chain of custody procedures;
- c. Identification of the laboratory used to analyze 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; MDL and 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 in response to problems identified during QC checks; and
- d. Discussion of how the permittee will perform data review and reporting of results to EPA and how the permittee will resolve data quality issues and identify limits on the use of data.

3. Throughout all field collection and laboratory analyses of samples, the permittee shall use the QA/QC procedures documented in their QA Manual. If samples are tested by a contract laboratory, the permittee shall ensure that the laboratory has a QA Manual on file. A copy of the permittee’s QA Manual shall be retained on the permittee’s premises and available for review by EPA upon request. The permittee shall review its QA Manual annually and revise it, as appropriate.

4. Samples collected during each month of the reporting period must be reported on Discharge Monitoring Report forms, as follows:

- a. For a *maximum daily* permit limit or monitoring requirement when one or more samples are collected during the month, report either:

The *maximum value*, if the maximum value of all analytical results is greater than or equal to the ML; or
NODI (Q), if the maximum value of all analytical results is greater than or equal to the laboratory's MDL, but less than the ML; or
NODI (B), if the maximum value of all analytical results is less than the laboratory's MDL.

b. For an *average weekly* or *average monthly* permit limit or monitoring requirement when only one sample is collected during the week or month, report either:

The *maximum value*, if the maximum value of all analytical results is greater than or equal to the ML; or
NODI (Q), if the maximum value of all analytical results is greater than or equal to the laboratory's MDL, but less than the ML; or
NODI (B), if the maximum value of all analytical results is less than the laboratory's MDL.

c. For an *average weekly* or *average monthly* permit limit or monitoring requirement when more than one sample is collected during the week or month, report:

The *average value* of all analytical results where 0 (zero) is substituted for *NODI (B)* and the laboratory's MDL is substituted for *NODI (Q)*.

5. As an attachment to each DMR form, the permittee shall report for all parameters with monitoring requirements specified in Table 1 of this permit: the test method number or title and published MDL or ML; the test method number or title and preparation procedure used by the laboratory, the laboratory's MDL for the test method computed in accordance with Appendix B of 40 CFR 135, the standard deviation (S) from the laboratory's MDL study, and the number of replicate analyses (n) used to compute the laboratory's MDL; and the laboratory's lowest calibration standard.
6. In addition to information requirements specified under 40 CFR 122.41(j)(3) (see Standard Permit Conditions, attachment A to this permit, paragraph A.1.j(3)), records of monitoring information shall include: the laboratory which performed the analyses and any comment, case narrative, or summary of results produced by the laboratory. The records 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 condition upon receipt, holding time, and preservation.
7. All monitoring results shall be submitted in such a format as to allow direct comparison with the effluent limits, monitoring requirements, and conditions of this

permit. Influent and effluent monitoring results must be reported on EPA Form 3320-1, a pre-printed Discharge Monitoring Report form (“DMR”) provided by the EPA Region 9 DMR Coordinator for NPDES. A DMR form must be submitted for the reporting period even if there was not any discharge. DMR forms shall be submitted on the 28th day of the month following the previous quarterly reporting period. For example, under quarterly submission, the three DMR forms for January, February, and March are due on April 28th. Duplicate signed copies of these, and all other reports required herein, shall be submitted to EPA and the White Mountain Apache Tribe Environmental Planning Office at the following addresses, unless otherwise specified in this permit:

U.S. Environmental Protection Agency
Region 9
CWA Compliance Office (WTR-7)
NPDES/DMR
75 Hawthorne Street
San Francisco, CA 94105

Environmental Planning Office
White Mountain Apache Tribe
P.O. Box 2109
Whiteriver, AZ 85941
(928)-338-2466
Attn: Ann-Denise Taylor

E. Chronic Whole Effluent Toxicity

1. Monitoring Frequency

The permittee shall conduct one chronic toxicity test on 24-hour composite effluent samples taken between January 1, 2013 and June 30, 2013, with results reported to EPA Region 9 no later than July 31, 2013. The permittee shall split a 24-hour composite effluent sample and concurrently conduct three toxicity tests using a fish and an invertebrate, and an alga species. Chronic toxicity test 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 and any in-plant return flows 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.

2. Freshwater 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, 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 1000.0) and the daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.01).

3. Chronic WET Permit Triggers

There are no chronic toxicity effluent limits for this discharge. For this discharge, a mixing zone or dilution allowance is not authorized and the chronic WET permit triggers are any one test result (during the single required test) greater than 1.6 TUC, or any one or more test results with a calculated median value greater than 1.0 TUC (if additional testing is required in future and multiple data points are available as a result). 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 WET permit trigger is exceeded.

4. Quality Assurance

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

a. For this discharge, a mixing zone or dilution allowance is not authorized. 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%).

b. Effluent dilution water and control water should be standard synthetic dilution water, as described in the test methods manual Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R-02/013, 2002). If the dilution water is different from test organism culture water, then a second control using culture water shall also be used.

c. 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.).

