

AUTHORIZATION TO DISCHARGE UNDER THE
RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of Chapter 46-12 of the Rhode Island General Laws, as amended, the

The Town of East Greenwich
111 Peirce Street
P.O. Box 111
East Greenwich, Rhode Island 02818

is authorized to discharge from a facility located at the

East Greenwich Wastewater Treatment Facility
Crompton Avenue
East Greenwich, Rhode Island 02818

to receiving waters named

Greenwich Cove

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


This permit shall become effective on November 1, 2011.

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

This permit supersedes the permit issued on May 26, 2006.

This permit consists of 23 pages in Part I including effluent limitations, monitoring requirements, etc. and 10 pages in Part II including General Conditions.

Signed this 28th day of September, 2011.



Angelo S. Liberti, P.E., Chief of Surface Water Protection
Office of Water Resources
Rhode Island Department of Environmental Management
Providence, Rhode Island

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number 001A. (final discharge after ultraviolet disinfection)

Such discharges shall be limited and monitored by the permittee as specified below:

| <u>Effluent Characteristic</u> | <u>Discharge Limitations</u> | | | | | <u>Monitoring Requirement</u> | |
|--|------------------------------|----------------------|---|--|---|-------------------------------|--------------------|
| | <u>Quantity - lbs./day</u> | | <u>Concentration - specify units</u> | | | <u>Measurement Frequency</u> | <u>Sample Type</u> |
| | <u>Average Monthly</u> | <u>Maximum Daily</u> | <u>Average Monthly</u> <i>*(Minimum)</i> | <u>Average Weekly</u> <i>*(Average)</i> | <u>Maximum Daily</u> <i>*(Maximum)</i> | | |
| Flow | 1.70 MGD | --- | | | | Continuous | Recorder |
| BOD ₅ (October 1 – May 31) | 310 lbs./day | 517 lbs./day | 30 mg/l | 45 mg/l | 50 mg/l | 3/Week | 24-Hr. Comp. |
| BOD ₅ (June 1 – September 30) | 155 lbs./day | 259 lbs./day | 15 mg/l | 20 mg/l | 25 mg/l | 3/Week | 24-Hr. Comp. |
| BOD ₅ - % Removal | | | 85% | | | 1/Month | Calculated |
| TSS (October 1 – May 31) | 310 lbs./day | 517 lbs./day | 30 mg/l | 45 mg/l | 50 mg/l | 3/Week | 24-Hr. Comp. |
| TSS (June 1 – September 30) | 155 lbs./day | 259 lbs./day | 15 mg/l | 20 mg/l | 25 mg/l | 3/Week | 24-Hr. Comp. |
| TSS - % Removal | | | 85% | | | 1/Month | Calculated |
| Settleable Solids | | | | --- ml/l | --- ml/l | 1/Day | Grab |

--- Signifies a parameter which must be monitored and data must be reported; no limit has been established at this time.

Sampling for BOD₅ and TSS shall be performed on the influent and effluent Tuesday, Thursday, and Saturday with appropriate allowances for hydraulic detention (flow-through) time. Sampling for Flow and Settleable Solids shall be performed Sunday-Saturday.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: Outfall 001A (final discharge after UV disinfection).

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number 001A. (final discharge after ultraviolet disinfection)

Such discharges shall be limited and monitored by the permittee as specified below:

| <u>Effluent Characteristic</u> | <u>Discharge Limitations</u> | | | | | <u>Monitoring Requirement</u> | |
|--------------------------------|------------------------------|----------------------|---|--|---|-------------------------------|--------------------|
| | <u>Quantity - lbs./day</u> | | <u>Concentration - specify units</u> | | | <u>Measurement Frequency</u> | <u>Sample Type</u> |
| | <u>Average Monthly</u> | <u>Maximum Daily</u> | <u>Average Monthly</u> *(<u>Minimum</u>) | <u>Average Weekly</u> *(<u>Average</u>) | <u>Maximum Daily</u> *(<u>Maximum</u>) | | |
| Enterococci | | | 35 cfu ¹ 100 ml | | 276 cfu ¹ 100 ml | 3/Week | Grab |
| Fecal Coliform | | | --- MPN ¹ 100 ml | | --- MPN ¹ 100 ml | 3/Week | Grab |
| UV Intensity ² | | | (--- mW/cm ²) | (--- mW/cm ²) | (--- mW/cm ²) | Continuous | Recorder |
| UV Transmittance ² | | | (--- %) | (--- %) | (---%) | Continuous | Recorder |
| UV Dosage ² | | | (--- mW-s/cm ²) ³ | (--- mW-s/cm ²) ³ | (--- mW-s/cm ²) ³ | Continuous | Recorder |
| pH | | | (6.0 SU) | | (9.0 SU) | 2/Day | Grab |

--- Signifies a parameter which must be monitored and data must be reported; no limit has been established at this time.

¹Two (2) of the three (3) Enterococci samples are to be taken on Tuesday and Thursday. The Fecal Coliform samples shall be taken at the same time as the Enterococci samples. The Geometric Mean shall be used to obtain the "monthly average".

²UV intensity, Transmittance, and Dosage readings shall be recorded continuously to provide a record that proper disinfection was achieved at all times.

³UV Dosage is defined as the UV Intensity (mW/cm²) multiplied by the Exposure Time(s).

*Values in parentheses () are to be reported as Minimum/Average/Maximum for the reporting period rather than Average Monthly / Average Weekly / Maximum Daily.

Sampling for pH, UV Intensity, UV Transmittance, and UV Dosage shall be performed Sunday – Saturday.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: Outfall 001A (final discharge after UV disinfection).

