UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

December 30, 2003

Charles J. Kane, Chairman
Board of Water and Sewer Commissioners
Academy Building
Bridgewater, Massachusetts 02324

Re: NPDES No. MA0100641

Dear Mr. Kane:

Enclosed is your final National Pollutant Discharge Elimination System (NPDES) permit issued pursuant to the Clean Water Act (the "Federal Act"), as amended, and the Massachusetts Clean Waters Act (the "State Act"), 21 M.G.L. §§43-45, as amended. The Environmental Permit Regulations, at 40 C.F.R. §124.15, 48 Fed. Reg. 14271 (April 1, 1983), require this permit to become effective on the date specified in the permit.

Also enclosed is a copy of the Massachusetts State Water Quality Certification for your final permit, the Agency's response to the comments received on the draft permit, and information relative to appeals and stays of NPDES permits. Should you desire to contest any provision of the permit, your petition should be submitted to the Environmental Appeals Board as outlined in the enclosure and a similar request should also be filed with the Director of the Office of Watershed Management in accordance with the provisions of the Massachusetts Administrative Procedures Act, the Department's Rules for the Conduct of Adjudicatory Proceedings and the Timely Action Schedule and Fee Provisions (see enclosure).

We appreciate your cooperation throughout the development of this permit. Should you have any questions concerning the permit, feel free to contact Betsy Davis at 617/918-1576.

Sincerely,

Roger Janson, Director
NPDES Permit Program

Enclosures

cc: State Water Pollution Control Agency
All Interested Parties

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.); the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

Town of Bridgewater
Bridgewater Wastewater Treatment Facility

is authorized to discharge from the facility located at

Morris Avenue
Bridgewater, Massachusetts 02324

to receiving water named

Town River
Taunton River Watershed (62)

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective sixty days from the date of signature.

This permit and the authorization to discharge expire at midnight, five (5) years from the effective date.

This permit supercedes the permit issued on September 30, 1998.

This permit consists of 11 pages in Part I including effluent limitations, monitoring requirements, Attachments A, B, and 35 pages in Part II including General Conditions and Definitions.

Signed this 30th day of DECEMBER 2003 - March 2004 expires March 2009

Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

Director
Division of Watershed Management
Bureau of Resource Protection
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

Information for Filing an Adjudicatory Hearing Request with
the Commonwealth of Massachusetts
Department of Environmental Protection

Within thirty days of the receipt of this letter the adjudicatory hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of $100 must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

The hearing request to the Commonwealth will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver.

The filing fee is not required if the appellant is a city, town (or municipal agency), county, district of the Commonwealth of Massachusetts, or a municipal housing authority. The Department may waive the adjudicatory hearing filing fee for a permittee who shows that paying the fee will create an undue financial hardship. A permittee seeking a waiver must file, along with the hearing request, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated sanitary wastewater from outfall serial number 001, into the Town River. Such discharge shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Units	Discharge Limitation			Monitoring Requirement	
		Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Flow	MGD	1.44	******	Report	Continuous[2]	Recorder
BOD_5[4]	mg/l	20	30	Report	2/Week	24 Hour Composite[3]
	lbs/day	240	360	Report	2/Week	24 Hour Composite[3]
TSS[4]	mg/l	20	30	Report	2/Week	24 Hour Composite[3]
	lbs/day	240	360	Report	2/Week	24 Hour Composite[3]
pH[1]	S.U.	(See Condition I.A.1.b. on Page 6)			1/Day	Grab[3]
Dissolved Oxygen	mg/l	5.0 or greater			1/Day	Grab[3]
Settleable Solids[5]	ml/l	0.1 ml/l	0.1 ml/l	0.3 ml/l	1/Day	Grab[3]
Fecal Coliform[1,6] (April 1 through October 31)	cfu's/100 ml	200	400	400	2/Week	Grab[3]
Total Residual Chlorine[1, 6,7,8] (April 1 through October 31)	ug/l	24	******	42	1/Day	Grab[3]

Phosphorus, Total	mg/l	1.0	******	******	1/Week	24 Hour Composite[3]
(April 1 through October 31)	lbs/day	12.0	******	******	1/Week	24 Hour Composite[3]

Effluent Characteristic	Units	Discharge Limitation			Monitoring Requirement	
		Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Phosphorus, Total	mg/l	Report	******	******	1/Month	24 Hour Composite[3]
(November 1 though March 31)	lbs/day	Report	******	******	1/Month	24 Hour Composite[3]
Copper, Total	ug/l	11 35 ug/l	****** A.D.	15	1/Month	24 Hour Composite[3]
Ammonia Nitrogen	mg/l	3.0	******	******	1/Week	24 Hour Composite[3]
(April 1 through October 31)	lbs/day	36.0	******	******	1/Week	24 Hour Composite[3]
Ammonia Nitrogen	mg/l	Report	******	******	1/Month	24 Hour Composite[3]
(November 1 through March 31)	lbs/day	Report	******	******	1/Month	24 Hour Composite[3]
Total Kjeldahl Nitrogen (TKN)	mg/l	Report	******	Report	2/Month[9]	24 Hour Composite[3]
(April 1 through October 31)	lbs/day	Report	******	Report	2/Month[9]	24 Hour Composite[3]
Total Kjeldahl Nitrogen (TKN)	mg/l	Report	******	Report	1/Month	24 Hour Composite[3]
(November 1 through March 31)	lbs/day	Report	******	Report	1/Month	24 Hour Composite[3]
NO_2/NO_3 (Nitrite/Nitrate)	mg/l	Report	******	Report	2/Month[9]	24 Hour Composite[3]
(April 1 through October 31)	lbs/day	Report	******	Report	2/Month[9]	24 Hour Composite[3]
NO_2/NO_3 (Nitrite/Nitrate)	mg/l	Report	******	Report	1/Month	24 Hour Composite[3]
(November 1 through March 31)	lbs/day	Report	******	Report	1/Month	24 Hour Composite[3]
NOEC [10,11,13]	%	******	******	45	4/Year	24 Hour Composite[3]
LC_{50} [10,12,13]	%	******	******	100	4/Year	24 Hour Composite[3]

Footnotes:

1. Required for State Certification.

2. For flow, report maximum and minimum daily rates and total flow for each operating date. This is an annual average limit, which shall be reported as a rolling average. The first value will be calculated using the monthly average flow for the first full month ending after the effective date of the permit and the eleven previous monthly average flows. Each subsequent month's DMR will report the annual average flow that is calculated from that month and the previous 11 months.

3. Effluent parameters that require 24-hour composite samples and grab samples shall be taken at the outfall structure after the chlorine contact chamber. Any change in sampling location must be reviewed and approved in writing by EPA and MADEP. All samples shall be tested using the analytical methods found in 40 CFR §136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR §136.

   A 24-hour composite sample will consist of at least twenty four (24) grab samples, which are flow proportional, and taken during one working day. Working day is defined as 8:00 am through 8:00 am the following day, eg 8:00 am Monday through 8:00 am Tuesday.

4. Sampling required for influent and effluent.

5. An additional grab sample for settleable solids shall be taken during times of peak flow. The sample shall be representative of the effluent being discharged to the river during peak flows.

6. Fecal coliform and total residual chlorine monitoring will be conducted seasonally. This is a State certification requirement. Fecal coliform discharges shall not exceed a monthly geometric mean of 200 colony forming units (cfu's) per 100 ml, nor shall they exceed 400 cfu's per 100 ml as a daily maximum. This monitoring shall be conducted concurrently with the TRC sampling described below.

7. The minimum level (ML) for total residual chlorine is defined as 20 ug/l. This value is the minimum level for chlorine using EPA approved methods found in the most currently approved version of Standard Methods for the Examination of Water and Wastewater, Method 4500 CL-E and G, or United States Environmental Protection Agency Manual of Methods of Analysis of Water and Wastes, Method 330.5. One of these methods must be used to determine total residual chlorine. For effluent limitations less than 20 ug/l, compliance/non-compliance will be determined based on the ML. Sample results of 20 ug/l or less shall be reported as zero on the discharge monitoring report.

8. The permittee shall include a report attached to the monthly Discharge Monitoring Reports (DMR's) notifying EPA and MADEP if a malfunction and/or interruption of the chlorine dosing process or dechlorination process occurs. The report shall include an explanation, and the duration of the malfunction and/or interruption, all actions taken to correct and prevent it, and a discussion on the impact on discharge levels of chlorine and bacteria.

9. The second TKN and nitrite/nitrate sample shall be collected 15 days after the first samples collected.

10. The permittee shall conduct chronic (and modified acute) toxicity tests four times per year. The chronic test may be used to calculate the acute LC_{50} at the 48 hour exposure interval. The permittee shall test the daphnid, Ceriodaphnia dubia, only. Toxicity test samples shall be collected during the second week in the months of February, May, August, and November. The test results shall be submitted by the last day of the month following the completion of the test. The results are due March 31, June 30, September 30, and December 31, respectively. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Dates Second Week in	**Submit Results By:**	**Test Species**	**Acute Limit LC_{50}**	**Chronic Limit C-NOEC**
February May August November	March 31 June 30 September 30 December 31	Ceriodaphnia dubia (daphnid) See Attachment A	≥ 100%	≥ 45 %

After submitting **one year** and a **minimum** of four consecutive sets of WET test results, all of which demonstrate compliance with the WET permit limits, the permittee may request a reduction in the WET testing requirements. The permittee is required to continue testing at the frequency specified in the permit until notice is received by certified mail from the EPA that the WET testing requirement has been changed.

11. C-NOEC (chronic-no observed effect concentration) is defined as the highest concentration of toxicant or effluent to which organisms are exposed in a life cycle or partial life cycle test which causes no adverse effect on growth, survival, or reproduction at a specific time of observation as determined from hypothesis testing where the test results exhibit a linear dose-response relationship. However, where the test results do not exhibit a linear dose-response relationship, the permittee must report the lowest concentration where there is no observable effect. The " % or greater" limit is defined as a sample which is composed of 45% (or greater) effluent, the remainder being dilution water. This is a maximum daily limit derived as a percentage of the inverse of the dilution factor of 2.2.

12. The LC_{50} is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent (no dilution) shall cause no more than a 50% mortality rate.

13. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A Section IV., DILUTION WATER** in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required **in Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called "Guidance Document") which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in

Attachment A. The "Guidance Document" has been sent to all permittees with their annual set of DMRs and Revised Updated Instructions for Completing EPA's Pre-Printed NPDES Discharge Monitoring Report (DMR) Form 3320-1 and is not intended as a direct attachment to this permit. Any modification or revocation to this "Guidance Document" will be transmitted to the permittees as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachment A**.

Each toxicity test shall include a grab sample of the receiving water as a site diluent control.

Part I.A.1. (Continued)

a. The discharge shall not cause a violation of the water quality standards in the receiving waters.

b. The pH of the effluent shall not be less than 6.0 nor greater than 8.3 at any time, unless these values are exceeded as a result of an approved treatment process.

c. The discharge shall not cause objectionable discoloration of the receiving waters.

d. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.

e. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand. The percent removal shall be based on monthly average values, and shall be reported on the monthly discharge monitoring report

f. When the effluent discharged for a period of 90 consecutive days exceeds 80 percent of the designed flow, the permittee shall submit to the permitting authorities a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.

1.152 MGD

g. The permittee shall minimize the use of chlorine while maintaining adequate bacterial control.

h. The results of sampling for any parameter above its required frequency must also be reported.