If either the reference toxicant or effluent toxicity tests do not meet all test acceptability criteria in the test methods manual, then the permittee must resample and retest within 14 days. Following Paragraph 10.2.6.2 of the freshwater test methods manual, all chronic toxicity test results from the multi-concentration tests required by this permit must be reviewed and reported according to EPA guidance on the evaluation of concentration-response relationships found in Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing (40 CFR 136) (EPA/821/B-00-004, 2000).

d. Because this permit requires sublethal hypothesis testing endpoints from Methods 1000.0, 1002.0, and 1003.0 in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R-02/013, 2002), with-in test variability must be reviewed for acceptability and variability criteria (upper and lower PMSD bounds) must be applied, as directed under Section 10.2.8 - Test Variability of the test methods manual Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Under Section 10.2.8, the calculated percent minimum significant difference (PMSD) for both reference toxicant test and effluent toxicity test results must be compared with the upper and lower PMSD bounds variability criteria specified in Table 6 - Variability Criteria (Upper and Lower PMSD Bounds) for Sublethal Hypothesis Testing Endpoints Submitted Under NPDES Permits, following the review criteria in Paragraphs 10.2.8.2.1 through 10.2.8.2.5 of the test methods manual. Based on this review, only accepted effluent toxicity test results shall be reported on the DMR form. If excessive within-test variability invalidates a test result, then the permittee must resample and retest within 14 days.

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

f. pH drift during the toxicity test may contribute to artifactual toxicity when pH-dependent toxicants (e.g., ammonia, metals) are present in an effluent. To determine whether or not pH drift during the toxicity test is contributing to artifactual toxicity, the permittee shall conduct three sets of parallel toxicity tests, in which the pH of one treatment is controlled at the pH of the effluent and the pH of the other treatment is not controlled, as described in Section 11.3.6.1 of the test methods manual, Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R-02/013, 2002). Toxicity is confirmed to be artifactual and due to pH drift when no toxicity above the chronic WET permit limit or trigger is observed in the treatments controlled at the pH of the effluent. If toxicity is confirmed to be artifactual and due to pH drift, then, following written approval by the permitting authority, the permittee may use the procedures outlined in Section 11.3.6.2 of the test methods manual to control sample pH during the toxicity test.

5. Initial Investigation TRE Workplan

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 the permitting authority for review. This plan shall include steps the permittee intends to follow if toxicity is measured above a chronic WET permit limit or trigger and should include, at minimum:

6. 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.
7. 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.
8. 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).
9. Accelerated Toxicity Testing and TRE/TIE Process
 - a. If a chronic WET permit limit or 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 WET permit limit or trigger. If the additional toxicity test does not exceed a chronic WET permit limit or trigger, then the permittee may return to their regular testing frequency.
 - b. If a chronic WET permit limit or trigger is exceeded and the source of toxicity is not known, then the permittee shall conduct six additional toxicity tests using the same species and test method, approximately every two weeks, over a 12 week period. This testing shall begin within 14 days of receipt of test results exceeding a chronic WET permit limit or trigger. If none of the additional toxicity tests exceed a chronic WET permit limit or trigger, then the permittee may return to their regular testing frequency.
10. If one of the additional toxicity tests (in paragraphs 6.a or 6.b) exceeds a chronic WET permit limit or trigger, then, within 14 days of receipt of this test result, the permittee shall initiate a TRE using as guidance, based on the type of treatment facility, EPA manual Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants (EPA/ 833/B-99/002, 1999) or EPA manual Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (EPA/600/2-88/070, 1989). 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.
 - a. The permittee may initiate a Toxicity Identification Evaluation (TIE) as part of a TRE to identify the causes of toxicity using the same species and test method and, as guidance, EPA test method manuals: Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I (EPA/600/6-91/005F, 1992); Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/080, 1993); Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting

Acute and Chronic Toxicity (EPA/600/R-92/081, 1993); and Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document (EPA/600/R-96-054, 1996).

11. Reporting of Chronic Toxicity Monitoring Results

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 NOEC; $TU_c = 100/NOEC$; EC25 (or IC25); and $TU_c = 100/EC25$ (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.

The permittee shall notify the permitting authority in writing within 14 days of exceedence of a chronic WET permit limit or 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.

12. Permit Reopener for Chronic Toxicity

In accordance with 40 CFR Parts 122 and 124, this permit may be modified to include effluent limitations or permit conditions to address chronic toxicity in the effluent or receiving waterbody, as a result of the discharge; or to implement new, revised, or newly interpreted water quality standards applicable to chronic toxicity.

F. Biosolids

“Biosolids” means non-hazardous sewage sludge, as defined in 40 CFR 503.9. Sewage sludge that is hazardous, as defined in 40 CFR 261, must be disposed of in accordance with the Resource Conservation and Recovery Act.

1. General Requirements

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

- (1) 40 CFR 503 - for biosolids that are land applied, placed in a surface disposal site (dedicated land disposal site, monofill, or sludge-only parcel at a municipal landfill), or incinerated;
- (2) 40 CFR 258 - for biosolids disposed of in a municipal solid waste landfill (with other material);
- (3) 40 CFR 257 - for all biosolids use and disposal practices not covered under 40 CFR 258 or 503.

40 CFR 503, Subpart B (land application) sets requirements for biosolids that are applied for the purpose of enhancing plant growth or for land

reclamation. 40 CFR 503, Subpart C (surface disposal) sets requirements for biosolids that are placed on the land for the purpose of disposal.

The permittee is responsible for assuring that all biosolids produced at its facility are used or disposed of in accordance with these rules, whether the permittee uses or disposes of the biosolids, itself, or transfers the biosolids to another party for further treatment, use, or disposal. The permittee is responsible for informing subsequent preparers, applicators, and disposers of the requirements that they must meet under these rules.