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

3. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number 001A. (final discharge after ultraviolet disinfection)

Such discharges shall be limited and monitored by the permittee as specified below:

| <u>Effluent Characteristic</u> | <u>Discharge Limitations</u> | | | | | <u>Monitoring Requirement</u> | |
|--------------------------------|------------------------------|----------------------|--------------------------------------|-------------------------------------|------------------------------------|-------------------------------|--------------------|
| | <u>Quantity - lbs./day</u> | | <u>Concentration - specify units</u> | | | <u>Measurement Frequency</u> | <u>Sample Type</u> |
| | <u>Average Monthly</u> | <u>Maximum Daily</u> | <u>Average Monthly</u> *(Minimum) | <u>Average Weekly</u> *(Average) | <u>Maximum Daily</u> *(Maximum) | | |
| Copper, Total ¹ | | | 48.0 ug/L | | 89.0 ug/L | 1/Quarter | 24-Hr. Comp. |
| Cyanide ² | | | --- ug/l | | --- ug/l | 1/Quarter | 24-Hr. Comp. |
| Cadmium, Total ² | | | --- ug/l | | --- ug/l | 1/Quarter | 24-Hr. Comp. |
| Chromium, Total ² | | | --- ug/l | | --- ug/l | 1/Quarter | 24-Hr. Comp. |
| Lead, Total ² | | | --- ug/l | | --- ug/l | 1/Quarter | 24-Hr. Comp. |
| Zinc, Total ² | | | --- ug/l | | --- ug/l | 1/Quarter | 24-Hr. Comp. |
| Nickel, Total ² | | | --- ug/l | | --- ug/l | 1/Quarter | 24-Hr. Comp. |
| Aluminum, Total ² | | | --- ug/l | | --- ug/l | 1/Quarter | 24-Hr. Comp. |

--- Signifies a parameter which must be monitored and data must be reported; no limit has been established at this time.

¹Copper compliance may be evaluated in using Copper monitoring data obtained in conjunction with bioassay testing.

²Monitoring data may be obtained in conjunction with bioassay testing.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: Outfall 001A (final discharge after UV disinfection).

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

4. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number 001A. (final discharge after ultraviolet disinfection)

Such discharges shall be monitored by the permittee as specified below:

| <u>Effluent Characteristic</u> | <u>Discharge Limitations</u> | | | | | <u>Monitoring Requirement</u> | |
|---|------------------------------|----------------------|-------------------------------|-----------------------|----------------------|-------------------------------|----------------------|
| | Quantity - lbs. per day | | Concentration - specify units | | | <u>Measurement Frequency</u> | <u>Sample Type</u> |
| | <u>Average Monthly</u> | <u>Maximum Daily</u> | <u>Average Monthly</u> | <u>Average Weekly</u> | <u>Maximum Daily</u> | | |
| Oil and Grease | | | | | --- mg/l | 1/Month | 3 Grabs ¹ |
| Nitrogen, Total (TKN + NO ₂ -N, +NO ₃ -N) [November 1 – April 30] | --- lbs./day | | --- mg/l | | ---mg/l | 2/Month | Calculated |
| Nitrogen, Total (TKN + NO ₂ -N, +NO ₃ -N) [May 1 – October 31] | 71 lbs./day | | 5.0 mg/l | | ---mg/l | 1/Week | Calculated |
| TKN [November 1 – April 30] | | | --- mg/l | | --- mg/l | 2/Month | 24-Hr. Comp. |
| TKN [May 1 – October 31] | | | --- mg/l | | --- mg/l | 1/ Week | 24-Hr. Comp. |
| Nitrite, Total (as N) [Nov 1 – April 30] | | | --- mg/l | | --- mg/l | 2/Month | 24-Hr. Comp. |
| Nitrite, Total (as N) [May 1 – Oct 31] | | | --- mg/l | | --- mg/l | 1/ Week | 24-Hr. Comp. |
| Nitrate, Total (as N) [Nov 1 – April 30] | | | --- mg/l | | --- mg/l | 2/Month | 24-Hr. Comp. |
| Nitrate, Total (as N) [May 1 – Oct 31] | | | --- mg/l | | --- mg/l | 1/ Week | 24-Hr. Comp. |

¹Three (3) grab samples shall be equally spaced over the course of one (1) eight (8) hour shift with a minimum of three (3) hours between grabs. Each grab sample must be analyzed individually and the maximum values reported.

--- signifies a parameter which must be monitored and data must be reported; no limit has been established at this time.

Samples taken in compliance with the monitoring requirements specified above shall be taken Monday through Friday at the following locations: Outfall 001A (final discharge after UV disinfection).

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

5. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number 001A. (final discharge after ultraviolet disinfection)

Such discharges shall be monitored by the permittee as specified below:

| <u>Effluent Characteristic</u> | <u>Discharge Limitations</u> | | | | | <u>Monitoring Requirement</u> | |
|--|--------------------------------|----------------------|--------------------------------------|-----------------------|----------------------|-------------------------------|--------------------|
| | <u>Quantity - lbs. per day</u> | | <u>Concentration - specify units</u> | | | <u>Measurement Frequency</u> | <u>Sample Type</u> |
| | <u>Average Monthly</u> | <u>Maximum Daily</u> | <u>Average Monthly</u> | <u>Average Weekly</u> | <u>Maximum Daily</u> | | |
| <u>Mysidopsis bahia</u> LC50 ¹ | | | | | ≥ 100% ² | 1/Quarter ⁴ | 24-Hr. Comp. |
| <u>Arbacia punctulata</u> C-NOEC ³ | | | | | --- % | 1/Quarter ⁴ | 24-Hr. Comp. |

¹LC₅₀ is defined as the concentration of wastewater that causes mortality to 50% of the test organisms

²The 100% or greater limit is defined as a sample which is composed of 100% effluent.

³C-NOEC is defined as the highest concentration of toxicant or effluent at which no adverse effects are observed.

⁴Samples shall be taken Monday-Friday.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations: Outfall 001A (in accordance with Part I.B. of the permit).

6.
 - a. The pH of the effluent shall not be less than 6.0 nor greater than 9.0 standard units at any time, unless these values are exceeded due to natural causes or as a result of the approved treatment processes.
 - b. The discharge shall not cause visible discoloration of the receiving waters.
 - c. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
 - d. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and 5-day biochemical oxygen demand. The percent removal shall be based on monthly average values.
 - e. When the effluent discharged for a period of ninety (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.
 - f. The permittee shall analyze its effluent annually for the EPA Priority Pollutants as listed in 40 CFR 122, Appendix D, Tables II and III. The results of these analyses shall be submitted to the Department of Environmental Management by January 15th of each year for the previous calendar year. All sampling and analysis shall be done in accordance with EPA Regulations, including 40 CFR, Part 136; grab and composite samples shall be taken as appropriate.
 - g. This permit serves as the State's Water Quality Certificate for the discharges described herein.
 - h. This permit authorizes the use of chlorine disinfection only for emergency purposes in accordance with the Bypass and Upset provisions from part II of the permit. Any emergency uses of chlorination shall be in accordance with the facility's Operation and Maintenance Manual and shall be reported on the cover letter to the DMRs. The chlorination usage reporting must include the reason why chlorine was used, the duration of its use, and any sampling/analytical data.