2. All POTWs must provide adequate notice to the Director of the following:

a. Any new introduction of pollutants into the POTW from an indirect discharger in a primary industry category discharging process water; and

b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

c. For purposes of this paragraph, adequate notice shall include information on:

(1) the quantity and quality of effluent introduced into the POTW; and

(2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

3. Prohibitions Concerning Interference and Pass Through:

Pollutants introduced into POTW's by a non-domestic source (user) shall not pass through the POTW or interfere with the operation or performance of the works.

4. Toxics Control

a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.

b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

5. Numerical Effluent Limitations for Toxicants

EPA or DEP may use the results of the toxicity tests and chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

B. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from outfall listed in Part I. A.1. of this permit. Discharges of wastewater from any other point sources, are not authorized by this permit and shall be reported in accordance with Section D.1.e (1) of the General Requirements of this permit (twenty-four hour reporting).

C. SCHEDULE OF COMPLIANCE

Phosphorus

The new phosphorus limits in the permit allows a compliance schedule of one year from the effective date of the permit for the permittee to come into compliance. Therefore for the first year, the permittee will only report the phosphorus concentration and mass while working towards meeting the limits.

D. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the following terms and conditions. Where the permittee may not

have the jurisdiction to satisfy these conditions, it shall enter into agreements, contracts, or MOUs with its member communities to assure that these conditions are met.

1. Maintenance Staff
The permittee shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit.

2. Preventative Maintenance Program
The permittee shall maintain an ongoing preventative maintenance program to prevent overflows and bypasses caused by malfunctions or failures of the sewer system infrastructure. The program shall include an inspection program designed to identify all potential and actual unauthorized discharges.

3. Infiltration/Inflow Control Plan:
The permittee shall develop and implement a plan to control infiltration and inflow (I/I) to the separate sewer system. The plan shall be submitted to MA DEP and available to EPA upon request for review within six months of the effective date of this permit (see page 1 of this permit for the effective date). The plan shall describe the permittee's program for preventing infiltration/inflow related effluent limit violations, and all unauthorized discharges of wastewater, including overflows and by-passes due to excessive infiltration/inflow.

The plan shall include:

- An ongoing program to identify and remove sources of infiltration and inflow. The program shall include the necessary funding level and the source(s) of funding.
- An inflow identification and control program that focuses on the disconnection and redirection of illegal sump pumps and roof down spouts. Priority should be given to removal of public and private inflow sources that are upstream from, and potentially contribute to, known areas of sewer system backups and/or overflows.
- Identification and prioritization of areas that will provide increased aquifer recharge as the result of reduction/elimination of infiltration and inflow to the system.
- An educational public outreach program for all aspects of I/I control, particularly private inflow.

Reporting Requirements:

A summary report of all actions taken to minimize I/I during the previous calendar year shall be submitted annually by the anniversary date of the effective date of this permit to the MA DEP and available to EPA upon request.. The summary report shall, at a minimum, include:

- A map and a description of inspection and maintenance activities conducted and corrective actions taken during the previous year.
- Expenditures for any infiltration/inflow related maintenance activities and corrective actions taken during the previous year.
- A map with areas identified for I/I-related investigation/action in the coming year.
- A calculation of the annual average I/I, the maximum month I/I for the reporting year.
- A report of any infiltration/inflow related corrective actions taken as a result of unauthorized discharges reported pursuant to 314 CMR 3.19(20) and reported pursuant to the Unauthorized Discharges section of this permit.

Pump Stations WWTP ? 4

Alternate Power Source

In order to maintain compliance with the terms and conditions of this permit, the permittee shall continue to provide an alternative power source with which to sufficiently operate its treatment works (as defined at 40 CFR §122.2).

E. SLUDGE CONDITIONS

1. The permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices and with the CWA Section 405(d) technical standards.

2. The permittee shall comply with the more stringent of either the state or federal (40 CFR part 503), requirements.

3. The requirements and technical standards of 40 CFR part 503 apply to facilities which perform one or more of the following use or disposal practices.

   a. Land application - the use of sewage sludge to condition or fertilize the soil

   b. Surface disposal - the placement of sewage sludge in a sludge only landfill

   c. Sewage sludge incineration in a sludge only incinerator

4. The 40 CFR part 503 conditions do not apply to facilities which place sludge within a municipal solid waste landfill. These conditions also do not apply to facilities which do not dispose of sewage sludge during the life of the permit but rather treat the sludge (lagoons-reed beds), or are otherwise excluded under 40 CFR 503.6.

5. The permittee shall use and comply with the attached sludge compliance guidance document to determine appropriate conditions. Appropriate conditions contain the

following elements. See Attachment B, Sludge Guidance.

- General requirements
- Pollutant limitations
- Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
- Management practices
- Record keeping
- Monitoring
- Reporting

Depending upon the quality of material produced by a facility, all conditions may not apply to the facility.

6. The permittee shall monitor the pollutant concentrations, pathogen reduction and vector attraction reduction at the following frequency. This frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year

less than 290	1/ year
290 to less than1500	1 /quarter
1500 to less than 15000	6 /year
15000 +	1 /month

7. The permittee shall sample the sewage sludge using the procedures detailed in 40 CFR 503.8.

8. The permittee shall submit an annual report containing the information specified in the guidance by February 19. Reports shall be submitted to the address contained in the reporting section of the permit. Sludge monitoring is not required by the permittee when the permittee is not responsible for the ultimate sludge disposal. The permittee must be assured that any third party contractor is in compliance with appropriate regulatory requirements. In such case, the permittee is required only to submit an annual report by February 19 containing the following information:

- Name and address of contractor responsible for sludge disposal
- Quantity of sludge in dry metric tons removed from the facility by the sludge contractor

F. MONITORING AND REPORTING

1. Reporting

Monitoring results obtained during each calendar month shall be summarized and reported on separate Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the following month.

Signed and dated originals of these, and all other reports required herein, shall be submitted to the Director and the State at the following addresses:

Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

The State Agency is:

Massachusetts Department of Environmental Protection
Bureau of Resource Protection
Southeast Regional Office
20 Riverside Drive
Lakeville, MA 02347

Signed and dated Discharge Monitoring Report Forms and toxicity test reports required by this permit shall also be submitted to the State at:

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

G. STATE PERMIT CONDITIONS

This Discharge Permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MA DEP pursuant to M.G.L. Chap.21, §43.

Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this Permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this Permit is declared invalid, illegal or otherwise issued in violation of Federal law, this Permit shall remain in full force and effect under State law as a Permit issued by the Commonwealth of Massachusetts.

Attachment A
FRESHWATER CHRONIC
TOXICITY TEST PROCEDURE AND PROTOCOL
Bridgewater Wastewater Treatment Facility
NPDES #: MA010641

I. GENERAL REQUIREMENTS

The permittee shall conduct acceptable chronic (and modified acute) toxicity tests on three samples collected during the test period. The following tests shall be performed in accordance with the appropriate test protocols described below:

- **Daphnid (Ceriodaphnia dubia) Survival and Reproduction Test.**

Chronic and acute toxicity data shall be reported as outlined in Section VIII. The chronic fathead minnow and daphnid tests can be used to calculate an LC50 at the end of 48 hours of exposure when both an acute (LC50) and a chronic (C-NOEC) test is specified in the permit.

II. METHODS

Methods to follow are those recommended by EPA in:

Lewis, P.A. et al. Short Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Third Edition. Environmental Monitoring Systems Laboratory, U.S. Environmental Protection Agency, Cincinnati, OH. July 1994, EPA/600/4-91/002.

Any exceptions are stated herein.

III. SAMPLE COLLECTION

For each sampling event, three discharge samples shall be collected. Fresh samples are necessary for Days 1, 3, and 5 (see Section V. for holding times). The initial sample is used to start the test on Day 1, and for test solution renewal on Day 2. The second sample is collected for use at the start of Day 3, and for renewal on Day 4. The third sample is used for renewal on Days 5, 6, and 7 (or until termination for the Ceriodaphnia dubia test). The initial (Day 1) sample will be analyzed chemically (see Section VI). Day 3 and 5 samples will be held until test completion. If either the Day 3 or 5 renewal sample is of sufficient potency to cause lethality to 50 percent or more test organisms in any of the dilutions for either species, then a chemical analysis shall be performed on the appropriate sample(s) as well.

Aliquots shall be split from the samples, containerized and preserved (as per 40 CFR Part 136) for chemical and physical analyses. The remaining samples shall be measured for total residual chlorine and dechlorinated (if detected) in the laboratory using sodium thiosulfate for subsequent toxicity testing. (Note that EPA approved test methods require that samples collected for metals analyses be preserved immediately after collection.) Grab samples must be used for pH, temperature, and total residual chlorine (as per 40 CFR Part 122.21).

Standard Methods for the Examination of Water and Wastewater also describes dechlorination of samples (APHA, 1992). Dechlorination can be achieved using a ratio of 6.7 mg/L anhydrous sodium thiosulfate to reduce 1 mg/L chlorine. A thiosulfate control (maximum amount of thiosulfate in lab

control or receiving water) should also be run.

All samples held overnight shall be refrigerated at 4°C.

IV. DILUTION WATER

Grab samples of dilution water used for chronic toxicity testing shall be collected from the receiving water at a point upstream of the discharge free from toxicity or other sources of contamination. Avoid collecting near areas of obvious road or agricultural runoff, storm sewers or other point source discharges. An additional control (0% effluent) of a standard laboratory water of known quality shall also be tested.

If the receiving water diluent is found to be, or suspected to be toxic or unreliable, an alternate standard dilution water of known quality with a hardness, pH, conductivity, alkalinity, organic carbon, and total suspended solids similar to that of the receiving water may be substituted **AFTER RECEIVING WRITTEN APPROVAL FROM THE PERMIT ISSUING AGENCY(S)**. Written requests for use of an alternate dilution water should be mailed with supporting documentation to the following address:

Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency-New England
JFK Federal Building (CAA)
Boston, MA 02203

It may prove beneficial to have the dilution water source screened for suitability prior to toxicity testing. EPA strongly urges that screening be done prior to set up of a full definitive toxicity test any time there is question about the dilution water's ability to support acceptable performance as outlined in the 'test acceptability' section of the protocol. See Section 7 of EPA/600/4-89/001 for further information.

V. TEST CONDITIONS AND TEST ACCEPTABILITY CRITERIA

EPA New England requires that fathead minnow tests be performed using four (not three) replicates of each control and effluent concentration because the non-parametric statistical tests cannot be used with data from only three replicates. Also, if a reference toxicant test was being performed concurrently with an effluent or receiving water test and fails, both tests must be repeated.