- b. 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.
- c. No biosolids shall be allowed to enter wetlands or other waters of the United States.
- d. Biosolids treatment, storage, use, or disposal shall not contaminate groundwater.
- e. Biosolids treatment, storage, use, or disposal shall not create a nuisance such as objectionable odors or flies.
- f. The permittee shall assure that haulers transporting biosolids off site for treatment, storage, use, or disposal take all necessary measures to keep the biosolids contained. All haulers must have spill clean-up procedures. Trucks hauling biosolids that are not classified as Class A, as defined at 40 CFR 503.32(a), shall be cleaned as necessary after loading and after unloading so as to have no biosolids on the exterior of the truck body or wheels. Trucks hauling biosolids that are not Class A shall be tarped. Trucks hauling biosolids that are not Class A may not be used for hauling food or feed crops after unloading the biosolids, unless the permittee submits, for EPA approval, a hauling description of how trucks will be thoroughly cleaned prior to adding food or feed.
- g. If biosolids are stored over two years from the time they are generated, then the permittee must ensure compliance with all surface disposal requirements under 40 CFR 503, Subpart C, or must submit a written notification to EPA and the White Mountain Apache Tribe Environmental Planning Office with the information under 40 CFR 503.20(b) demonstrating the need for longer temporary storage. During temporary storage (of any length of time) for biosolids that are not Class A, whether on the facility site or off-site, adequate procedures must be taken to restrict public access and access by domestic animals.
- h. Any biosolids treatment, disposal, or storage site shall have facilities adequate to: divert surface runoff from adjacent areas, protect the site boundaries from erosion, and prevent any conditions that would cause drainage from the materials at the site to escape from the site. Adequate protection is defined as protection from at least a 100-year storm event and from the highest tidal stage that may occur.

- i. There shall be adequate screening at the treatment plant headworks and/or at the biosolids treatment units to ensure that all pieces of metal, plastic, glass, and other inert objects with a diameter greater than 3/8" are removed.

2. Inspection and Entry

The EPA, the White Mountain Apache Tribe Environmental Planning Office, or an authorized representative thereof, upon presentation of credentials, shall be allowed by the permittee, directly or through contractual arrangements with their biosolids management contractors, to:

- a. Enter upon all premises where biosolids produced by the permittee are treated, stored, used, or disposed of, either by the permittee or another party to whom the permittee transfers the biosolids for treatment, storage, use, or disposal;
- b. Have access to and copy any records that must be kept under the conditions of this permit or 40 CFR 503, by the permittee or another party to whom the permittee transfers the biosolids for further treatment, storage, use, or disposal; and
- c. Inspect any facilities, equipment (including monitoring and control equipment), practices, or operations used in biosolids treatment, storage, use, or disposal by the permittee or another party to whom the permittee transfers the biosolids for treatment, use, or disposal.

3. Monitoring

- a. Biosolids shall be monitored for the following constituents, at the frequency specified in paragraph 3.b: arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, zinc, organic nitrogen, ammonia-nitrogen, and total solids. This monitoring shall be conducted using the methods in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (EPA publication SW-846), as required in 40 CFR 503.8(b)(4). All results must be reported on a 100% dry weight basis. Records of all analyses must state on each page of the laboratory report whether the results are expressed in "100% dry weight" or "as is".
- b. The constituents in paragraph 3.a shall be monitored at the following frequency, based on the volume of sewage solids generated per year:

Volume Generated (dry metric tons per year)	Monitoring Frequency *
>0 - <290	Once per year
290 - <1,500	Four times per year
1,500 - <15,000	Six times per year
>15,000	12 times per year

* If biosolids are removed for use or disposal on a routine basis, then monitoring should be scheduled at regular intervals throughout the year. If biosolids are stored for an extended period of time prior to use or disposal, then monitoring may occur either at regular intervals, or prior to use or disposal corresponding to tonnage accumulated during the period of storage.

c. Class 1 facilities (facilities with pretreatment programs or other facilities designated as Class 1 by the Regional Administrator) and Federal facilities with >5 mgd influent flow shall sample biosolids twice per year for pollutants listed under CWA section 307(a), using best practicable detection limits.

4. Pathogen and Vector Control

a. Prior to land application, the permittee shall demonstrate that biosolids meet Class A or Class B pathogen reduction levels using one of the alternatives listed under 40 CFR 503.32.

b. Prior to disposal in a surface disposal site, the permittee shall demonstrate that the biosolids meet Class B pathogen reduction levels or shall ensure that the site is covered at the end of each operating day. If pathogen reduction is demonstrated using a Process to Significantly/Further Reduce Pathogens, then the permittee shall maintain daily records of the operating parameters used to achieve this reduction.

If pathogen reduction is demonstrated by testing for fecal coliform and/or other pathogens, then samples must be drawn at the frequency described in paragraph 3.b, above. If Class B pathogen reduction levels are demonstrated using fecal coliform, then at least seven grab samples must be drawn during each sampling event and a geometric mean calculated from these seven samples.

The following sample holding times between sample collection and sample analysis shall not be exceeded: fecal coliform - 24 hours when cooled to 4 °C; Salmonella sp. - 24 hours when cooled to 4 °C; enteric viruses - 2 weeks when frozen; helminth ova - one month when cooled to 4 °C.

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 the Vector Attraction Reduction requirements in 40 CFR 503.33(b).

5. Surface Disposal

If biosolids are placed in a surface disposal site (dedicated land disposal site or monofill), then 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.

6. Landfill Disposal

Biosolids placed in a municipal landfill shall be tested by the Paint Filter Liquids Test (Method Number 9095 in SW-846) at the frequency indicated in paragraph 3.b, above, or more often if necessary, to demonstrate that there are no free liquids.