B. BIOMONITORING REQUIREMENTS AND INTERPRETATION OF RESULTS

1. General

Beginning on the effective date of the permit, the permittee shall perform four (4) chronic and four (4) acute toxicity tests per year on samples collected from discharge Outfall 001A. The permittee shall conduct the tests during dry weather periods (no rain within forty-eight (48) hours prior to or during sampling unless approved by RIDEM) according to the following test frequency and protocols. Chronic toxicity data shall be collected from Arbacia punctulata tests. Acute toxicity data shall be collected from the Mysidopsis bahia tests. Chronic and acute data shall be reported as outlined in Section 10. The State may require additional screening, range finding, definitive acute or chronic bioassays as deemed necessary based on the results of the initial bioassays required herein. Indications of toxicity could result in requiring a Toxicity Reduction Evaluation (TRE) to investigate the causes and to identify corrective actions necessary to eliminate or reduce toxicity to an acceptable level.

2. Test Frequency

On four (4) sampling events, (one (1) each calendar quarter) the permittee shall conduct toxicity tests on the two (2) species listed below. A total of four (4) acute toxicity tests on the first species and four (4) chronic toxicity tests on the second species are required each year. This requirement entails performing two-species testing as follows:

| <u>Species</u> | <u>Test Type</u> | <u>Frequency</u> |
|---------------------------------------|--|------------------|
| | Two Species Test (Four Times Annually) | |
| Mysids (<u>Mysidopsis bahia</u>) | Definitive 48-Hour Acute Static (LC ₅₀) | Quarterly |
| <u>Arbacia punctulata</u> | Sea Urchin 1 Hour Test Fertilization Test (Chronic) | Quarterly |

3. Testing Methods

Chronic toxicity tests shall be conducted in accordance with protocols listed in the latest edition of Short Term Methods for Estimating the Chronic Acute Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms (EPA/600/4-87/028), incorporating any deviations from protocol listed herein, or additional methods, if approved by the Director of RIDEM.

Acute definitive toxicity tests shall be conducted in accordance with protocols listed in the EPA document: Cornelius I. Weber, et. al., 1991. Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, Fourth Edition (or the most recent edition), Office of Research and Development Cincinnati, OH (EPA-600/4-90-027), incorporating any deviations from protocol listed herein, or additional methods of approved by the Director of RIDEM.

4. Sample Collection

For each sampling event a twenty-four- (24) hour flow proportioned composite effluent sample shall be collected at a location just after ultraviolet disinfection during dry weather (no rain forty-eight (48) hours prior to or during sampling unless approved by RIDEM). This sample shall be kept cool (a 4°C) and testing shall begin within twenty-four (24) hours after the last sample of the composite is collected. In the laboratory, the sample will be split into two (2) subsamples, after thorough mixing, for the following:

- A: Chemical Analysis
- B: Acute Toxicity Testing

All samples held overnight shall be refrigerated at 4°C. Grab samples must be used for pH and temperature.

5. Salinity Adjustment

Prior to the initiation of testing, the effluent must be adjusted to make the salinity of the effluent equal to that of the marine dilution water. The test solution must be prepared by adding non-toxic dried ocean salts to a sufficient quantity of 100% effluent to raise the salinity to the desired level. After the addition of the dried salts, stir gently for thirty (30) to sixty (60) minutes, preferably with a magnetic stirrer, to ensure that the salts are in solution

It is important to check the final salinity with a refractometer or salinometer. Salinity adjustments following this procedure and in accordance with EPA protocol will ensure that the concentrations (% effluent) of each dilution are real and allow for an accurate evaluation with the $LC_{50} \geq 100\%$ effluent permit limit and Chronic monitoring requirements.

6. Dilution Water

Dilution water used for marine acute toxicity analysis should be of sufficient quality to meet minimum acceptability of test results (See Sections 7 and 8). For both species, natural seawater shall be used as the dilution water. This water shall be collected from Narragansett Bay off the dock at the URI's Graduate School of Oceanography on South Ferry Road, Narragansett. It is noted that the University claims no responsibility for the personal safety on this dock. The permittee shall observe the rules posted on the dock. If this natural seawater diluent is found to be, or suspected to be toxic or unreliable, an alternate source of natural seawater or, deionized water mixed with hypersaline brine or artificial sea salts of known quality with a salinity and pH similar to that of the receiving water may be substituted AFTER RECEIVING WRITTEN APPROVAL FROM RIDEM.

7. Effluent Toxicity Test Conditions for Mysids¹
(Mysidopsis bahia)

| | | |
|----|---|---|
| a. | Test Type | 48-Hour Static Acute Definitive |
| b. | Salinity | 25 ppt \pm 10% for all dilutions |
| c. | Temperature (C) | 25 ^o \pm 1 ^o C |
| d. | Light Quality | Ambient laboratory illumination |
| e. | Photoperiod | 8-16 Hour Light / 24-Hour |
| f. | Test Chamber Size | 250 ml |
| g. | Test Solution Volume | 200 ml |
| h. | Age of Organisms | 1 – 5 Days |
| i. | No. Mysids Per Test Chamber | 10 |
| j. | No. of Replicate Test Chamber Per Concentration | 2 |
| k. | Total No. Mysids Per Test Concentration | 20 |
| l. | Feeding Regime | Light feeding (two (2) drops concentrated brine shrimp nauplii, approx. 100 nauplii per mysid twice daily). |