The following tables summarize the accepted daphnid and fathead minnow toxicity test conditions and test acceptability criteria:

EPA NEW ENGLAND RECOMMENDED EFFLUENT TOXICITY TEST CONDITIONS FOR THE DAPHNID, CERIODAPHNIA DUBIA, SURVIVAL AND REPRODUCTION TEST[1]

1.	Test type:	Static, renewal
2.	Temperature (°C):	25 ± 1°C
3.	Light quality: laboratory illumination	Ambient
4.	Photoperiod:	16 hr. light, 8 hr. dark
5.	Test chamber size:	30 mL
6.	Test solution volume:	15 mL
7.	Renewal of test solutions:	Daily using most recently collected sample
8.	Age of test organisms:	Less than 24 hr.; and all released within an 8 hr. period of each other.
9.	Number of neonates per test chamber:	1
10.	Number of replicate test chambers per treatment:	10
11.	Number of neonates per test concentration:	10
12.	Feeding regime:	Feed 0.1 ml each of YCT and concentrated algal suspension per exposure chamber daily.
13.	Aeration:	None
14.	Dilution water:[2]	Receiving water, other surface water, synthetic soft water adjusted to the hardness and alkalinity of the receiving water (prepared using either Millipore Milli-Q^R or equivalent deionized water and reagent grade chemicals according to EPA chronic toxicity test manual) or deionized water combined with mineral water to appropriate hardness.
15.	Effluent concentrations:[3]	5 effluent concentrations and a control. An additional

		dilution at the permitted effluent concentration (% effluent) is required if it is not included in the dilution series.
16.	Dilution factor:	≥ 0.5
17.	Test duration:	Until 60% of control females have three broods (generally 7 days and a maximum of 8 days).
18.	End points:	Survival and reproduction
19.	Test acceptability:	80% or greater survival and an average of 15 or more young/surviving female in the control solutions. At least 60% of surviving females in controls must produce three broods.
20.	Sampling requirements:	For on-site tests, samples are collected daily and used within 24 hr. of the time they are removed from the sampling device. For off-site tests a minimum of three samples are collected (i.e. days 1, 3, 5) and used for renewal (see Sec. III). Off-site tests samples must be first used within 36 hours of collection.
21.	Sample volume required:	Minimum 1 liter/day

Footnotes:

1. Adapted from EPA/600/4-91/002.
2. Standard dilution water must have hardness requirements to generally reflect characteristics of the receiving water.
3. When receiving water is used for dilution, an additional control made up of standard laboratory dilution water (0% effluent) is required.

EPA NEW ENGLAND RECOMMENDED EFFLUENT TEST CONDITIONS FOR THE FATHEAD MINNOW (PIMEPHALES PROMELAS) LARVAL SURVIVAL AND GROWTH TEST[1]

1.	Test type:	Static, renewal
2.	Temperature (°C):	25 ± 1°C
3.	Light quality:	Ambient laboratory illumination
4.	Photoperiod:	16 hr. light, 8 hr. dark
5.	Test chamber size:	500 mL minimum
6.	Test solution volume:	Minimum 250 mL/replicate
7.	Renewal of test concentrations:	Daily using most recently collected sample.
8.	Age of test organisms:	Newly hatched larvae less than 24 hr. old
9.	No. larvae/test chamber and control:	15 (minimum of 10)
10.	No. of replicate chambers/ concentration:	4
11.	No. of larvae/concentration:	60 (minimum of 40)
12.	Feeding regime:	Feed 0.1 g newly hatched, distilled water-rinsed Artemia nauplii at least 3 times daily at 4 hr. intervals or, as a minimum, 0.15 g twice daily, 6 hrs. between feedings (at the beginning of the work day prior to renewal, and at the end of the work day following renewal). Sufficient larvae are added to provide an excess. Larvae fish are not fed during the final 12 hr. of the test.
13.	Cleaning:	Siphon daily, immediately before test solution renewal.
14.	Aeration:	None, unless dissolved oxygen (D.O.) concentration falls below 4.0 mg/L. Rate should be less than 100 bubbles/min.

15.	Dilution water:[2]	Receiving water, other surface water, synthetic soft water adjusted to the hardness and alkalinity of the receiving water (prepared using either Millipore Milli-Q^R or equivalent deionized and reagent grade chemicals according to EPA chronic toxicity test manual) or deionized water combined with mineral water to appropriate hardness.
16.	Effluent concentrations:[3]	5 and a control. An additional dilution at the permitted effluent concentration (% effluent) is required if it is not included in the dilution series.
17.	Dilution factor:	≥ 0.5
18.	Test duration:	7 days
19.	End points:	Survival and growth (weight)
20.	Test acceptability:	80% or greater survival in controls: average dry weight per control larvae equals or exceeds 0.25 mg.
21.	Sampling requirements:	For on-site tests samples are collected and used within 24 hours of the time they are removed from the sampling device. For off-site tests a minimum of three samples are collected (i.e. days 1, 3, 5) and used for renewal (see Sec.IV). Off-site tests samples must be first used within 36 hours of collection.
22.	Sample volume required:	Minimum 2.5 liters/day

Footnotes:

1. Adapted from EPA/600/4-91/002.
2. Standard dilution water must have hardness requirements to generally reflect characteristics of the receiving water.
3. When receiving water is used for dilution, an additional control made up of standard laboratory or culture water (0% effluent) is required.

VI. CHEMICAL ANALYSIS

As part of each daily renewal procedure, pH, specific conductance, dissolved oxygen, and temperature must be measured at the beginning and end of each 24-hour period in each dilution and the controls. It is also recommended that total alkalinity and total hardness be measured in the control and highest effluent concentration on the Day 1, 3, and 5 samples. The following chemical analyses shall be performed for each sampling event.

Parameter	Effluent	Diluent	Minimum Level (mg/l)	Quantification
Hardness[*1]	x	x		0.5
Alkalinity	x	x		2.0
pH	x	x		--
Specific Conductance	x	x		--
Total Solids and Suspended Solids	x	x		--
Ammonia	x	x		0.1
Total Organic Carbon	x	x		0.5
Total Residual Chlorine (TRC)[*2]	x	x		0.05
Dissolved Oxygen	x	x		1.0
Total Metals				
Cd	x			0.001
Cr	x			0.005
Pb	x	x		0.005
Cu	x	x		0.0025
Zn	x	x		0.0025
Ni	x	x		0.004
Al	x	x		0.02
Mg, Ca	x	x		0.05

Superscripts:

[*1] Method 2340 B (hardness by calculation) from APHA (1992) Standard Methods for the Examination of Water and Wastewater. 18th Edition.

[*2] Total Residual Chlorine

Either of the following methods from the 18th Edition of the APHA Standard Methods for the Examination of Water and Wastewater must be used for these analyses:
-Method 4500-CL E Low Level Amperometric Titration (the preferred method);
-Method 4500-CL G DPD Colorimetric Method.

or use USEPA Manual of Methods Analysis of Water and Wastes, Method 330.5.

VII. TOXICITY TEST DATA ANALYSIS

LC50 Median Lethal Concentration (Determined at 48 Hours)
Methods of Estimation:

- Probit Method
- Spearman-Karber
- Trimmed Spearman-Karber
- Graphical

Reference the flow chart on page 84 or page 172 of EPA 600/4-91/002 for the appropriate method to use on a given data set.

Chronic No Observed Effects Concentration (C-NOEC)
Methods of Estimation:

- Dunnett's Procedure
- Bonferroni's T-Test
- Steel's Many-One Rank Test
- Wilcoxin Rank Sum Test

Reference the flow charts on pages 50, 83, 96, 172, and 176 of EPA 600/4-91/002 for the appropriate method to use on a given data set.

In the case of two tested concentrations causing adverse effects but an intermediate concentration not causing a statistically significant effect, report the C-NOEC as the lowest concentration where there is no observable effect. The definition of NOEC in the EPA Technical Support Document only applies to linear dose-response data.

VIII. TOXICITY TEST REPORTING

A report of results will include the following:

- Description of sample collection procedures, site description;
- Names of individuals collecting and transporting samples, times and dates of sample collection and analysis on chain-of-custody; and
- General description of tests: age of test organisms, origin, dates and results of standard toxicant tests; light and temperature regime; other information on test conditions if different than procedures recommended. Reference toxicant test data should be included.
- All chemical/physical data generated. (Include minimum detection levels and minimum quantification levels.)
- Raw data and bench sheets.
- Provide a description of dechlorination procedures (as applicable).
- Any other observations or test conditions affecting test outcome.

CONTENTS - PART II
(September 1, 1993)

		Page
SECTION A.	GENERAL REQUIREMENTS	2
1.	Duty to Comply	
2.	Permit Actions	
3.	Duty to Provide Information	
4.	Reopener Clause	
5.	Oil and Hazardous Substance Liability	
6.	Property Rights	
7.	Confidentiality of Information	
8.	Duty to Reapply	
9.	Right of Appeal	
10.	State Laws	
11.	Other Laws	
SECTION B.	OPERATION AND MAINTENANCE OF POLLUTION CONTROLS	5
1.	Proper Operation and Maintenance	
2.	Need to Halt or Reduce Not a Defense	
3.	Duty to Mitigate	
4.	Bypass	
5.	Upset	
SECTION C.	MONITORING AND RECORDS	8
1.	Monitoring and Records	
2.	Inspection and Entry	
SECTION D.	REPORTING REQUIREMENTS	10
1.	Reporting Requirements	
a.	Planned changes	
b.	Anticipated noncompliance	
c.	Transfers	
d.	Monitoring reports	
e.	Twenty-four hour reporting	
f.	Compliance schedules	
g.	Other noncompliance	
h.	Other information	
2.	Signatory Requirement	
3.	Availability of Reports	
SECTION E.	OTHER CONDITIONS.	13
1.	Definitions for Individual NPDES Permits including Storm Water Requirements	13
2.	Definitions for NPDES Permit Sludge Use and Disposal Requirements	24
3.	Abbreviations	32

SECTION A. GENERAL REQUIREMENTS

1. Duty to Comply

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

a. 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 Section 405 (d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

b. The CWA provides that any person who violates Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any of 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 CWA is subject to a civil penalty not to exceed $25,000 per day for each violation. Any person who negligently violates such requirements is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both. Any person who knowingly violates such requirements is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both. Note: See 40 CFR §122.41(a)(2) for additional enforcement criteria.

c. Any person may be assessed an administrative penalty by the Administrator for violating Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the CWA. 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

permission for applications to be submitted later than the expiration date of the existing permit.)

9. Right of Appeal

Within thirty (30) days of receipt of notice of a final permit decision, any interested person, including the permittee, may submit a request to the Regional Administrator for an Evidentiary Hearing under Subpart E, or a Non-Adversary Panel Hearing under Subpart F, of 40 CFR Part 124, to reconsider or contest that decision. The request for a hearing must conform to the requirements of 40 CFR §124.74.

10. State Authorities

Nothing in Part 122, 123, or 124 precludes more stringent State regulation of any activity covered by these regulations, whether or not under an approved State program.

11. Other Laws

The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, nor does it relieve the permittee of its obligation to comply with any other applicable Federal, State, and local laws and regulations.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

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 and with the requirements of storm water pollution prevention plans. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Need to Halt or Reduce Not a Defense

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.

3. Duty to Mitigate

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.

4. Bypass

a. Definitions.

(1) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

(2) "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.

b. 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 B.4.c and 4.d of this section.

c. Notice.

(1) 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.

(2) Unanticipated bypass.

The permittee shall submit notice of an unanticipated bypass as required in Paragraph D.1.e (24-hour notice).

d. Prohibition of bypass.

(1) Bypass is prohibited, and the Regional Administrator may take enforcement action against a permittee for bypass, unless:

(2) The individual(s) who performed the sampling or measurements;

(3) The date(s) analyses were performed;

(4) The individual(s) who performed the analyses;

(5) The analytical techniques or methods used; and

(6) The results of such analyses.

d. 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.

e. The Clean Water Act 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.

2. Inspection and Entry

The permittee shall allow the Regional Administrator, 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:

a. 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;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

SECTION D. REPORTING REQUIREMENTS

1. Reporting Requirements

a. Planned changes. The permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(1) 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

(2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject to the effluent limitations in the permit, nor to the notification requirements under 40 CFR §122.42(a)(1).

(3) 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 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.

b. Anticipated noncompliance. The permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

c. Transfers. This permit is not transferable to any person except after notice to the Regional Administrator. The Regional Administrator 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 §122.61; in some cases, modification or revocation and reissuance is mandatory.)