7. Notification and Reporting

a. The permittee, either directly or through contractual arrangements with their biosolids management contractors, shall comply with the following notification requirements:

- (1) Notification of noncompliance: The permittee shall notify EPA and the White Mountain Apache Tribe Environmental Planning Office of any noncompliance within 24 hours, if the noncompliance may seriously endanger health or the environment. For other instances of noncompliance, the permittee shall notify EPA and the White Mountain Apache Tribe Environmental Planning Office, in writing, within five working days of becoming aware of the circumstances. The permittee shall require their biosolids management contractors to notify EPA and White Mountain Apache Tribe Environmental Planning Office of any noncompliance within these same timeframes.
- (2) Interstate notification: If biosolids are shipped to another State, Tribal Lands, or Territory, then the permittee shall send a 60-day prior notice of the shipment to permitting authorities in the receiving State, Tribal Lands, or Territory, and EPA Regional Office.
- (3) Land Application: Prior to using any biosolids from this facility (other than composted biosolids) at a new or previously unreported site, the permittee shall notify EPA and the White Mountain Apache Tribe Environmental Planning Office. The notification shall include: a description and topographic map of the proposed site(s), names and addresses of the applier and site owner, and a list of any state or local permits which must be obtained. The plan shall include a description of the crops or vegetation to be grown, proposed loading rates, and determination of agronomic rates.

If any biosolids within a given monitoring period do not meet the pollutant limits for metals under 40 CFR 503.13, then the permittee (or its contractor) must pre-notify EPA and determine the cumulative metals loading to date at that site, as required in 40 CFR 503.12.

The permittee shall notify the applier of 40 CFR 503-requirements that are applicable to the applier, including applier certification that management practices, site restrictions, and vector attraction reduction requirements have been met. The permittee shall require the applier to certify at the end of 38 months following the application of Class B biosolids, that the harvesting restrictions in effect for up to 38 months have been met.

(4) Surface Disposal

Prior to disposal at a new or previously unreported site, the permittee shall notify EPA and the White Mountain Apache Tribe Environmental Planning Office. The notice shall include: a description and topographic map of the proposed site, depth to groundwater, whether the site is lined or unlined, site

operator, site owner, and any State or local permits. The notice shall describe procedures for ensuring restricted public access and grazing restrictions for three years following site closure. The notice shall include a groundwater monitoring plan, or a description of why groundwater monitoring is not required.

b. The permittee shall submit an annual biosolids report to the EPA Region 9 Biosolids Coordinator and the White Mountain Apache Tribe Environmental Planning Office by February 19 of each year for the period covering the previous calendar year. This report shall include:

- (1) The amount of biosolids generated that year and the amount of biosolids accumulated from previous years, in dry metric tons.
- (2) Results of all pollutant monitoring required in the Monitoring section, above, reported on a 100% dry weight basis.
- (3) Demonstrations and certifications of pathogen reduction methods and vector attraction reduction methods, as required in 40 CFR 503.17 and 503.27.
- (4) Names, mailing addresses, and street addresses of persons who received biosolids for storage, further treatment, or disposal in a municipal waste landfill, or for other use or disposal methods not covered above, and the volumes delivered to each.
- (5) For land application sites, the following information must be submitted by the permittee, unless the permittee requires its biosolids management contractors to report this information directly to the EPA Region 9 Biosolids Coordinator:

The locations of land application sites used that calendar year (with field names and numbers), size of each field applied to, applicator, and site owner; the volumes applied to each field (in wet tons and dry metric tons), nitrogen applied, and calculated plant available nitrogen; the crop planted, date of planting, and date of harvesting; for biosolids exceeding 40 CFR 503.13 Table 3 pollutant concentrations, the locations of sites where applied and cumulative metals loading at that site to date; certifications of management practices in 40 CFR 503.14 and certifications of site restrictions in 40 CFR 503.17(b)(6).

- (6) For surface disposal sites: The locations of sites, site operator, site owner, and size of parcel on which disposed; the results of any required groundwater monitoring; certifications of management practices in 40 CFR 503.24; and for closed sites, the date of site closure and certifications of management practices for the three years following site closure.
- (7) All reports shall be submitted to:

Regional Biosolids Coordinator
U.S. Environmental Protection Agency
Region 9
CWA Compliance Office (WTR-7)
75 Hawthorne Street
San Francisco, CA 94105-3901

AND

Environmental Planning Office
White Mountain Apache Tribe
P.O. Box 2109
Whiteriver, AZ 85941
Attn: Ann-Denise Taylor

G. Sanitary Sewer Overflows

1. A Sanitary Sewer Overflow (SSO) is an overflow, spill, release, or diversion of wastewater from a sanitary sewer collection system designed to carry only sewage and prior to reaching the treatment plant. Sanitary sewer overflows include a) overflows or releases of wastewater that reach waters of the US b) overflows or releases of wastewater that do not reach waters of the US and c) wastewater backups into buildings that are caused by blockages or flow conditions in a sanitary sewer other a building lateral. SSOs are generally caused by high volumes of infiltration and inflow (I/I), pipe blockages, pipe breaks, power failure, and insufficient system capacity.
2. Sanitary Sewer Overflow identification: The permittee shall identify all wastewater discharges, at locations not authorized as permitted outfalls, that occur prior to the headworks of the wastewater treatment plant covered by this permit. The permittee shall submit, with the scheduled DMR Form, the following information for each discharge event at each source that occurs during the reporting period covered by the DMR Form:
 - a. The cause of the discharge;
 - b. Duration and volume (estimate, if unknown);
 - c. Description of the source (e.g., manhole cover, pump station, etc.);
 - d. Type of collection system that overflowed (i.e., combined or separate);
 - e. Location by street address, or any other appropriate method;
 - f. Date(s) and time(s) of event;
 - g. The ultimate destination of the flow, e.g., surface water body, land use location, via municipal separate storm sewer system to a surface water body (show location on a USGS map or copy thereof); and

h. Corrective action taken and steps taken or planned to eliminate reoccurrence of discharge.