¹ Adapted from EPA/600/4-90/027

| | | |
|----|--|---|
| m. | Aeration | None, unless dissolved oxygen concentration falls below 40% of saturation at which time gentle single-bubble aeration should be started |
| n. | Dilution Water | Narragansett Bay water as discussed above |
| o. | Dilutions | Five (5) dilutions plus a control: 100%, 50%, 25%, 12.5%, 6.25% and 0% effluent. |
| p. | Effect Measured and Test | Mortality- no movement of body test duration or appendages on gentle prodding, 48-hour LC50 and NOAEL. |
| q. | Test Acceptability | 90% or greater survival of test organisms in control solution. |
| r. | Sampling Requirements | Samples are collected and used within 24 hours after the last sample of the composite is collected. |
| s. | Sample Volume Required | Minimum four (4) liters |
| 8. | Effluent Toxicity Conditions for <u>Arbacia punctulata</u> Fertilization Test [†] | |
| a. | Test Type | Static |
| b. | Salinity | 30 0/00 ± 2 0/00 |
| c. | Temperature (C) | 20° ± 1°C |
| d. | Light Quality | Ambient laboratory light during test preparation. |
| e. | Light Intensity | 10-20 uE/m ² /s, or 50-100 ft-c (Ambient Laboratory Levels). |
| f. | Test Vessel Size | Disposable (glass) liquid scintillation vials (20 ml capacity), not pre-cleaned |
| g. | Test Solution Volume | 5 ml |
| h. | Number of Sea Urchins | Pooled sperm from four (4) males and pooled eggs from four (4) females are used per test. |
| i. | Number of Egg and Sperm Cells Per Chamber | About 2,000 eggs and 5,000,000 sperm cells per vial. |

[†] Adapted from EPA/600/4-87/028

- j. No. of Replicate Chambers Per Concentration 4 (Minimum of 3)
- k. Dilution Water Narragansett Bay water as discussed above.
- l. Dilution Factor Approximately 0.5
- m. Test Duration 1 Hour and 20 Minutes
- n. Effects Measured Fertilization of sea urchin eggs.
- o. Number of Treatments Per Test Minimum of five (5) effluent concentrations and a control. An additional dilution at the permitted effluent concentration (% effluent) is required.
- p. Acceptability of Test Results Recommended sperm: egg ratio should result in fertilization of a minimum of 70% of the eggs in the control chambers.
- q. Sample Volume Required Minimum 2 liters

9. Chemical Analysis

The following chemical analysis shall be performed for every two-specie sampling event.

| <u>Paramteter</u> | <u>Effluent</u> | <u>Saline Diluent</u> | <u>Detection Limit (mg/l)</u> |
|-----------------------------------|-----------------|-----------------------|-------------------------------|
| PH | X | X | — |
| Specific Conductance | X | X | — |
| Total Solids and Suspended Solids | X | X | — |
| Ammonia | X | X | 0.1 |
| Total Organic Carbon | X | | 0.5 |
| Cyanide | X | | 0.01 |
| Total Phenols | X | | 0.05 |
| Salinity | X | X | PPT (0/00) |

During the first, second, and fourth calendar quarter bioassay sampling events the following chemical analyses shall be performed:

| <u>Total Metals</u> | <u>Effluent</u> | <u>Saline Diluent</u> | <u>Detection Limit (ug/l)</u> |
|---------------------|-----------------|-----------------------|-------------------------------|
| Cadmium | X | X | 1.0 ug/L |
| Chromium | X | X | 5.0 ug/L |
| Copper | X | X | 1.0 ug/L |
| Lead | X | X | 3.0 ug/L |
| Zinc | X | X | 20.0 ug/L |
| Nickel | X | X | 10.0 ug/L |
| Aluminum | X | X | 20.0 ug/L |

The above analyses may be used to fulfill, in part or in whole, monitoring requirements in the permit for these specific metals.

During the third calendar quarter bioassay sampling event, the final effluent sample collected during the same twenty-four (24) hour period as the bioassay sample, shall be analyzed for priority pollutants (as listed in Tables II and III of Appendix D of 40 CFR 122). The bioassay priority pollutant scan shall be a full scan and may be coordinated with other permit conditions to fulfill any priority pollutant scan requirements.

10. Toxicity Test Report Elements

A report of results will include the following:

- Description of sample collection procedures and site description.
- Names of individuals collecting and transporting samples, times, and dates of sample collection and analysis.
- General description of tests: age of test organisms, origin, dates and results of standard toxicant tests (quality assurance); light and temperature regime; dilution water description; other information on test conditions if different than procedures recommended.
- The method used to adjust the salinity of the effluent must be reported.
- All chemical and physical data generated (including detection limits).
- Raw data and bench sheets.
- Any other observations or test conditions affecting test outcome.

Toxicity test data shall include the following:

Acute

- Survival for each concentration and replication at time twenty-four (24) and forty-eight (48) hours.
- LC₅₀ and 95% confidence limits shall be calculated using one of the following methods in order of preference: Probit, Trimmed Spearman Karber, Moving Average Angle, or the graphical method. All printouts (along with the name of the program, the date, and the author(s)) and graphical displays must be submitted. When data is analyzed by hand, worksheets should be submitted. The report shall

also include the No Observed Acute Effect Level (NOAEL) which is defined as the highest concentration of the effluent (in % effluent) in which 90% or more of the test animals survive.

- The Probit, Trimmed Spearman Karber, Moving Average Angle methods of analyses can only be used when mortality of some of the test organisms are observed in at least two (2) of the (percent effluent) concentrations tested (i.e., partial mortality). If a test results in a 100% survival and 100% mortality in adjacent treatments ("all or nothing" effect), an LC₅₀ may be estimated using the graphical method.

Chronic

- The endpoints of toxicity tests using sea urchin are based on the reduction in percent of eggs fertilized. Chronic test data shall undergo hypothesis testing to determine if the distribution of results is normal using the Shapiro-Wilks test. The variance must also be tested for homogeneity using Bartlett's Test. Then the endpoint estimates, NOEC and LOEC must be determined using Dunnett's Procedure, Bonferroni's T-Test, Steel's Many-One Rank Test, or Wilcoxon Rank Sum Test. The choice of test depends on the number of replicates and whether the variance is homogeneous or not. See EPA/600/4-87/028 for details. (All printouts and graphical displays must be submitted along with the name of the program, the date, and the authors (s). When data is analyzed by hand, the worksheets should be submitted.)
- C-NOEC: Chronic No Observed Effect Concentration
- LOEC: Lowest Observed Effect Concentration
- MATC: Maximum Allowable Toxicant Concentration

11. Special Condition

Due to the fact that the suggested dilution water for this facility to use in conducting the bioassays is from the end of the dock at the URI's Narragansett Bay Campus, a Letter of Agreement must be signed and submitted to the Graduate School of Oceanography. Requests to use another source of dilution water will have to be approved by the Department of Environmental Management, Division of Water Resources.