1. (. liability of Reports

Except for data determined to be confidential under Paragraph A.8 above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency and the Regional Administrator. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA.

SECTION E. OTHER CONDITIONS.

1. DEFINITIONS FOR INDIVIDUAL NPDES PERMITS INCLUDING STORM WATER REQUIREMENTS

For purposes of this permit, the following definitions shall apply.

Administrator means the Administrator of the United States Environmental Protection Agency, or an authorized representative.

Applicable standards and limitations means all State, interstate, and Federal standards and limitations to which a "discharge", a "sewage sludge use or disposal practice", or a related activity is subject to, including "effluent limitations", water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices", pretreatment standards, and "standards for sewage sludge use and disposal" under Sections 301, 302, 303, 304, 306, 307, 308, 403, and 405 of CWA.

Application means the EPA standard national forms for applying for a permit, including any additions, revisions or modifications to the forms; or forms approved by EPA for use in "approved States," including any approved modifications or revisions.

Average - The arithmetic mean of values taken at the frequency required for each parameter over the specified period. For total and/or fecal coliforms and Escherichia coli, the average shall be the geometric mean.

Average monthly discharge limitation means the highest allowable average of "daily discharges" over a calendar month calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.

Average weekly discharge limitation means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Best Professional Judgement (BPJ) means a case-by-case determination of Best Practicable Treatment (BPT), Best Available Treatment (BAT) or other appropriate technology-based standard based on an evaluation of the available technology to achieve a particular pollutant reduction and other factors set forth in 40 CFR §125.3 (d).

Class I Sludge Management Facility means any POTW identified under 40 CFR §403.8(a) as being required to have an approved pretreatment program (including such POTWs located in a state that has elected to assume local program responsibilities pursuant to 40 CFR §403.10(e)) and any other treatment works treating domestic sewage classified as a "Class I Sludge Management Facility" by the Regional Administrator, or, in the case of approved State programs, the Regional Administrator in conjunction with the State Director, because of the potential for its sludge use or disposal practices to adversely affect public health and the environment.

Coal pile runoff means the rainfall runoff from or through any coal storage pile.

Composite Sample - A sample consisting of a minimum of eight grab samples collected at equal intervals during a 24-hour period (or lesser period as specified in the section on Monitoring and Reporting) and combined proportional to flow, or a sample continuously collected proportionally to flow over that same time period.

Construction Activities.The following definitions apply to construction activities:

(a) Commencement of Construction is the initial disturbance of soils associated with clearing, grading, or excavating activities or other construction activities.

Effluent limitations guidelines means a regulation published by the Administrator under Section 304(b) of CWA to adopt or revise "effluent limitations."

EPA means the United States "Environmental Protection Agency."

Flow-weighted composite sample means a composite sample consisting of a mixture of aliquots collected at a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge.

Grab Sample - An individual sample collected in a period of less than 15 minutes.

Hazardous Substance means any substance designated under 40 CFR Part 116 pursuant to Section 311 of CWA.

Indirect Discharger means a non-domestic discharger introducing pollutants to a publicly owned treatment works.

Interference means a Discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

(a) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal: and

(b) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act (CWA), the Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resources Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to Subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection Research and Sanctuaries Act.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit, surface impoundment, injection well, or waste pile.

Land application unit means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for treatment or disposal.

Large and Medium municipal separate storm sewer system means all municipal separate storm sewers that are either: (i) located in an incorporated place (city) with a population of 100,000 or more as determined by the latest Decennial Census by the Bureau of Census (these cities are listed in Appendices F and 40 CFR Part 122); or (ii) located in the counties with unincorporated urbanized populations of 100,000 or more, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties (these counties are listed in Appendices H and I of 40 CFR 122); or (iii) owned or operated by a municipality other than those described in Paragraph (i) or (ii) and that are designated by the Regional Administrator as part of the large or medium municipal separate storm sewer system.

Maximum daily discharge limitation means the highest allowable "daily discharge" concentration that occurs only during a normal day (24-hour duration).

Maximum daily discharge limitation (as defined for the Steam Electric Power Plants only) when applied to Total Residual Chlorine (TRC) or Total Residual Oxidant (TRO) is defined as "Maximum Concentration or "Instantaneous Maximum Concentration" during the two hours of a chlorination cycle (or fractions thereof) prescribed in the Steam Electric Guidelines, 40 CFR Part 423. These three synonymous terms all mean "a value that shall not be exceeded" during the two-hour chlorination cycle. This interpretation differs from the specified NPDES Permit requirement, 40 CFR §122.2, where the two terms of "Maximum Daily Discharge" and "Average Daily Discharge" concentrations are specifically limited to the daily (24-hour duration) values.

Municipality means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribe organization, or a designated and approved management agency under Section 208 of CWA.

National Pollutant Discharge Elimination System means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318, and 405 of CWA. The term includes an "approved program."

New discharger means any building, structure, facility, or installation:

mod ed 12 E.R.C. 1833 (D.D.C. 1979)); also listed in App. ix A of 40 CFR Part 122.

Privately owned treatments works means any device or system which is (a) use to treat wastes from any facility whose operation is not the operator of the treatment works or (b) not a "POTW".

Process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Publicly Owned Treatment Works (POTW) means any facility or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a "State" or "municipality."

This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

Regional Administrator means the Regional Administrator, EPA, Region I, Boston, Massachusetts.

Secondary Industry Category means any industry category which is not a "primary industry category."

Section 313 water priority chemical means a chemical or chemical categories which are:

(1) listed at 40 CFR §372.65 pursuant to Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) (also known as Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986);

(2) present at or above threshold levels at a facility subject to EPCRA Section 313 reporting requirements; and

(3) satisfies at least one of the following criteria:

(i) are listed in Appendix D of 40 CFR Part 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols) or Table V (certain toxic pollutants and hazardous substances);

(ii) are listed as a hazardous substance pursuant to section 311(b)(2)(A) of the CWA at 40 CFR §116.4; or

(iii) are pollutants for which EPA has published acute or chronic water quality criteria.

Septage means the liquid and solid material pumped from a septic tank, cesspool, or similar domestic sewage treatment system, or a holding tank when the system is cleaned or maintained.

Sewage Sludge means any solid, semisolid, or liquid residue removed during the treatment of municipal wastewater or domestic sewage. Sewage sludge includes, but is not limited to solids removed during primary, secondary, or advanced wastewater treatment, scum, septage, portable toilet pumpings, Type III Marine Sanitation Device pumpings (33 CFR Part 159), and sewage sludge products. Sewage sludge does not include grit or screenings, or ash generated during the incineration of sewage sludge.

Sewage sludge use or disposal practice means the collection, storage, treatment, transportation, processing, monitoring, use, or disposal of sewage sludge.

Significant materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to EPCRA Section 313; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

Significant spills includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under section 311 of the Clean Water Act (see 40 CFR §110.10 and CFR §117.21) or Section 102 of CERCLA (see 40 CFR §302.4).

Sludge-only facility means any "treatment works treating domestic sewage" whose methods of sewage sludge use or disposal are subject to regulations promulgated pursuant to Section 405(d) of the CWA, and is required to obtain a permit under 40 CFR §122.1(b)(3).

State means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands.

Storm Water means storm water runoff, snow melt runoff, and surface runoff and drainage.

Aerobic digestion is the biochemical decomposition of organic matter in sewage sludge into carbon dioxide and water by microorganisms in the presence of air.

Agricultural land is land on which a food crop, a feed crop, or a fiber crop is grown. This includes range land and land used as pasture.

Agronomic rate is the whole sludge application rate dry weight basis) designed:

(1) To provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, cover crop, or vegetation grown on the land; and

(2) To minimize the amount of nitrogen in the sewage sludge that passes below the root zone of the crop or vegetation grown on the land to the ground water.

Air pollution control device is one or more processes used to treat the exit gas from a sewage sludge incinerator stack.

Anaerobic digestion is the biochemical decomposition of organic matter in sewage sludge into methane gas and carbon dioxide by microorganisms in the absence of air.

Annual pollutant loading rate is the maximum amount of a pollutant that can be applied to a unit area of land during a 365 day period.

Annual whole sludge application rate is the maximum amount of sewage sludge (dry weight basis) that can be applied to a unit area of land during a 365 day period.

Apply sewage sludge or sewage sludge applied to the land means land application of sewage sludge.

Aquifer is a geologic formation, group of geologic formations, or a portion of a geologic formation capable of yielding ground water to wells or springs.

Auxiliary fuel is fuel use to augment the fuel value of sewage sludge. This includes, but is not limited to, natural gas, fuel oil, coal, gas generated during anaerobic digestion of sewage sludge, and municipal solid waste (not to exceed 30 percent of the dry weight of sewage sludge and auxiliary fuel together). Hazardous wastes are not auxiliary fuel.

Base flood is a flood that has a one percent chance of occurring in any given year (i.e., a flood with a magnitude equalled once in 100 years).

Bulk sewage sludge is sewage sludge that is not sold or given way in a bag or other container for application to the land.

Contaminate an aquifer means to introduce a substance that causes the maximum contaminant level for nitrate in 40 CFR §141.11 to be exceeded in ground water or that causes the existing concentration of nitrate in ground water to increase when the existing concentration of nitrate in the ground water exceeds the maximum contaminant level for nitrate in 40 CFR §141.11.

Class I sludge management facility is any publically owned treatments works (POTW), as defined in 40 CFR §501.2, required to have an approved pretreatment program under 40 CFR §403.8 (a) (including any POTW located in a State that has elected to assume local program responsibilities pursuant to 40 CFR §403.10 (e) and any treatment works treating domestic sewage, as defined in 40 CFR §122.2, classified as a Class I sludge management facility by the EPA Regional Administrator, or, in the case of approved State programs, the Regional Administrator in conjunction with the State Director, because of the potential for sewage sludge use or disposal practice to affect public health and the environmental adversely.

Control efficiency is the mass of a pollutant in the sewage sludge fed to an incinerator minus the mass of that pollutant in the exit gas from the incinerator stack divided by the mass of the pollutant in the sewage sludge fed to the incinerator.

Cover is soil or other material used to cover sewage sludge placed on an active sewage sludge unit.

Cover crop is a small grain crop, such as oats, wheat, or barley, not grown for harvest.

Cumulative pollutant loading rate is the maximum amount of an inorganic pollutant that can be applied to an area of land.

Density of microorganisms is the number of microorganisms per unit mass of total solids (dry weight) in the sewage sludge.

Dispersion factor is the ratio of the increase in the ground level ambient air concentration for a pollutant at or beyond the property line of the site where the sewage sludge incinerator is located to the mass emission rate for the pollutant from the incinerator stack.

an a[illegible]rized Indian tribal organization having jurisdiction over [illegible]ewage sludge management; or a designated and approved management Agency under section 208 of the CWA, as amended. The definition includes a special district created under State law, such as a water district, sewer district, sanitary district, utility district, drainage district, or similar entity, or an integrated waste management facility as defined in section 201(e) of the CWA, as amended, that has as one of its principal responsibilities the treatment, transport, use, or disposal of sewage sludge.

Other container is either an open or closed receptacle. This includes, but is not limited to, a bucket, a box, a carton, and a vehicle or trailer with a load capacity of one metric ton or less.

Pasture is land on which animals feed directly on feed crops such as legumes, grasses, grain stubble, or stover.

Pathogenic organisms are disease-causing organisms. These include, but are not limited to, certain bacteria, protozoa, viruses, and viable helminth ova.

Permitting authority is either EPA or a State with an EPA-approved sludge management program.