The permittee shall refer to Attachment A section A.1.1.(6) and (7) of this permit which contain information about reporting unpermitted discharge events. Submittal or reporting of any of this information does not provide relief from any subsequent enforcement actions for unpermitted discharges to waters of the United States.

Part III. ATTACHMENTS

1. **Attachment A – Standard Permit Conditions**
2. **Attachment B – Definitions, Acronyms, and Abbreviations**
3. **Attachment C – Location Map**
4. **Attachment D – WMAT Ammonia Standards Tables**
5. **Attachment D – Fact Sheet**

Attachment A: STANDARD PERMIT CONDITIONS

A. All NPDES Permits

1. In accordance with 40 CFR 122.41, the following conditions apply to all NPDES permits and are expressly incorporated into this permit.
 - a. Duty to comply; at 40 CFR 122.41(a).

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the CWA and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

- (1) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under 405(d) of the CWA within the time provided in the regulations that established these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
- (2) The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than 2 years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more

than 15 years, or both. In the case of second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, such as defined in section 309(c)(3)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.

(3) Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.

- b. Duty to reapply; at 40 CFR 122.41(b).
If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
- c. Need to halt or reduce activity not a defense; at 40 CFR 122.41 (c).
It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- d. Duty to mitigate; at 40 CFR 122.41(d).
The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- e. Proper operation and maintenance; at 40 CFR 122.41(e).
The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
- f. Permit actions; at 40 CFR 122.41(f).
This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and

reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

- g. Property rights; at 40 CFR 122.41(g).
This permit does not convey any property rights of any sort, or an exclusive privilege.
- h. Duty to provide information; at 40 CFR 122.41(h).
The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.
- i. Inspection and entry; at 40 CFR 122.41(i).
The permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

 - (1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
 - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit; and
 - (3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
 - (4) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.
- j. Monitoring and records; at 40 CFR 122.41(j).

 - (1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - (2) Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the permittee shall retain records of all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample measurement, report or

application. This period may be extended by request of the Director at any time.

(3) Records of monitoring information shall include:

- (i) The date, exact place, and time of sampling or measurements;
- (ii) The individual(s) who performed the sampling or measurements;
- (iii) The date(s) analyses were performed
- (iv) The individuals(s) who performed the analyses;
- (v) The analytical techniques or methods used; and
- (vi) The results of such analyses.

(4) Monitoring results must be conducted according to test procedures approved under 40 CFR part 136 or, in the case of sludge use or disposal, approved under 40 CFR part 136 unless otherwise specified in 40 CFR part 503, unless other test procedures have been specified in the permit.

(5) The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

k. Signatory requirement; at 40 CFR 122.41(k).

(1) All applications, reports, or information submitted to the Director shall be signed and certified. (See 40 CFR 122.22.)

(2) The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

l. Reporting requirements; at 40 CFR 122.41(l).

(1) Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alternations or additions to the permitted facility. Notice is required only when:

- (i) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
 - (ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).
 - (iii) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
- (2) Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- (3) Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act. (See 40 CFR 122.61; in some cases, modification or revocation and reissuance is mandatory.)
- (4) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
- (i) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.
 - (ii) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136 or, in the case of sludge use or disposal, approved under 40 CFR part 503, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.
 - (iii) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

- (5) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
- (6) Twenty-four hour reporting.
- (i) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. 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 exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
- (ii) The following shall be included as information which must be reported within 24 hours under this paragraph.
- (A) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR 122.41(g).)
- (B) Any upset which exceeds any effluent limitation in the permit.
- (C) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. (See 40 CFR 122.44(g).)
- (iii) The Director may waive the written report on a case-by-case basis for reports under 40 CFR 122.41(l)(1)(ii) of this section if the oral report has been received within 24 hours.
- (7) Other noncompliance. The permittee shall report all instances of noncompliance not reported under 40 CFR 122.41(l)(1), (4), (5), and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (l)(6) of this section.
- (8) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.
- m. Bypass; at 40 CFR 122.41(m).
- (1) Definitions.

- (i) “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility.
 - (ii) “Severe property damage” means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- (2) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 40 CFR 122.41(m)(3) and (m)(4) of this section.
- (3) Notice.
- (i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
 - (ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph (1)(6) of this section (24-hour notice).
- (4) Prohibition of bypass.
- (i) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:
 - (A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
 - (C) The permittee submitted notices as required under paragraph (m)(3) of this section.
 - (ii) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (m)(4)(i) of this section.

n. Upset; at 40 CFR 122.41(n).

- (1) Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
- (2) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (n)(3) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- (3) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous logs, or other relevant evidence that:
 - (i) An upset occurred and that the permittee can identify the cause(s) of the upset;
 - (ii) The permitted facility was at the time being properly operated; and
 - (iii) The permittee submitted notice of the upset as required in paragraph (l)(6)(ii)(B) of this section (24 hour notice).
 - (iv) The permittee complied with any remedial measures required under paragraph (d) of this section.
- (4) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

B. Specific Categories of NPDES Permits

In accordance with 40 CFR 122.42, the following conditions, in addition to those set forth at 40 CFR 122.41, apply to all NPDES permits within the category specified below and are expressly incorporated into this permit.