12. Reporting of Bioassay Testing

Bioassay Testing shall be reported as follows:

| <u>Quarter Testing To be Performed</u> | <u>Report Due No Later Than</u> | <u>Results Submitted on DMR for</u> |
|--|-------------------------------------|---|
| January 1 – March 31 | April 15 | March |
| April 1 – June 30 | July 15 | June |
| July 1 – September 30 | October 15 | September |
| October 1 – December 31 | January 15 | December |

Bioassay testing following the protocol described herein shall commence during the fourth quarter (October–December) of 2011, and the first report shall be submitted to RIDEM no later than January 15, 2012.

A signed copy of these, and all other reports required herein, shall be submitted to:

RIPDES Program
Rhode Island Department of Environmental Management
235 Promenade Street
Providence, Rhode Island 02908-5767

C. INDUSTRIAL PRETREATMENT PROGRAM

1. Definitions

For the purpose of this permit, the following definitions apply.

- a. 40 CFR 403 and sections thereof refer to the General Pretreatment regulations, 40 CFR Part 403 as revised July 17, 1997.
- b. **Categorical Pretreatment Standards** mean any regulation containing pollutant discharge limits promulgated by the USEPA in accordance with section 307(b) and (c) of the Clean Water Act(33 USC 1251), as amended, which apply to a specific category of industrial users and which appears in 40 CFR Chapter 1, subchapter N.
- c. **Pretreatment Standards** include all specific prohibitions and prohibitive discharge limits established pursuant to 40 CFR 403.5, including but not limited to, local limits, and the Categorical Pretreatment Standards.
- d. **Regulated Pollutants** shall include those pollutants contained in applicable categorical standards and any other pollutants listed in the Pretreatment Standards which have reasonable potential to be present in an industrial users effluent.

2. Implementation

The authority and procedures of the Industrial Pretreatment Program shall at all times be fully and effectively exercised and implemented, in compliance with the requirements of this permit and in accordance with the legal authorities, policies, procedures and financial provisions described in the permittee's approved Pretreatment Program and Sewer Use Ordinance, the Rhode Island Pretreatment Regulations and the General Pretreatment Regulations 40 CFR 403. The permittee shall maintain adequate resource levels to accomplish the objectives of the Pretreatment Program.

3. Local Limits

Pollutants introduced into POTWs by a non-domestic source (user) shall not: pass through the POTW, interfere with the operation or performance of the works, contaminate sludge as to adversely effect disposal options, or adversely effect worker safety and health.

At the time of renewal of this permit and in accordance with 40 CFR 122.21(j)(4) as revised July 24, 1990, the permittee shall submit to the DEM with its permit renewal application a written technical evaluation of the need to revise local limits. The evaluation shall be based, at a minimum, on information obtained during the implementation of the permittee's approved local limits monitoring plan and procedures and current RIPDES

permit discharge limits, sludge disposal criteria, secondary treatment inhibition, and worker health and safety criteria.

4. Enforcement Response Plan (ERP)

The permittee has an approved Enforcement Response Plan (ERP) that meets the requirements of 40 CFR 403.8(f)(5). The permittee shall continue to implement the ERP at all times.

5. General

The permittee shall carry out inspection, surveillance, and monitoring procedures which will determine, independent of information supplied by the industrial user,

- a. whether the industrial user is in compliance with Pretreatment Standards. At a minimum, all significant industrial users shall be inspected and monitored for all regulated pollutants at the frequency established in the approved Industrial Pretreatment Program but in no case less than once per year (one (1) year being determined as the reporting year established in Part I.C.7 of this permit). In addition, these inspections, monitoring and surveillance activities must be conducted in accordance with EPA's Industrial User Inspection and Sampling Manual for POTW's, April 1994. All inspections, monitoring, and surveillance activities shall be performed, and have records maintained, with sufficient care to produce evidence admissible in enforcement proceedings or judicial actions. The permittee shall evaluate, at least every two years, whether each SIU requires a slug control plan. If a slug control plan is required, it must include, at a minimum, those elements contained in 40 CFR 403.8(f)(2)(v).
- b. The permittee shall reissue all necessary Industrial User (IU) control mechanisms within thirty (30) days of their expiration date. The permittee shall issue, within sixty (60) days after the determination that an IU is a Significant Industrial User (SIU), all SIU control mechanisms. All SIU control mechanisms must contain, at a minimum, those conditions stated in 40 CFR 403.8(f)(1)(iii). All control mechanisms must be mailed via Certified Mail, Return Receipt Requested. A complete bound copy of the control mechanism with the appropriate receipt must be kept as part of the Industrial User's permanent file. In addition, the permittee must develop a fact sheet describing the basis for the SIU's permit and retain this fact sheet as part of the SIU's permanent file.
- c. The permittee must identify each instance of noncompliance with any pretreatment standard and/or requirement and take a formal documented action for each instance of noncompliance. Copies of all such documentation must be maintained in the Industrial User's permanent file.
- d. The permittee shall prohibit Industrial Users from the dilution of a discharge as a substitute for adequate treatment in accordance with 40 CFR 403.6(d). The permittee shall comply with the procedures of 40 CFR 403.18 for instituting any modifications of the permittee's approved Pretreatment Program. Significant changes in the operation of a POTW's Approved Pretreatment Program must be submitted and approved following the procedures outlined in 40 CFR 403.18(b) and 403.9(b). However, the endorsement of local officials responsible for supervising and/or funding the pretreatment program required by 403.9(b)(2) will not be required until DEM completes a preliminary review of the submission.

The DEM will evaluate and review the permittee's initial proposal for a modification and provide written notification either granting preliminary approval of the proposed modifications or stating the deficiencies contained therein. DEM's written notification will also include a determination whether the submission constitutes a substantial or non-substantial program modification as defined by 40 CFR 403.18. Should DEM determine that a deficiency exists in the proposed modification, the permittee shall submit to DEM, within thirty (30) days of the receipt of said notice, a revised submission consistent with DEM's notice of deficiency.