Person is an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

Person who prepares sewage sludge is either the person who generates sewage sludge during the treatment of domestic sewage in a treatment works or the person who derives a material from sewage sludge.

pH means the logarithm of the reciprocal of the hydrogen ion concentration. A measure of the acidity or alkalinity of a liquid or solid material.

Place sewage sludge or sewage sludge placed means disposal of sewage sludge on a surface disposal site.

Pollutant (as defined in sludge disposal requirements) is an organic substance, an inorganic substance, a combination or organic and inorganic substances, or pathogenic organism a that, after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism either directly from the environment or indirectly by ingestion through the food chain, could on the basis of information available to the Administrator of EPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction) or

physical deformations in either organisms or offspring o the organisms.

Pollutant limit (for sludge disposal requirements) is a numerical value that describes the amount of a pollutant allowed per unit amount of sewage sludge (e.g., milligrams per kilogram of total solids); the amount of pollutant that can be applied to a unit area of land (e.g., kilogram per hectare); or the volume of a material that can be applied to a unit area of land (e.g., gallons per acre).

Public contact site is a land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.

Qualified ground-water scientist is an individual with a baccalaureate or post-graduate degree in the natural sciences or engineering who has sufficient training and experience in ground-water hydrology and related fields, as may be demonstrated by State registration, professional certification, or completion of accredited university programs, to make sound professional judgments regarding ground-water monitoring, pollutant fate and transport, and corrective action.

Range land is open land with indigenous vegetation.

Reclamation site is drastically disturbed land that is reclaimed using sewage sludge. This includes, but is not limited to, strip mines and construction sites.

Risk specific concentration is the allowable increase in the average daily ground level ambient air concentration for a pollutant from the incineration of sewage sludge at or beyond the property line of the site where the sewage sludge incinerator is located.

Runoff is rainwater, leachate, or other liquid that drains overland on any part of a land surface and runs off the land surface.

Seismic impact zone is an area that has a 10 percent or greater probability that the horizontal ground level acceleration to the rock in the area exceeds 0.10 gravity once in 250 years.

Sewage sludge is a solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not

COD	Chemical oxygen demand
CFS	Cubic feet per second
Chlorine	
Cl_2	Total residual chlorine
TRC	Total residual chlorine which is a combination of free available chlorine (FAC, see below) and combined chlorine (chloramines, etc.)
TRO	Total residual chlorine in marine waters where halogen compounds are present FAC Free available chlorine (aqueous molecular chlorine, hypochlorous acid, and hypochlorite ion)
Coliform	
Coliform, Fecal	Total fecal coliform bacteria
Coliform, Total	Total coliform bacteria
Cont. (Continuous)	Continuous recording of the parameter being monitored, i.e.: flow, temperature, pH, etc.
cu. M/day or M^3/day	Cubic Meters per Day
DO	Dissolved Oxygen
kg/day	Kilograms per Day
lbs/day	Pounds per Day
mg/l	Milligram(s) per Liter
ml/l	Milliliter(s) per Liter
MGD	Million Gallons per Day

Nitrogen	
Total N	Total nitrogen
NH_3-N	Ammonia nitrogen as nitrogen
NO_3-N	Nitrate nitrogen as nitrogen
NO_2-N	Nitrite nitrogen as nitrogen
NO_3-NO_2	Combined nitrate and nitrite nitrogen as nitrogen
TKN	Total Kjeldahl nitrogen as nitrogen
Oil & Grease	Freon extractable material
PCB	Polychlorinated biphenyl
pH	A measure of the hydrogen ion concentration. A measure of alkalinity of a liquid or solid material.
Surfactant	Surface-active agent
Temp. °C	Temperature in degrees Centigrade
Temp. °F	Temperature in degrees Fahrenheit
TOC	Total organic carbon
Total P	Total phosphorus
TSS or NFR	Total suspended solids or total nonfilterable residue
Turb. or Turbidity	Turbidity measured by the Nephelometric Method (NTU)
ug/l	Micrograms per liter

RESPONSE TO PUBLIC COMMENT

From October 27, 2003 to November 25, 2003, the United States Environmental Protection Agency (EPA) solicited Public Comments on a draft NPDES permit, developed pursuant to an application from the Town of Bridgewater for the discharge to Town River. After a review of the comments received, EPA has made a final decision to issue the permit authorizing the discharge. The following response to comment describes the changes and briefly describes and responds to the comments on the draft permit. A copy of the final permit may be obtained by writing or calling Betsy Davis, United States Environmental Protection Agency, 1 Congress Street, Suite 1100 (CMA), Boston, Massachusetts 02114-2023; Telephone (617) 918-1576.

A) Comments submitted by Joseph Shepherd, Massachusetts Department of Environmental Protection, on November 11, 2003

Comment #1: On pg 2, part 1, add dates (April 1 through October 31) that indicate dates the permittee is required to sample for fecal coliform in the effluent. The sampling type for fecal coliform should be grab not 24 hour composite.

Response: The additional language is included in the final permit and the type of sampling for fecal coliform was changed to a grab.

Comment #2: Add a monthly average and weekly average limit of 0.1 ml/l and a maximum daily limit of 0.3 ml/l sampling requirement for settleable solids. Samples should be taken 1/day with an additional grab sample taken during periods of peak flow. The facility has contact chambers which have a tendency to accumulate solids that may be resuspended during periods of peak flow.

Response: The final permit includes limits for settleable solids to be taken daily with an additional grab sample taken during periods of peak flow.

Comment #3: Change the monitoring requirements for TKN, Nitrate/Nitrite to 1/month November 1 through April 30, and 2/month May 1 through October 31. Sampling during the warm weather months should be completed 15 days apart. This data may be useful in determining the seasonal effects of nitrogen compounds in the effluent especially when the facility is transitioning in/out of nitrification and also may show the seasonal effects from septage loading on the facility.

Response: The TKN and nitrate/nitrite sampling frequency has been increased in the final permit to twice per month during the warm weather months. The final permit also stipulates that the second sample for TKN and nitrite/nitrate shall be taken 15 days after the first sample was collected during the warm weather months.

Comment #4: In footnote #2 is there a need to add "if the daily flows exceed 80% of the design flow for 90 consecutive days then the permittee shall submit to the permitting authorities a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with

of the treatment when the mass loading for any parameter, exceeds the limit for more than 2 weeks/month or for 2 or more consecutive months.

Response: Part I.A.1. f. of the draft permit requires the permittee to submit a projection of loadings up to the time when the design capacity of the treatment facility is reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans if the daily flows exceed 80% of the design flow for 90 consecutive days.

B) Comments submitted by Jonas Kazlauskas, Bridgewater Wastewater Treatment Plant, on November 24, 2003.

Comment #4: Our new permit, which is in the Public comment period, requires that a Phosphorus limit below 1.0 mg/l must be achieved. According to the draft Permit part I.A.1 b.states that " The pH of the effluent shall not be less than 6.5 nor greater than 8.3 at any time, unless these values are exceeded as a result of an approved treatment process".

To lower the Phosphorus to the permitted level, the addition of Ferric Chloride will be needed. Ferric chloride is an approved treatment process but has the possibility of lowering the pH below the 6.5 effluent limit.

My question is this, will it be a violation of the pH if the effluent value drops below 6.5 when adding Ferric chloride to remove Phosphorus? My interpretation would be no according to the permit language. Is this correct?

Response: EPA and MA DEP recognize the addition of ferric chloride as an approved method of treatment for phosphorus. The pH in the final permit has been changed to 6.0 to 8.3 to accommodate treating the effluent for phosphorus.

C) Comments submitted by Cindy Delpap, Stream Ecologist at the Massachusetts Riverways Program on December 2, 2003.

Comment#5: The Fact Sheet points out the facility had a total residual chlorine range of 0-53 ug/l but further states the facility had no TRC violations. A maximum TRC concentration of 53 ug/l would be a violation under the existing permit. This discrepancy in the information in the Fact Sheet is not explained.

Response: There dates in the fact sheet are inconsistent. The facility reported 53 ug/l of TRC in August 2001 and you are correct, this is an exceedance of the permit limits. However, there were no exceedances between April 2002 and April 2003 as stated in the fact sheet

Comment #6: The Fact Sheet provides detail on how the copper concentration for the effluent was calculated but does not include a discussion about the past compliance record for the facility with regards to copper. The information on Table 1 and available in the EPAs ECHO data base indicates the facility has been significantly out of compliance. Has steps been initiated to deal with the chronic noncompliance?

Response: The facility has been out consistently out of compliance with the average monthly copper limits in the existing permit. Currently, the facility is under an EPA Administrative Compliance Order with interim copper limits. As part of the order, the Town is required to submit a complete copper evaluation.

Comment #7: The draft permit shows the dissolved oxygen concentration remains at 6.0 mg/l though the Fact Sheet narrative states the DO is being dropped to 5.0 mg/l to reflect class B water quality standards. Keeping the standard at 6.0 mg/l is a sound course of action given the limited dilution available (2.2) and the elevated nutrient levels being found downstream of the effluent discharge point in the Town River, (in three out of the five months listed in the Fact Sheet, phosphorus levels were well above the EPA's recommended levels for this region and an order of magnitude above concentration found upstream of the WWTP). An excess of nutrients will lead to organic enrichment and depressed DO levels. Requiring a higher DO concentration in the effluent would help mitigate this problem to an extent. The facility is currently meeting the higher standard of 6 mg/l and should be asked to continue at this higher level to help offset the impacts of the nutrient loading to the Town River from the facility's discharge.

Response: The dissolved oxygen limit in the permit is based on State Water Quality Standards. DO for Class B warm water fisheries is 5.0 mg/l. Since the Town River is a warm water fishery the final permit has been changed to reflect Class B standards..

Comment #8: While the Town River is a fresh water system it is tributary to the Taunton River, Mount Hope Bay and Narragansett Bay. The estuarine sections of this system are nitrogen sensitive embayments and this sensitivity should be considered when developing nutrient criteria for this facility. The draft permit has requirements for monthly monitoring of TKN and nitrate/nitrite. This requirement will add valuable information to the work being done to reduce nitrogen and phosphorus loadings to the Taunton River and Narragansett Bay systems. Should future work indicate the need to reduce point and nonpoint sources of nutrients to meet TMDL allocation or other goals this information will help to make management decisions. More frequent summer monitoring to reflect the once per week monitoring of phosphorus and ammonia would more thoroughly characterize the loads of nitrogen compounds from the facility. Weekly summer monitoring should be considered given the sensitivity of the downstream waters.

Response: The monitoring frequency for TKN and nitrite/nitrate during the warm weather months has increased in the final permit. See Response to Comment # 3.

Effluent limitations and/or monitoring requirements in the final permit will not necessarily be maintained in subsequent permits. The data collected for TKN and nitrite/nitrate will be re-evaluated when this permit expires and EPA and MA DEP will have better understanding of the nutrient impacts from the Bridgewater WWTP at that time.

Comment #9: The start of seasonal limits for phosphorus and ammonia are not identical as is typical with many NPDES municipal permits. Is there a rationale for the delay of one month before the facility must meet an ammonia limit? Given the toxicity of ammonia to

Comment #9: The start of seasonal limits for phosphorus and ammonia are not identical as is typical with many NPDES municipal permits. Is there a rationale for the delay of one month before the facility must meet an ammonia limit? Given the toxicity of ammonia to aquatic organisms and the early spring plankton blooms and increased presence of larval forms of aquatic and other organisms makes a compelling argument for an earlier ammonia limit.

Response: The ammonia limits in the final permit have been changed to coincide with the warm weather phosphorus limit.