1. Publicly owned treatment works.
 - a. In accordance with 40 CFR 122.42(b), all POTWs must provide adequate notice to the Director of the following:

- (1) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 and 306 of the CWA if it were directly discharging those pollutants; and
 - (2) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
 - (3) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.
- b. The following condition has been established by EPA Region 9 to enforce applicable requirements of the Resource Conservation and Recovery Act. Publicly owned treatment works may not receive hazardous waste by truck, rail, or dedicated pipe except as provided under 40 CFR 270. Hazardous wastes are defined at 40 CFR 261 and include any mixture containing any waste listed under 40 CFR 261.31 through 261-33. The Domestic Sewage Exclusion (40 CFR 261.4) applies only to wastes mixed with domestic sewage in a sewer leading to a publicly owned treatment works and not to mixtures of hazardous wastes and sewage or septage delivered to the treatment plant by truck.

C. Standard Conditions Established by EPA Region 9 for All NPDES Permits

1. Duty to reapply; at 40 CFR 122.21(d).
 - a. Any POTW with a currently effective permit shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Director. (The Director shall not grant permission for applications to be submitted later than the expiration date of the existing permit.
 - b. All other permittees with currently effective permits shall submit a new application 180 days before the existing permit expires, except that: (1) the Regional Administrator may grant permission to submit an application later than the deadline for submission otherwise applicable, but no later than the permit expiration date.
2. Signatories to permit applications and reports; at 40 CFR 122.22.
 - a. Applications. All permit applications shall be signed as follows:
 - (1) For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (A) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (B) the manager of one

or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

Note: EPA does not require specific assignments or delegations of authority to responsible corporate officers identified in 40 CFR 122.22(a)(1)(i). The Agency will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the Director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under 40 CFR 122.22(a)(1)(ii) rather than to specific individuals.

- (2) For a partnership or sole proprietorship. By a general partner or the proprietor, respectively; or
 - (3) For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).
- b. All reports required by permits, and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- (1) The authorization is made in writing by a person described in paragraph (a) of this section;
 - (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters of the company, (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) and,
 - (3) The written authorization is submitted to the Director.

- c. Changes to authorization. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.
- d. Certification. Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. “

- 3. Transfer of permits; at 40 CFR 122.61.
 - a. Transfers by modification. Except as provided in paragraph (b) of this section, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under 40 CFR 122.62(b)(2)), or a minor modification made (under 40 CFR 122.63(d)), to identify the new permittee and incorporate such other requirements as may be necessary under CWA.
 - b. Automatic transfers. As an alternative to transfers under paragraph (a) of this section, any NPDES permit may be automatically transferred to a new permittee if:
 - (1) The current permittee notifies the Director at least 30 days in advance of the proposed transfer date in paragraph (b)(2) of this section;
 - (2) The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
 - (3) The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify or revoke and reissue the permit. A modification under this subparagraph may also be a minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph (b)(2) of this section.

(4) Minor modifications of permits; at 40 CFR 122.63.

Upon the consent of the permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures in 40 CFR 124. Any permit modification not processed as a minor modification under this section must be made for cause and with 40 CFR 124 draft permit and public notice as required in 40 CFR 122.62. Minor modifications may only:

- (i) Correct typographical errors;
- (ii) Require more frequent monitoring or reporting by the permittee.
- (iii) Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement; or
- (iv) Allow for a change in ownership or operational control of a facility where the Director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the Director;
- (v) Change the construction schedule for a discharger which is a new source. No such change shall affect a discharger's obligation to have all pollution control equipment installed and in operation prior to discharge under 40 CFR 122.29.
- (vi) Delete a point source outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with permit limits
- (vii) Incorporate conditions of a POTW pretreatment program that has been approved in accordance with the procedures in 40 CFR 403.11 (or a modification thereto that has been approved in accordance with the procedures in 40 CFR 403.18) as enforceable conditions of the POTW's permits.

4. Termination of permits; at 40 CFR 122.64.

- a. The following are causes for terminating a permit during its term, or for denying a permit renewal application:
 - (1) Noncompliance by the permittee with any conditions of the permit;
 - (2) The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time;

- (3) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
 - (4) A change in any condition that requires either a temporary or permanent reduction or elimination of any discharge or sludge use or disposal practice controlled by the permit (for example, plant closure or termination of discharge by connection to a POTW).
 - b. The Director shall follow the applicable procedures in 40 CFR 124 or 22 of this chapter, as appropriate (or State procedures equivalent to part 124) in terminating any NPDES permit under this section, except that if the entire discharge is permanently terminated by elimination of the flow or by connection to a POTW (but not by land application or disposal into a well), the Director may terminate the permit by notice to the permittee. Termination by notice shall be effective 30 days after notice is sent, unless the permittee objects within that time. If the permittee objects during that period, the Director shall follow 40 CFR 124 of this chapter or applicable State procedures for termination. Expedited permit termination procedures are not available to permittees that are subject to pending State and/or Federal enforcement actions including citizen suits brought under State or Federal law. If requesting expedited permit termination procedures, a permittee must certify that it is not subject to any pending State or Federal enforcement actions including citizen suits brought under State or Federal law. State-authorized NPDES programs are not required to use part 22 of this chapter in their procedures for NPDES permit terminations.
5. Availability of Reports; pursuant to CWA section 308
Except for data determined to be confidential under 40 CFR 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Regional Administrator. As required by the CWA, permit applications, permits, and effluent data shall not be considered confidential.
6. Removed Substances; pursuant to CWA section 301
Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials entering waters of the U.S.
7. Severability; pursuant to CWA section 512
The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and remainder of this permit, shall not be affected thereby.
8. Civil and Criminal Liability; pursuant to CWA section 309
Except as provided in permit conditions on "Bypass" and "Upset", nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

9. Oil and Hazardous Substances Liability; pursuant to CWA section 311
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the CWA.