Pretreatment program modifications which the permittee considers Non-substantial, shall be deemed to be approved within (90) days after submission of the request for modification, unless DEM determines that the modification is in fact a substantial modification or notifies the permittee of deficiencies. Upon receipt of notification that DEM has determined the modification is substantial, the permittee shall initiate the procedures and comply with the deadlines for substantial modifications, which are outlined below.

For substantial modifications, the permittee shall, within sixty (60) days (unless a longer time frame is granted) of the receipt of DEM's preliminary approval of the proposed modification, submit a statement (as required by 403.9(b)(2)) that any local public notification/participation procedures required by local law have been completed and upon approval by RIDEM, the local officials will endorse and/or approve the modification.

Within thirty (30) days of DEM's final approval of the proposed modification(s), the permittee shall implement the modification. Upon final approval by the DEM and adoption by the permittee, this modification(s) shall become part of the approved pretreatment program and shall be incorporated into this permit in accordance with 40CFR 122.63(g).

- e. All sampling and analysis required of the permittee, or by the permittee of any Industrial User, must be performed in accordance with the techniques described in 40 CFR 136.
- f. For those Industrial Users with discharges that are not subject to Categorical Pretreatment Standards, the permittee shall require appropriate reporting in accordance with 40 CFR 403.12(h).
- g. The permittee shall, in accordance with 40 CFR 403.12(f), require all Industrial Users to immediately notify the permittee of all discharges by the Industrial User that could cause problems to the POTW, including slug loadings, as defined by 40 CFR 403.5(b).
- h. The permittee shall require all Industrial Users to notify the permittee of substantial changes in discharge as specified in 40 CFR 403.12(j).
- i. The permittee shall require New Sources to install and have in operation all pollution control equipment required to meet applicable Pretreatment Standards before beginning to discharge. In addition, the permittee shall require New Sources to meet all applicable Pretreatment Standards within the shortest feasible time which shall not exceed ninety (90) days in accordance with 40 CFR 403.6(b).
- j. The permittee shall require all Industrial Users who are required to sample their y

effluent and report the results of analysis to the POTW to comply with signator requirements contained in 40 CFR 403.12(l) when submitting such reports.

- k. The permittee shall determine, based on the criteria set forth in 40 CFR 403.8(f)(2)(vii), using the EPA method of "rolling quarters", the compliance status of each Industrial User. Any Industrial User determined to meet Significant Non-Compliance (SNC) criteria shall be included in an annual public notification as specified in 40 CFR 403.8(f)(2)(vii).
- l. The permittee shall require Industrial Users to comply with the notification and certification requirements of 40 CFR 403.12(p)(1), (3) and (4) pertaining to the discharge of substances to the POTW, which if disposed of otherwise, would be a hazardous waste under 40 CFR Part 261.
- m. The permittee shall continue to designate, as SIUs, those Industrial Users (IUs) which meet the definition contained in the permittee's sewer use ordinance. The permittee shall notify each newly designated SIU of its classification as an SIU within thirty (30) days of identification and shall inform the SIU of the requirements of an SIU contained in 40 CFR 403.12.

6. Categorical Industrial Users (CIUs)

- a. The permittee shall require Industrial Users to comply with applicable Categorical Pretreatment Standards in addition to all applicable Pretreatment Standards and Requirements. The permittee shall require of all Categorical Industrial Users (CIUs), all reports on compliance with applicable Categorical Pretreatment Standards and Categorical Pretreatment Standard deadlines as specified in and in accordance with Sections (b), (d), (e) and (g) of 40 CFR 403.12. In addition, the permittee shall require Categorical Industrial Users to comply with the report Permit signatory requirements contained in 40 CFR 403.12(1) when submitting such reports.
- b. If the permittee applies the Combined Wastestream Formula (CWF) to develop fixed alternative discharge limits of Categorical Pretreatment Standards, the application of the CWF and the enforcement of the resulting limits must comply with 40 CFR 403.6(e). The permittee must document all calculations within the control mechanism fact sheet and the resulting limits within the CIU's control mechanism. The permittee must ensure that the most stringent limit is applied to the CIU's effluent at end-of-pipe based upon a comparison of the resulting CWF limits and the permittee's local limits.
- c. If the permittee has or obtains the authority to apply and enforce equivalent mass-per-day and/or concentration limitations of production-based Categorical Pretreatment Standards, then the permittee shall calculate and enforce the limits in accordance with 40 CFR 403.6(c). The permittee must document all calculations within the control mechanism fact sheet and the resulting limits within the CIU's control mechanism.

7. Annual Report

The annual report for the permittee's program shall contain information pertaining to the reporting year which shall extend from April 1st through March 31st and shall be submitted to the DEM by May 15th. Each item below must be addressed separately and any items which are not applicable must be so indicated. If any item is deemed not

applicable a brief explanation must be provided. The annual report shall include the following information pertaining to the reporting year:

- a. A listing of Industrial Users which complies with requirements stated in 40 CFR 403.12(i)(1). The list shall identify all Categorical Industrial Users, Significant Industrial Users and any other categories of users established by the permittee;
- b. A summary list, including dates, of any notifications received by the permittee of any substantial change in the volume or character of pollutants being introduced into the POTW by new or existing IUs. If applicable, an evaluation of the quality and quantity of influent introduced into the POTW and any anticipated impact due to the changed discharge on the quantity or quality of effluent to be discharged from the POTW shall be included;
- c. A summary list of the Compliance status of each Industrial User (IU), as of the end of last quarter covered by the annual report. The list shall identify all IUs in non-compliance, the pretreatment program requirement which the IU failed to meet, and the type, and date of the enforcement action initiated by the permittee in response to the violation. If applicable, the list shall also contain the date which IUs in non-compliance returned to compliance, a description of corrective actions ordered, and the penalties levied.
- d. A list of industries which were determined, in accordance with Part I.C.5.(l) of this permit, to be in significant non-compliance required to be published in a local newspaper and a copy of an affidavit of publication, from the newspaper, averring that the names of these violators has been published;
- e. A summary list of inspection and monitoring activity performed by the permittee, including:
 - significant industrial users inspected by the POTW (include inspection dates for each industrial user);
 - significant industrial user sampled by the POTW (include sampling dates and dates of analysis, for each industrial user);
- f. A summary list of permit issuance/reissuance activities including the name of the industrial user, expiration date of previous permit, issuance date of new permit, and a brief description of any changes to the permit;
A list including the report/notification type, due date, and receipt date for each report/notification required by 40 CFR 403.12.
- g. A summary of public participation efforts including meetings and workshops held with the public and/or industry and notices/newsletters/bulletins published and/or distributed;
- h. A program evaluation in terms of program effectiveness, local limits application and resources which addresses but is not limited to:
 - A description of actions being taken to reduce the incidence of SNC by Industrial Users;
 - effectiveness of enforcement response program;
 - sufficiency of funding and staffing;
 - sufficiency of the SUO, Rules and Regulations, and/or statutory authority;
- i. An evaluation of recent/proposed program modifications, both substantial and non-substantial, in terms of the modification type, implementation and actual/