Comment #10: The staff at Riverways does not fully agree with the rationale used to establish a phosphorus concentration above the recommended levels established by the EPA. While there may not have been easily observable signs of eutrophication upon visual inspection of the Town River, there may be more subtle impacts to the aquatic community due to the considerable increase in total phosphorus levels below the WWTP when compared to concentrations found above the discharge, (as reported on page 5 of the Fact Sheet). Without a study of the aquatic community and targeted water quality assessment, the status of the waterway downstream of the discharge is not definitive. Also, the Town River is part of the larger Taunton River system which has problems with excess nutrient loadings. All of this should be investigated before dismissing the EPA recommended criteria for phosphorus; however it is recognized the state does not have nutrient criteria in place. Until water quality standards are set or TMDL or other waste load allocations are completed for this basin, we understand the difficulty of establishing a defensible maximum nutrient concentration.

Response: The Taunton River system is on the State's 303(d) list for organic enrichment and low dissolved oxygen from the Berkley Street in Dighton to the Somerset boundary, a considerable distance from the point of discharge at the treatment plant. The Town River, although a tributary to the Taunton River, is not listed as an impaired water in the Commonwealth. The phosphorus limit in the final permit will at a minimum, provide EPA and MA DEP useful data to further assess the need for more stringent phosphorus limits.

A more stringent phosphorus limit is likely in subsequent NPDES permit when further evaluations have been completed such as a TMDL or a study of the aquatic community that justifies a more stringent limit in the permit.

EPA REGION I

NPDES PERMIT

SLUDGE COMPLIANCE GUIDANCE

04 NOVEMBER 1999

1. LAND APPLICATION

This section applies to sewage sludge from the permittee's facility which is applied to the land for the purpose of enriching the soil. The permittee should answer the following questions. The answers to these questions need to be evaluated to determine which permitting scenario for sewage sludge land application applies. After the permitting scenario is determined, the permittee must comply with the directives contained in the chosen scenario.

1.1 Question Algorithm

The permittee should review and answer the following questions. The information gathered from answering these questions will aid the permittee in determine the appropriate land application scenario which applies to the sludge generated at the permittee's waste water treatment facility. The scenario selected will detail which specific Use or Disposal of Sewage Sludge, Part 503, regulations must be complied with for the land application method used by the permittee.

1. What type of land is the sewage sludge being applied to?

   If the sewage sludge/material is to be sold or given away, or applied to a lawn or home garden, the sewage sludge MUST meet Class A pathogen reduction requirements.

2. Is all the sludge generated at the facility used in the same manner?

   If all the sludge is not used the same way, the permittee needs to determine what amounts are used in what manner. Different scenarios may apply to the different portions.

3. Is the sewage sludge in bulk or is it a bagged material?

   Scenario No.1 and No.6 can be applied to bagged materials. All other scenarios apply to bulk sewage sludge only. Bulk material is an amount of sewage sludge greater than one metric ton (2200 lbs).

4. What is the metals content in the sewage sludge for the following metals: arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc?

   If any of the concentrations in Table 1 of 40 CFR §503.13 (b)(1)) are exceeded on a dry weight basis, the sewage sludge cannot be land applied. Table 1 is summarized:

§503.13 Table 1
Maximum Pollutant Concentrations

Arsenic	75 mg/kg
Cadmium	85 mg/kg
Copper	4300 mg/kg
Lead	840 mg/kg
Mercury	57 mg/kg
Molybdenum	75 mg/kg
Nickel	420 mg/kg
Selenium	100 mg/kg
Zinc	7500 mg/kg

5. Does the sludge qualify for "exceptional quality" criteria in accordance with Table 3, 40 CFR §503.13(b)(3)) on a dry weight basis? Table 3 is summarized:

§503.13 Table 3
Exceptional Quality Pollutant Concentrations

Arsenic	41 mg/kg
Cadmium	39 mg/kg
Copper	1500 mg/kg
Lead	300 mg/kg
Mercury	17 mg/kg
Nickel	420 mg/kg
Selenium	100 mg/kg
Zinc	2800 mg/kg

In addition, Class A pathogen reduction (see Section 4), and achievement of one of the vector attraction reduction alternatives 1 through 8 (see Section 5) must be attained.

NOTHING ELSE QUALIFIES AS EXCEPTIONAL QUALITY

6. What is the level of pathogen reduction achieved, Class A or Class B?

   Refer to Section 4, Pathogen Reduction, to select the appropriate method that is used to reduce the pathogens in the sewage sludge produced at the facility.

7. What is the method for vector attraction reduction?

   Refer to Section 5, Vector Attraction Reduction, to select the appropriate method that is used to reduce the pathogens in the sewage sludge produced at the facility.

8. What is the amount of sewage sludge used in dry metric tons/365 day period?

This determines the frequency of monitoring (see Section 6) for the pollutants, pathogens and vectors. Use the table below to make the determination:

Sampling Frequency Table

SEWAGE SLUDGE PRODUCED (metric tons per 365 day period)	SAMPLING FREQUENCY
0<Sludge(tons)<290	Once per Year
290≤Sludge(tons)<1500	Once Per Quarter (four times per year)
1500≤Sludge(tons)<15000	Once per 60 Days (six times per year)
Sludge(tons)≤15000	Once per Month (12 times per year)

1.2 Scenario Determination

After the information is gathered and evaluated from the questions in the preceding section, the permittee can select the appropriate land application scenario.

Land Application Scenario Selection Table

SCENARIO	LAND TYPE	BULK/ BAGGED	POLLUTANT LIMITS[2]	PATHOGENS[3]	VECTORS[3]
No.1	ANY TYPE	BOTH(EQ)	TABLE 3	CLASS A	1-8 ONLY
No.2	SEE BELOW[1]	BULK	TABLE 3	CLASS A	9 OR 10
No.3	SEE BELOW[1]	BULK	TABLE 3	CLASS B	1-10
No.4	SEE BELOW[1]	BULK	TABLE 2	CLASS A	1-10
No.5	SEE BELOW[1]	BULK	TABLE 2	CLASS B	1-10
No.6	ANY TYPE	BAGGED	TABLE 4	CLASS A	1-8 ONLY

1. Land types: Agricultural land, forest, reclamation site, or public contact site
2. Refer to 40 CFR 503.13 Table 2, Table 3 and Table 4
3. The Pathogen Reduction Section (Section 4) and Vector Attraction Reduction Sections (Section 5) are located after the Scenario section.

1.3. Scenarios

This section contains the sewage sludge land application scenarios. One of these scenarios has been selected by the permittee, based on reading and answering the questions in Section 1.2, to regulate their treatment facility's sewage sludge land application.

1.3.1. Scenario No.1

This applies to bulk or bagged sewage sludge and materials derived from sewage sludge meeting the pollutant concentrations at §503.13(b)(3); one of the Class A pathogen reduction alternatives at §503.32(a); one of the vector attraction reduction requirements at §503.33(b)(1) through (b)(8). Materials meeting these characteristics are considered "Exceptional quality" materials and are exempt from the general requirements at §503.12 and the management practices at §503.14. Sludges of this quality may be applied to any type of land.

SLUDGE CONDITIONS

1. Pollutant limitations

   a. The maximum concentration of metals in the sewage sludge that is applied to the land shall not exceed the following (dry weight basis):

Arsenic	75 mg/kg
Cadmium	85 mg/kg
Copper	4300 mg/kg
Lead	840 mg/kg
Mercury	57 mg/kg
Molybdenum	75 mg/kg
Nickel	420 mg/kg
Selenium	100 mg/kg
Zinc	7500 mg/kg

   b. The sewage sludge shall not be applied to the land if any of the pollutant concentrations in Paragraph 1a. are exceeded.

   c. The monthly average concentration of metals in the sewage sludge shall not exceed the following (dry weight basis):

Arsenic	41 mg/kg
Cadmium	39 mg/kg
Copper	1500 mg/kg
Lead	300 mg/kg
Mercury	17 mg/kg
Nickel	420 mg/kg
Selenium	100 mg/kg
Zinc	2800 mg/kg

2. The permittee shall meet Class A pathogen requirements utilizing one of the methods specified in 40CFR §503.32

3. The permittee shall meet one of the vector attraction reduction requirements specified in 40CFR §503.33. The permittee may only utilize alternatives 1 through 8. If the permittee meets one of the vector attraction reduction alternatives 1 through 5 , the Class A pathogen requirements must be met either prior to or at the same time as the vector attraction reduction requirement.

4. The permittee shall monitor the sewage sludge for the pollutants in Paragraph 1a, the pathogen density and the vector attraction reduction requirement at the frequency specified in sludge condition 6 of the permit.

5. The permittee shall develop and retain the following information for five years:

   a. The concentration of each pollutant listed in Paragraph 1a.

   b. The following certification statement:

      "I certify, under penalty of law, that the information that will be used to determine compliance with the Class A pathogen requirements in §503.32(a) and the vector attraction reduction requirements in [<u>insert one of the vector attraction reduction requirements in §503.33 (b)(1) through (b)(8)</u>] was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

   c. A description of how the Class A pathogen requirements are met.

   d. A description of how the vector attraction reduction requirements are met.

6. The permittee shall report the information in Paragraphs 5a, b, c, and d annually on February 19. Reports shall be

submitted to EPA at the address in the Monitoring and Reporting section of this permit.

7. All sewage sludge sampling and analysis procedures shall be in accordance with the procedures detailed in 40CFR §503.8

1.3.2. Scenario No.2

This scenario applies to bulk sewage sludge or materials derived from bulk sewage sludge meeting the following criteria: the pollutant concentrations in §503.13(b)(3); Class A pathogen requirements in §503.32(a); and vector attraction §503.33(b)(9) or (b)(10). Sludge of this quality may be applied to agricultural land, forest land, public contact site or reclamation site. This scenario has specific requirements for the preparer and the applier.

SLUDGE CONDITIONS

1. The permittee and the applier of the bulk sewage sludge shall comply with the following general requirements:

   a. Bulk sewage sludge shall not be applied to the land except in accordance with 40 CFR Part 503, Subpart B.

   b. The permittee shall provide the person who applies the bulk sewage sludge written notification of the concentration of total nitrogen (as N on a dry weight basis) in the bulk sewage sludge.

   c. The person who applies the bulk sewage sludge shall obtain notice and necessary information from the permittee to comply with the requirements of 40 CFR Part 503, Subpart B.

   d. When the permittee provides the bulk sewage sludge to a person who applies the bulk sewage sludge, the permittee shall provide the person who applies the bulk sewage sludge notice and necessary information to comply with 40 CFR Part 503, Subpart B.

   e. When the permittee provides the bulk sewage sludge to a person who prepares the bulk sewage sludge, the permittee shall provide the preparer notice and necessary information to comply with 40 CFR Part 503, Subpart B.

   f. The person who applies the bulk sewage sludge shall provide the owner or lease holder of the land on which the bulk sewage sludge is applied notice and necessary information to comply with 40 CFR Part 503, Subpart B.

g. When bulk sewage sludge is applied in another state, the person who prepares the sewage sludge shall provide notice to the permitting authority for the state in which the sewage sludge will be applied. Notice shall be given prior to the initial application and shall contain the following information:

i. The location of each site by either street address or latitude and longitude.

ii. The approximate period of time the bulk sewage sludge will be applied to each site.

iii. The name, address, telephone number and National Pollutant Discharge Elimination System permit number (if applicable) for the person who prepares the bulk sewage sludge.

iv. The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if applicable) for the person who applies the bulk sewage sludge.