10. State, Tribe, or Territory Law; pursuant to CWA section 510
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties established pursuant to any applicable State, Tribe, or Territory law or regulation under authorities preserved by CWA section 510.

Attachment B: DEFINITIONS

1. “Best Management Practices” or “BMPs” are schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural, and/or managerial practices to prevent or reduce the pollution of waters of the U.S. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may further be characterized as operational, source control, erosion and sediment control, and treatment BMPs.
2. A “composite” sample means a time-proportioned mixture of not less than eight discrete aliquots obtained at equal time intervals (e.g., 24-hour composite means a minimum of eight samples collected every three hours). The volume of each aliquot shall be directly proportional to the discharge flow rate at the time of sampling, but not less than 100 ml. 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 18th edition of Standard Methods for the Examination of Water and Wastewater shall be used.
3. A “daily discharge” means the “discharge of a pollutant” measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the “daily discharge” is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the day.
4. A “daily maximum allowable effluent limitation” means the highest allowable “daily discharge.”
5. A “DMR” is a “Discharge Monitoring Report” that is an EPA uniform national form, including any subsequent additions, revisions, or modifications for reporting of self-monitoring results by the permittee.
6. A “grab” sample is a single sample collected at a particular time and place that represents the composition of the discharge only at that time and place. 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 18th edition of Standard Methods for the Examination of Water and Wastewater shall be used.
7. The “method detection limit” or “MDL” is the minimum concentration of an analyte that can be detected with 99% confidence that the analyte concentration is greater than zero, as defined by a specific laboratory method in 40 CFR 136. The procedure for determination of a laboratory MDL is in 40 CFR 136, Appendix B.

8. The “minimum level” or “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 in a specific analytical procedure, assuming that all the method-specific 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). If a published method-specific ML is not available, then an interim ML shall be calculated. The interim ML is equal to 3.18 times the published method-specific MDL rounded to the nearest multiple of 1, 2, 5, 10, 20, 50, etc. (When neither an ML nor 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 non-metals:

a. For metals, due to laboratory calibration practices, calculated MLs 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 $(1, 2, \text{ or } 5) \times 10^n$, where n is zero or an integer. (For example, if an MDL is 2.5 ug/l, then the calculated ML is: $2.5 \text{ ug/l} \times 3.18 = 7.95 \text{ ug/l}$. The multiple of $(1, 2, \text{ or } 5) \times 10^n$ nearest to 7.95 is $1 \times 10^1 = 10 \text{ ug/l}$, so the calculated ML, rounded to the nearest whole number, is 10 ug/l.)

9. A “NODI(B)” means that the concentration of the pollutant in a sample is not detected. NODI(B) is reported when a sample result is less than the laboratory’s MDL.

10. A “NODI(Q)” means that the concentration of the pollutant in a sample is detected but not quantified. NODI(Q) is reported when a sample result is greater than or equal to the laboratory’s MDL, but less than the ML.

Attachment D: TRIBAL AMMONIA STANDARDS TABLES
Total Ammonia Standards (mg/l as N).
Warmwater Habitat:

Acute Standards

Temp (°C)	pH										
	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
0.00	29.00	26.00	23.00	19.00	14.00	10.00	6.60	3.70	2.10	1.20	0.70
1.00	28.00	26.00	23.00	19.00	14.00	9.90	6.50	3.70	2.10	1.20	0.70
2.00	28.00	26.00	22.00	18.00	14.00	9.70	6.40	3.60	2.10	1.20	0.69
3.00	28.00	25.00	22.00	18.00	14.00	9.60	6.30	3.60	2.00	1.20	0.69
4.00	27.00	25.00	22.00	15.00	14.00	9.50	6.20	3.50	2.00	1.20	0.69
5.00	27.00	25.00	22.00	15.00	13.00	9.40	6.10	3.50	2.00	1.20	0.68
6.00	27.00	24.00	21.00	18.00	13.00	9.30	6.10	3.50	2.00	1.10	0.68
7.00	26.00	24.00	21.00	17.00	13.00	9.20	6.00	3.40	2.00	1.10	0.68
8.00	26.00	24.00	21.00	17.00	13.00	9.10	6.00	3.40	1.90	1.10	0.68
9.00	26.00	24.00	21.00	17.00	13.00	9.00	5.90	3.40	1.90	1.10	0.68
10.00	25.00	23.00	21.00	17.00	13.00	8.90	5.90	3.30	1.90	1.10	0.68
11.00	25.00	23.00	20.00	17.00	13.00	8.90	5.80	3.30	1.90	1.10	0.68
12.00	25.00	23.00	20.00	17.00	13.00	8.80	5.80	3.30	1.90	1.10	0.69
13.00	25.00	23.00	20.00	16.00	12.00	8.70	5.70	3.30	1.90	1.10	0.69
14.00	25.00	23.00	20.00	16.00	12.00	8.70	5.70	3.30	1.90	1.10	0.70
15.00	24.00	23.00	20.00	16.00	12.00	8.60	5.70	3.30	1.90	1.10	0.70
16.00	24.00	22.00	20.00	16.00	12.00	8.60	5.70	3.30	1.90	1.10	0.71
17.00	24.00	22.00	20.00	16.00	12.00	8.50	5.60	3.20	1.90	1.10	0.72
18.00	24.00	22.00	19.00	16.00	12.00	8.50	5.60	3.20	1.90	1.20	0.73
19.00	24.00	22.00	19.00	16.00	12.00	8.50	5.60	3.20	1.90	1.20	0.74
20.00	24.00	22.00	19.00	16.00	12.00	8.50	5.60	3.20	1.90	1.20	0.75
21.00	24.00	22.00	19.00	16.00	12.00	8.40	5.60	3.20	1.90	1.20	0.77
22.00	24.00	22.00	19.00	16.00	12.00	8.40	5.60	3.30	1.90	1.20	0.78
23.00	24.00	22.00	19.00	16.00	12.00	8.40	5.60	3.30	1.90	1.20	0.80
24.00	24.00	22.00	19.00	16.00	12.00	8.40	5.60	3.30	2.00	1.20	0.81
25.00	24.00	22.00	19.00	16.00	12.00	8.40	5.60	3.30	2.00	1.20	0.83
26.00	22.00	20.00	18.00	15.00	11.00	7.90	5.20	3.10	1.90	1.20	0.80
27.00	20.00	19.00	17.00	14.00	10.00	7.30	4.90	2.90	1.80	1.10	0.76
28.00	19.00	18.00	15.00	13.00	9.70	6.90	4.60	2.70	1.70	1.10	0.73
29.00	18.00	16.00	14.00	12.00	9.10	6.40	4.30	2.60	1.60	1.00	0.70
30.00	17.00	15.00	13.00	11.00	8.50	6.00	4.10	2.40	1.50	0.97	0.68