expected effect (note proposed modifications must be submitted under separate cover along with the information required by 40 CFR 403.18);

- j. A detailed description of all interference and pass-through that occurred during the past year and, if applicable;
 - A thorough description of all investigations into interference and pass-through during the past year;
 - A description of the monitoring, sewer inspections and evaluations which were done during the past year to detect interference and pass-through, specifying pollutants analyzed and frequencies;
- k. A summary of the average, maximum concentration, minimum concentration, and number of data points used for pollutant analytical results for influent, effluent, sludge and any toxicity or bioassay data from the wastewater treatment facility. The summary shall include a comparison of influent sampling results versus the maximum allowable headworks loadings contained in the approved local limits evaluation and effluent sampling results versus water quality standards. Such a comparison shall be based on the analytical results required in Parts I.A and I.C. of this permit and any additional sampling data available to the permittee; and
- l. A completed annual pretreatment annual report summary sheet form (Attachment A-1 contains a copy of the form, this form MUST be used).

8. Sewer Use Ordinance

The permittee has an approved Sewer Use Ordinance (SUO) that shall be implemented at all times. If the permittee submits to the DEM a request for a pretreatment program modification in accordance with 40 CFR 403.18 and Part C.5.e of this permit, a draft SUO amendment shall be submitted to DEM if applicable to the associated modification. Within thirty (30) following final approval of the SUO and modification by the DEM, the permittee shall commence implementation of the SUO and modification.

D. OPERATIONS 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:

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. Bypasses

The permittee shall operate and improve the sewer system to minimize the discharge of pollutants from bypasses.

E. SLUDGE

The permittee shall conform and adhere to all conditions, practices and regulations as contained in the State of Rhode Island Rules and Regulations Pertaining to the Treatment, Disposal Utilization and Transportation of Wastewater Treatment Facility Sludge. The permittee shall comply with its RIDEM Order of Approval for the disposal of sludge.

F. DETECTION LIMITS

The permittee shall assure that all wastewater testing required by this permit, is performed in conformance with the method detection limits listed below. All sludge testing required by this permit shall be in conformance with the method detection limits found in 40 CFR 503.8. In accordance with 40 CFR Part 136, EPA approved analysis techniques, quality assurance procedures and quality control procedures shall be followed for all reports required to be submitted under the RIPDES program. These procedures are described in "Methods for the Determination of Metals in Environmental Samples" (EPA/600/4-91/010) and "Methods for Chemical Analysis of Water and Wastes" (EPA/600/4-79/020).

The report entitled "Methods for the Determination of Metals in Environmental Samples" includes a test which must be performed in order to determine if matrix interferences are present, and a series of tests to enable reporting of sample results when interferences are identified. Each step of the series of tests becomes increasingly complex, concluding with the complete Method of Standard Additions analysis. The analysis need not continue once a result which meets the applicable quality control requirements has been obtained. Documentation of all steps conducted to identify and account for matrix interferences shall be submitted along with the monitoring reports.

If, after conducting the complete Method of Standard Additions analysis, the laboratory is unable to determine a valid result, the laboratory shall report "could not be analyzed". Documentation supporting this claim shall be submitted along with the monitoring report. If valid analytical results are repeatedly unobtainable, DEM may require that the permittee determine a method detection limit (MDL) for their effluent or sludge as outlined in 40 CFR Part 136, Appendix B.

Therefore, all sample results shall be reported as: an actual value, "could not be analyzed", less than the reagent water MDL, or less than an effluent or sludge specific MDL. The effluent or sludge specific MDL must be calculated using the methods outlined in 40 CFR Part 136, Appendix B. Samples which have been diluted to ensure that the sample concentration will be within the linear dynamic range shall not be diluted to the extent that the analyte is not detected. If this should occur the analysis shall be repeated using a lower degree of dilution.

When calculating sample averages for reporting on discharge monitoring reports (DMRs):

1. "could not be analyzed" data shall be excluded, and shall not be considered as failure to comply with the permit sampling requirements;
2. results reported as less than the MDL shall be included as zeros.

LIST OF TOXIC POLLUTANTS

The following list of toxic pollutants has been designated pursuant to Section 307(a)(1) of the Clean Water Act. The Method Detection Limits (MDLs) represent the required Rhode Island MDLs