2. Pollutant limitations

a. The maximum concentration of metals in the sewage sludge that is applied to the land shall not exceed the following (dry weight basis):

Arsenic	75 mg/kg
Cadmium	85 mg/kg
Copper	4300 mg/kg
Lead	840 mg/kg
Mercury	57 mg/kg
Molybdenum	75 mg/kg
Nickel	420 mg/kg
Selenium	100 mg/kg
Zinc	7500 mg/kg

b. The sewage sludge shall not be applied to the land if any of the pollutant concentrations in Paragraph 2a are exceeded.

c. The monthly average concentration of metals in the sewage sludge shall not exceed the following (dry weight basis):

Arsenic	41 mg/kg
Cadmium	39 mg/kg
Copper	1500 mg/kg
Lead	300 mg/kg
Mercury	17 mg/kg

Nickel.....420 mg/kg
Selenium.....100 mg/kg
Zinc.....2800 mg/kg

3. The permittee shall meet Class A pathogen requirements utilizing one of the methods specified in 40CFR §503.32

4. The person who applies the bulk sewage sludge shall meet either vector attraction reduction requirement 9 or 10 as specified in 40CFR §503.33.

5. The bulk sewage sludge shall be injected below the surface of the land, or incorporated into the soil within 8 hours after discharge from the pathogen treatment process.

6. The permittee shall monitor the sewage sludge for the pollutants in Paragraph 2a and the pathogen density requirements at the frequency specified in sludge condition 6 of the permit.

7. The person who applies the bulk sewage sludge to the land shall comply with the following management practices:

   a. The bulk sewage sludge shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under section 4 of the Endangered Species Act, or its designated habitat.

   b. The bulk sewage sludge shall not be applied to agricultural land, forest land, a public contact site or a land reclamation site that is frozen, snow-covered, or flooded so that the bulk sewage sludge enters a wetland or other water of the United States as defined in 40 CFR 122.2, except as provided in a permit issued pursuant to section 402 or 404 of the Clean Water Act.

   c. Bulk sewage sludge shall not be applied to agricultural land, forest land, a public contact site, or a land reclamation site that is less than 10 meters (33 feet) from waters of the United States, as defined in 40 CFR 122.2.

   d. The whole sludge application rate shall be applied at an agronomic rate designed to (i) provide the amount of nitrogen needed by the crop or vegetation grown on the land; and (ii) minimize the amount of nitrogen that passes below the root zone for the crop or vegetation grown of the land into the groundwater.

8. The permittee shall develop and retain the following information for five years:

a. The pollutant concentration for each pollutant listed in Paragraph 2a. of this section.

b. The following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the Class A pathogen requirements in §503.32(a)was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

c. A description of how the pathogen requirements are met.

9. The person who applies the bulk sewage sludge shall develop and retain the following information for five years:

a. The following certification requirement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the management practices in §503.14 and the vector attraction reduction requirement in [insert either §503.33(b)(9) or (b)(10)] was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including fine and imprisonment."

b. A description of how the management practices in §503.14 are met for each site on which the bulk sewage sludge is applied.

c. A description of how the vector attraction reduction requirements are met for each site on which bulk sewage sludge is applied. Including a description of how the requirement in Paragraph 5 is met.

10. The permittee shall report the information in paragraphs 8a, b, and c annually on February 19. Reports shall be submitted to EPA at the address in the Monitoring and Reporting section of this permit.

11. All sludge sampling and analysis shall be in accordance with the procedures detailed in 40CFR §503.8.

12. The permittee shall supply the following information/requirements to the person who applies the bulk

sewage sludge:

a. Information in Paragraph 1b.

b. Requirements in Paragraphs 1f and 5.

c. Management Practices in Paragraphs 7a through d.

d. Record keeping requirements in Paragraphs 9a through c.

13. If the permittee intends to apply sludge to land application sites not identified at the time of permit issuance, the permittee shall submit a land application plan 180 days prior to initial application at the new site. The plan shall:

a. Describe the geographic area covered by the plan;

b. Identifies site selection criteria;

c. Describes how sites will be managed; and

d. Provides for advance public notice as required by state and local laws, and notice to landowners and occupants adjacent to or abutting the proposed land application site.

1.3.3. Scenario No.3

This scenario applies to bulk sewage sludge meeting the following criteria: pollutant concentrations at §503.13(b(3); Class B pathogens at §503.32(b); and one of the vector attraction reduction requirements found at §503.33(b). Bulk sewage sludge of this quality may be applied to agricultural land, forest land, public contact site or a reclamation site. There are specific requirements for the preparer and applier.

SLUDGE CONDITIONS

1. The permittee and the applier of the bulk sewage sludge shall comply with the following general requirements:

a. Bulk sewage sludge shall no the applied to the land except in accordance with 40 CFR Part 503 Subpart B.

b. The permittee shall provide the person who applies the bulk sewage sludge written notification of the concentration of total nitrogen (as N on a dry weight basis) in the bulk sewage sludge.

c. The person who applies the bulk sewage sludge shall

obtain notice and necessary information from the permittee to comply with the requirements of 40 CFR Part 503 Subpart B.

d. When the permittee provides the bulk sewage sludge to a person who applies the bulk sewage sludge, the permittee shall provide the person who applies the bulk sewage notice and necessary information to comply with the requirements of 40 CFR Part 503 Subpart B.

e. When the permittee provides the bulk sewage sludge to a person who prepares the bulk sewage sludge, the permittee shall provide the person who prepares the bulk sewage sludge notice and necessary information to comply with the requirements of 40 CFR Part 503 Subpart B.

vi. The person who applies the bulk sewage sludge shall provide the owner or lease holder of the land on which the bulk sewage sludge is applied notice and necessary information to comply with the requirements of 40 CFR Part 503 Subpart B.

g. When bulk sewage sludge is applied in another state , the person who prepares the sewage sludge shall provide notice to the permitting authority for the state in which the sewage sludge will be applied. Notice shall be given prior to the initial application and shall contain the following information:

i. The location of each site by either street address or latitude and longitude.

ii. The approximate period of time the bulk sewage sludge will be applied to each site.

iii. The name, address, telephone number and National Pollutant Discharge Elimination System permit number (if applicable) for the person who prepares the bulk sewage sludge.

iv. The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if applicable) for the person who applies the bulk sewage sludge.

2. Pollutant limitations

a. The maximum concentration of metals in the sewage sludge that is applied to the land shall not exceed the following (dry weight basis):

Arsenic	75 mg/kg
Cadmium	85 mg/kg
Copper	4300 mg/kg
Lead	840 mg/kg
Mercury	57 mg/kg
Molybdenum	75 mg/kg
Nickel	420 mg/kg
Selenium	100 mg/kg
Zinc	7500 mg/kg

b. The sewage sludge shall not be applied to the land if any of the pollutant concentrations in Paragraph 2a are exceeded.

c. The monthly average concentration of metals in the sewage sludge shall not exceed the following (dry weight basis):

Arsenic	41 mg/kg
Cadmium	39 mg/kg
Copper	1500 mg/kg
Lead	300 mg/kg
Mercury	17 mg/kg
Nickel	420 mg/kg
Selenium	100 mg/kg
Zinc	2800 mg/kg

3. The permittee shall meet Class B pathogen requirements utilizing one of the methods specified in 40CFR §503.32

4. The permittee shall meet one of vector attraction reduction requirements specified in 40CFR §503.33

5. The permittee shall monitor the sewage sludge for the pollutants in Paragraph 2a, the pathogen density requirements and the vector attraction reduction requirements at the frequency specified in sludge condition 6 of the permit.

6. The person who applies the bulk sewage sludge to the land shall comply with the following management practices:

a. The bulk sewage sludge shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under section 4 of the Endangered Species Act, or its designated habitat.

b. The bulk sewage sludge shall not be applied to agricultural land, forest land, a public contact site or a land reclamation site that is frozen, snow-covered, or flooded so that the bulk sewage sludge enters a wetland or other water of the United States as

defined in 40 CFR 122.2, except as provided in a permit issued pursuant to section 402 or 404 of the Clean Water Act.

c. Bulk sewage sludge shall not be applied to agricultural land, forest land, a public contact site, or a land reclamation site that is less than 10 meters (33 feet) from waters to the United States, as defined in 40 CFR 122.2.

d. The whole sludge application rate shall be applied at an agronomic rate designed to (i) provide the amount of nitrogen needed by the crop or vegetation grown on the land; and (ii) minimize the amount of nitrogen that passes below the root zone for the crop or vegetation grown of the land into the groundwater.

7. The person who applies the bulk sewage sludge shall insure that the following site restrictions are met for each site on which the bulk sewage sludge is applied:

a. Food crops with harvested parts that touch the sewage sludge/soil mixture and are not totally above the land surface shall not be harvested for 14 months after application of sewage sludge.

b. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of sewage sludge when the sewage sludge remains on the land surface for four months or longer prior to incorporation into the soil.

c. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than four months prior to incorporation into the soil.

d. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of sewage sludge.

e. Animals shall not be grazed on the land for 30 days after application of sewage sludge.

f. Turf grown on land where sewage sludge is applied shall not be harvested for one year after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn.

g. Public access to land with a high potential for public

exposure shall be restricted for one year after application of sewage sludge.

h. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of sewage sludge.

8. The permittee shall develop and retain the following information for five years:

a. The concentration of each pollutant listed in Paragraph 2a of this section.

b. The following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the Class B pathogen requirement in §503.32(b) and the vector attraction reduction requirement in [insert one of the vector attraction reduction requirements in §503.33(b)(1) through (b)(8), if one of those requirements is met] was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information I am aware that there are significant penalties for false certification including the possibility of fine or imprisonment."

c. A description of how the Class B pathogen requirements are met.

d. When the permittee is responsible for meeting the vector attraction reduction requirements, a description of how the vector attraction reduction requirements are met.

9. The person who applies the bulk sewage sludge shall develop and maintain the following information for five years:

a. The following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the management practices in §503.14, the site restrictions in §503.32(b)(5), and the vector attraction reduction requirements in [insert either §503.33(b)(9) or (b)(10), if one of those requirements is met] was prepared for each site on which sewage sludge is applied under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant

penalties for false certification including the possibility of fine and imprisonment."

b. A description of how the management practices in Paragraphs 6a through d are met for each site.

c. A description of how the site restrictions in Paragraphs 7a through h are met for each site.

d. When the applier is responsible for meeting the vector attraction reduction requirements, a description of how the vector attraction reduction requirement in either §503.33(b)(9) or (b)(10) is met.

10. The permittee shall report the information in Paragraphs 8a, b, c and d annually on February 19. Reports shall be submitted to the address in the Monitoring and Reporting section of this permit.

11. All sludge sampling and analysis shall be in accordance with the procedures detailed in 40CFR §503.8

12. The permittee shall notify the person who applies the bulk sewage sludge of the following information/requirements:

a. Information in Paragraph 1b.

b. Requirement in Paragraph 1f.

c. Management practices in Paragraphs 6a through d.

d. Site Restrictions in Paragraphs 7a through h.

e. Record keeping requirements in Paragraphs 9a through d.

13. If the permittee intends to apply sludge to land application sites not identified at the time of permit issuance, the permittee shall submit a land application plan 180 days prior to initial application at the new site. The plan shall:

a. Describe the geographic area covered by the plan;

b. Identifies site selection criteria;

c. Describes how sites will be managed; and

d. Provides for advance public notice as required by state and local laws, and notice to landowners and occupants adjacent to or abutting the proposed land application site.