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**Total Ammonia Standards (mg/l as N).
Warmwater Habitat:**

Chronic Standards

Temp (°C)	pH										
	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
0.00	2.50	2.50	2.50	2.50	2.50	2.30	1.50	0.84	0.48	0.28	0.16
1.00	2.50	2.50	2.50	2.50	2.50	2.30	1.50	0.83	0.47	0.27	0.16
2.00	2.40	2.40	2.40	2.40	2.40	2.20	1.50	0.82	0.47	0.27	0.16
3.00	2.40	2.40	2.40	2.40	2.40	2.20	1.40	0.81	0.46	0.27	0.16
4.00	2.40	2.40	2.40	2.40	2.40	2.20	1.40	0.80	0.46	0.27	0.16
5.00	2.30	2.30	2.30	2.30	2.30	2.10	1.40	0.80	0.45	0.26	0.16
6.00	2.30	2.30	2.30	2.30	23.00	2.10	1.40	0.79	0.45	0.26	0.16
7.00	2.30	2.30	2.30	2.30	2.30	2.10	1.40	0.78	0.45	0.26	0.16
8.00	2.30	2.30	2.30	2.30	2.30	2.10	1.40	0.77	0.44	0.26	0.15
9.00	2.20	2.20	2.20	2.20	2.20	2.10	1.30	0.77	0.44	0.26	0.16
10.00	2.20	2.20	2.20	2.20	2.20	2.00	1.30	0.76	0.44	0.26	0.16
11.00	2.20	2.20	2.20	2.20	2.20	2.00	1.30	0.76	0.44	0.26	0.16
12.00	2.20	2.20	2.20	2.20	2.20	2.00	1.30	0.75	0.44	0.26	0.16
13.00	2.20	2.20	2.20	2.20	2.20	2.00	1.30	0.75	0.43	0.26	0.16
14.00	2.10	2.10	2.10	2.10	2.20	2.00	1.30	0.75	0.43	0.26	0.16
15.00	2.10	2.10	2.10	2.10	2.10	2.00	1.30	0.74	0.43	0.26	0.16
16.00	2.10	2.10	2.10	2.10	2.10	2.00	1.30	0.74	0.43	0.26	0.16
17.00	2.10	2.10	2.10	2.10	2.10	1.90	1.30	0.74	0.43	0.26	0.16
18.00	2.10	2.10	2.10	2.10	2.10	1.90	1.30	0.74	0.43	0.26	0.17
19.00	2.10	2.10	2.10	2.10	2.10	1.90	1.30	0.74	0.44	0.26	0.17
20.00	2.10	2.10	2.10	2.10	2.10	1.90	1.30	0.74	0.44	0.27	0.17
21.00	1.90	1.90	1.90	1.90	1.90	1.80	1.20	0.69	0.41	0.25	0.16
22.00	1.80	1.80	1.80	1.80	1.80	1.70	1.10	0.65	0.38	0.24	0.15
23.00	1.70	1.70	1.70	1.70	1.70	1.60	1.00	0.60	0.36	0.22	0.15
24.00	1.60	1.60	1.60	1.60	1.60	1.50	0.97	0.57	0.34	0.21	0.14
25.00	1.40	1.40	1.50	1.50	1.50	1.40	0.91	0.53	0.32	0.20	0.13
26.00	1.30	1.30	1.40	1.40	1.40	1.30	0.85	0.50	0.30	0.19	0.13
27.00	1.30	1.30	1.30	1.30	1.30	1.20	0.79	0.47	0.28	0.18	0.12
28.00	1.20	1.20	1.20	1.20	1.20	1.10	0.74	0.44	0.27	0.17	0.12
29.00	1.10	1.10	1.10	1.10	1.10	1.00	0.70	0.41	0.25	0.16	0.11
30.00	1.00	1.00	1.00	1.00	1.00	0.97	0.65	0.39	0.24	0.16	0.11

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