1.3.4. Scenario No.4

This scenario applies to bulk sewage sludge meeting the following criteria: pollutant concentrations at §503.13(b)(2); Class A pathogen requirements at §503.32(a); and one of the vector attraction reduction requirements found at §503.33(b). Bulk sewage sludge of this quality may be applied to agricultural land, forest land, public contact site or a reclamation site. There are specific requirements for the preparer and the applier.

SLUDGE CONDITIONS

1. The permittee and the applier of the bulk sewage sludge shall comply with the following general requirements:

   a. Bulk sewage sludge shall not be applied to the land except in accordance with 40 CFR Part 503 Subpart B.

   b. Bulk sewage sludge shall not be applied if any of the cumulative pollutant loading rates in Paragraph 2c have been reached on the site.

   c. The permittee shall provide the person who supplies the bulk sewage sludge written notification of the concentration of total nitrogen (as N on a dry weight basis) in the bulk sewage sludge.

   d. The person who applies the bulk sewage sludge shall obtain notice and necessary information to comply with the requirements of 40 CFR Part 503 Subpart B.

   e. The person who applies the bulk sewage sludge shall obtain the following information:

      i. Prior to application of bulk sewage sludge, the person who proposes to apply the bulk sewage shall contact the permitting authority for the state in which the bulk sewage sludge will be applied to determine whether bulk sewage sludge subject to the cumulative pollutant loading rates in §503.13(b)(2) has been applied to the site since July 20, 1993.

      ii. If bulk sewage sludge subject to the cumulative pollutant loading rates has not been applied to the site, the cumulative amount for each pollutant listed in Paragraph 2c may be applied.

      iii. If bulk sewage sludge subject to the cumulative pollutant loading rates has been applied to the site since July 20, 1993, and the cumulative

amount of each pollutant applied to the site since that date is known, the cumulative amount of each pollutant applied to the site shall be used to determine the additional amount of each pollutant that can be applied to the site such that the loading rates in Paragraph 2c are not exceeded.

iv. If bulk sewage sludge subject to the cumulative pollutant loading rates has been applied to the site since July 20, 1993, and the cumulative amount of each pollutant applied to the site since that date is not known, an additional amount of any pollutant may not be applied to the site.

f. When the permittee provides the bulk sewage sludge to a person who applies the bulk sewage sludge, the permittee shall provide the person who applies the bulk sewage notice and necessary information to comply with the requirements of 40 CFR Part 503 Subpart B.

g. When the permittee provides the bulk sewage sludge to a person who prepares the bulk sewage sludge, the permittee shall provide the person who prepares the bulk sewage sludge notice and necessary information to comply with the requirements of 40 CFR Part 503 Subpart B.

h. The person who applies the bulk sewage sludge shall provide the owner or lease holder of the land on which the bulk sewage sludge is applied notice and necessary information to comply with the requirements of 40 CFR Part 503 Subpart B.

i. When bulk sewage sludge is applied in another state, the person who prepares the sewage sludge shall provide notice to the permitting authority for the state in which the sewage sludge will be applied. Notice shall be given prior to the initial application and shall contain the following information:

i. The location of each site by either street address or latitude and longitude.

ii. The approximate period of time the bulk sewage sludge will be applied to each site.

iii. The name, address, telephone number and National Pollutant Discharge Elimination System permit number (if applicable) for the person who prepares the bulk sewage sludge.

iv. The name, address, telephone number, and National Pollutant Discharge Elimination System permit

number (if applicable) for the person who applies the bulk sewage sludge.

j. The person who applies the bulk sewage sludge shall provide written notice, prior to the initial application of the bulk sewage sludge, to the permitting authority for the State in which the bulk sewage sludge will be applied. The notice shall include:

i. The location, by either street address or latitude and longitude, of the land application site.

ii. The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) of the person who will apply the bulk sewage sludge.

2. Pollutant limitations

a. The maximum concentration of metals in the sewage sludge that is applied to the land shall not exceed the following (dry weight basis):

Arsenic	75 mg/kg
Cadmium	85 mg/kg
Copper	4300 mg/kg
Lead	840 mg/kg
Mercury	57 mg/kg
Molybdenum	75 mg/kg
Nickel	420 mg/kg
Selenium	100 mg/kg
Zinc	7500 mg/kg

b. The sewage sludge shall not be applied to the land if any of the pollutant concentrations in Paragraph 2a are exceeded.

c. The cumulative pollutant loading rates for each site shall not exceed the following (kilograms per hectare):

Arsenic	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Nickel	420
Selenium	100
Zinc	2800

d. Bulk sewage sludge shall not be applied to a site on which any of the cumulative pollutant loading rates have been reached.

3. The permittee shall meet Class A pathogen requirements utilizing one of the methods specified in 40CFR §503.32

4. The permittee shall meet one of the vector attraction reduction requirements specified in 40CFR §503.33. The permittee may only utilize alternatives 1 through 8. If the permittee meets one of the vector attraction reduction alternatives 1 through 5 , the Class A pathogen requirements must be met either prior to or at the same time as the vector attraction reduction requirement.

5. The permittee shall monitor the sewage sludge for the pollutants in Paragraph 2a, the pathogen density requirements and the vector attraction reduction requirements at the frequency specified in sludge condition 6 of the permit.

6. The person who applies the bulk sewage sludge to the land shall comply with the following management practices:

   a. The bulk sewage sludge shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under section 4 of the Endangered Species Act, or its designated habitat.

   b. The bulk sewage sludge shall not be applied to agricultural land, forest land, a public contact site or a land reclamation site that is frozen, snow-covered, or flooded so that the bulk sewage sludge enters a wetland or other water of the United States as defined in 40 CFR 122.2, except as provided in a permit issued pursuant to section 402 or 404 of the Clean Water Act.

   c. Bulk sewage sludge shall not be applied to agricultural land, forest land, a public contact site, or a land reclamation site that is less than 10 meters (33 feet) from waters of the United States, as defined in 40 CFR 122.2.

   d. The whole sludge application rate shall be applied at an agronomic rate designed to (i) provide the amount of nitrogen needed by the crop or vegetation grown on the land; and (ii) minimize the amount of nitrogen that passes below the root zone for the crop or vegetation grown of the land into the groundwater.

7. The permittee shall develop and maintain the following information for five years:

   a. The concentration of each pollutant listed in Paragraph 2a in the bulk sewage sludge.

b. The following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the Class A pathogen requirement in §503.32(a) and the vector attraction reduction requirement in [insert one of the vector attraction reduction requirements in §503.33(b)(1) through (b)(8), if one of those requirements is met] was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine or imprisonment."

c. A description of how the Class A pathogen requirements are met.

d. When the permittee is responsible for meeting the vector attraction reduction requirements, a description of how the vector attraction reduction requirements are met.

8. The person who applies the bulk sewage sludge shall develop and retain the following information indefinitely:

a. The location, by either street address of latitude and longitude, of each site on which bulk sewage sludge is applied.

b. The number of hectares in each site on which bulk sewage sludge is applied.

c. The date bulk sewage sludge is applied to each site.

d. The cumulative amount of each pollutant listed in Paragraph 2a in the bulk sewage sludge applied to each site, including the amount in Paragraph 1e(iii) of this section. (in kilograms)

e. The amount of sewage sludge applied to each site (in metric tons).

f. The following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the requirements to obtain information in §503.12(e)(2){Paragraphs 1e (i through iv) of this permit} was prepared for each site on which sewage

sludge was applied under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including fine and imprisonment."

g. A description of how the requirements to obtain the information in Paragraph 1e (i through iv) are met.

9. The person who applies the bulk sewage sludge shall develop and maintain the following information for five years:

a. The following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the management practices in §503.14 was prepared for each site on which sewage sludge was applied under my direction and supervision in accordance with the system designed to ensured that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

b. A description of how the management practices in Paragraphs 6a through d are met for each site.

c. When the applier is responsible for meeting the vector attraction reduction requirements, the following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the vector attraction reduction requirement in [insert either §503.33(b)(9) or (b)(10)] was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

d. When the applier is responsible for meeting the vector attraction reduction requirements, a description of how the vector attraction reduction requirement in either §503.33(b)(9) or (b)(10) is met.

10. The permittee shall report the information in Paragraphs 7a, b, c and d annually on February 19. Reports shall be submitted to EPA at the address in the Monitoring and Reporting section of this permit.

11. When 90 percent or more of any of the cumulative pollutant loading rates are reached, the person who applies the bulk sewage sludge shall report the information in Paragraphs 10a through d annually on February 19. Reports shall be submitted to EPA at the address in the Monitoring and Reporting section of this permit.

12. All sludge sampling and analysis shall be in accordance with the procedures detailed in 40CFR §503.8.

13. The permittee shall notify the applier of the following information/requirements:

    a. Requirements in Paragraphs 1b, 1d, 1e, 1j, 2c and 2d.

    b. Information in Paragraph 1c.

    c. The management practices in Paragraphs 6a through d.

    d. Record keeping requirements is Paragraphs 8a through g and Paragraphs 9a through d.

    e. Reporting requirements in Paragraph 11.

14. If the permittee intends to apply sludge to land application sites not identified at the time of permit issuance, the permittee shall submit a land application plan 180 days prior to initial application at the new site. The plan shall:

    a. Describe the geographic area covered by the plan;

    b. Identifies site selection criteria;

    c. Describes how sites will be managed; and

    d. Provides for advance public notice as required by state and local laws, and notice to landowners and occupants adjacent to or abutting the proposed land application site.

1.3.5. Scenario No.5

This scenario applies to bulk sewage sludge meeting the following criteria: pollutant concentrations at §503.13(b)(2); Class B pathogen requirements at §503.32(b); and one of the vector attraction reduction requirements found at §503.33(b). Bulk sewage sludge of this quality may be applied to agricultural land, forest land, public contact site or a reclamation site. There are specific requirements for the preparer and the applier.

SLUDGE CONDITIONS

1. The permittee and the applier of the bulk sewage sludge shall comply with the following general requirements:

   a. Bulk sewage sludge shall not be applied to the land except in accordance with 40 CFR Part 503 Subpart B.

   b. Bulk sewage sludge shall not be applied if any of the cumulative pollutant loading rates in Paragraph 2c have been reached on the site.

   c. The permittee shall provide the person who applies the bulk sewage sludge written notification of the concentration of total nitrogen (as N on a dry weight basis) in the bulk sewage sludge.

   d. The person who applies the bulk sewage sludge shall obtain notice and necessary information to comply with the requirements of 40 CFR Part 503 Subpart B.

   e. The person who applies the bulk sewage sludge shall obtain the following information:

      i. Prior to application of bulk sewage sludge, the person who propose to apply the bulk sewage shall contact the permitting authority for the state in which the bulk sewage sludge will be applied to determine whether bulk sewage sludge subject to the cumulative pollutant loading rates in §503.13(b)(2) has been applied to the site since July 20, 1993.

      ii. If bulk sewage sludge subject to the cumulative pollutant loading rates has not been applied to the site, the cumulative amount for each pollutant listed in Paragraph 2c may be applied.

      iii. If bulk sewage sludge subject to the cumulative pollutant loading rates has been applied to the site since July 20, 1993, and the cumulative amount of each pollutant applied to the site since that date is known, the cumulative amount of each pollutant applied to the site shall be used to determine the additional amount of each pollutant that can be applied to the site such that the loading rates in Paragraph 2c are not exceeded.

      iv. If bulk sewage sludge subject to the cumulative pollutant loading rates has been applied to the site since July 20, 1993, and the cumulative amount of each pollutant applied to the site since