| Volatiles - EPA Method 624 | | MDL ug/l (ppb) | 17P | heptachlor epoxide | 0.040 |
|--|----------------------------|-----------------------|--------------------------------------|--|-------|
| 1V | acrolein | 10.0 | Pesticides - EPA Method 608 | | |
| 2V | acrylonitrile | 5.0 | 18P | PCB-1242 | 0.289 |
| 3V | benzene | 1.0 | 19P | PCB-1254 | 0.298 |
| 5V | bromoform | 1.0 | 20P | PCB-1221 | 0.723 |
| 6V | carbon tetrachloride | 1.0 | 21P | PCB-1232 | 0.387 |
| 7V | chlorobenzene | 1.0 | 22P | PCB-1248 | 0.283 |
| 8V | chlorodibromomethane | 1.0 | 23P | PCB-1260 | 0.222 |
| 9V | chloroethane | 1.0 | 24P | PCB-1016 | 0.494 |
| 10V | 2-chloroethylvinyl ether | 5.0 | 25P | toxaphene | 1.670 |
| 11V | chloroform | 1.0 | Base/Neutral - EPA Method 625 | | |
| 12V | dichlorobromomethane | 1.0 | 1B | acenaphthene * | 1.0 |
| 14V | 1,1-dichloroethane | 1.0 | 2B | acenaphthylene * | 1.0 |
| 15V | 1,2-dichloroethane | 1.0 | 3B | anthracene * | 1.0 |
| 16V | 1,1-dichloroethylene | 1.0 | 4B | benzidine | 4.0 |
| 17V | 1,2-dichloropropane | 1.0 | 5B | benzo(a)anthracene * | 2.0 |
| 18V | 1,3-dichloropropylene | 1.0 | 6B | benzo(a)pyrene * | 2.0 |
| 19V | ethylbenzene | 1.0 | 7B | 3,4-benzofluoranthene * | 1.0 |
| 20V | methyl bromide | 1.0 | 8B | benzo(ghi)perylene * | 2.0 |
| 21V | methyl chloride | 1.0 | 9B | benzo(k)fluoranthene * | 2.0 |
| 22V | methylene chloride | 1.0 | 10B | bis(2-chloroethoxy)methane | 2.0 |
| 23V | 1,1,2,2-tetrachloroethane | 1.0 | 11B | bis(2-chloroethyl)ether | 1.0 |
| 24V | tetrachloroethylene | 1.0 | 12B | bis(2-chloroisopropyl)ether | 1.0 |
| 25V | toluene | 1.0 | 13B | bis(2-ethylhexyl)phthalate | 1.0 |
| 26V | 1,2-trans-dichloroethylene | 1.0 | 14B | 4-bromophenyl phenyl ether | 1.0 |
| 27V | 1,1,1-trichloroethane | 1.0 | 15B | butylbenzyl phthalate | 1.0 |
| 28V | 1,1,2-trichloroethane | 1.0 | 16B | 2-chloronaphthalene | 1.0 |
| 29V | trichloroethylene | 1.0 | 17B | 4-chlorophenyl phenyl ether | 1.0 |
| 31V | vinyl chloride | 1.0 | 18B | chrysene * | 1.0 |
| Acid Compounds - EPA Method 625 | | MDL ug/l (ppb) | 19B | dibenzo (a,h)anthracene * | 2.0 |
| 1A | 2-chlorophenol | 1.0 | 20B | 1,2-dichlorobenzene | 1.0 |
| 2A | 2,4-dichlorophenol | 1.0 | 21B | 1,3-dichlorobenzene | 1.0 |
| 3A | 2,4-dimethylphenol | 1.0 | 22B | 1,4-dichlorobenzene | 1.0 |
| 4A | 4,6-dinitro-o-cresol | 1.0 | 23B | 3,3'-dichlorobenzidine | 2.0 |
| 5A | 2,4-dinitrophenol | 2.0 | 24B | diethyl phthalate | 1.0 |
| 6A | 2-nitrophenol | 1.0 | 25B | dimethyl phthalate | 1.0 |
| 7A | 4-nitrophenol | 1.0 | 26B | di-n-butyl phthalate | 1.0 |
| 8A | p-chloro-m-cresol | 2.0 | 27B | 2,4-dinitrotoluene | 2.0 |
| 9A | pentachlorophenol | 1.0 | 28B | 2,6-dinitrotoluene | 2.0 |
| 10A | phenol | 1.0 | 29B | di-n-octyl phthalate | 1.0 |
| 11A | 2,4,6-trichlorophenol | 1.0 | 30B | 1,2-diphenylhydrazine (as azobenzene) | 1.0 |
| Pesticides - EPA Method 608 | | MDL ug/l (ppb) | 31B | fluoranthene * | 1.0 |
| 1P | aldrin | 0.059 | 32B | fluorene * | 1.0 |
| 2P | alpha-BHC | 0.058 | 33B | hexachlorobenzene | 1.0 |
| 3P | beta-BHC | 0.043 | 34B | hexachlorobutadiene | 1.0 |
| 4P | gamma-BHC | 0.048 | 35B | hexachlorocyclopentadiene | 2.0 |
| 5P | delta-BHC | 0.034 | 36B | hexachloroethane | 1.0 |
| 6P | chlordane | 0.211 | 37B | indeno(1,2,3-cd)pyrene * | 2.0 |
| 7P | 4,4'-DDT | 0.251 | 38B | isophorone | 1.0 |
| 8P | 4,4'-DDE | 0.049 | 39B | naphthalene * | 1.0 |
| 9P | 4,4'-DDD | 0.139 | 40B | nitrobenzene | 1.0 |
| 10P | dieldrin | 0.082 | 41B | N-nitrosodimethylamine | 1.0 |
| 11P | alpha-endosulfan | 0.031 | 42B | N-nitrosodi-n-propylamine | 1.0 |
| 12P | beta-endosulfan | 0.036 | 43B | N-nitrosodiphenylamine | 1.0 |
| 13P | endosulfan sulfate | 0.109 | 44B | phenanthrene * | 1.0 |
| 14P | endrin | 0.050 | 45B | pyrene * | 1.0 |
| 15P | endrin aldehyde | 0.062 | 46B | 1,2,4-trichlorobenzene | 1.0 |
| 16P | heptachlor | 0.029 | | | |

OTHER TOXIC POLLUTANTS

| | MDL ug/l (ppb) |
|--------------------------------|----------------|
| Antimony, Total | 5.0 |
| Arsenic, Total | 5.0 |
| Beryllium, Total | 0.2 |
| Cadmium, Total | 1.0 |
| Chromium, Total | 5.0 |
| Chromium, Hexavalent | 20.0 |
| Copper, Total | 20.0 |
| Lead, Total | 3.0 |
| Mercury, Total | 0.5 |
| Nickel, Total | 10.0 |
| Selenium, Total | 5.0 |
| Silver, Total | 1.0 |
| Zinc, Total | 20.0 |
| Asbestos | ** |
| Cyanide, Total | 10.0 |
| Phenols, Total | 50.0 |
| TCDD | ** |
| MTBE (Methyl Tert Butyl Ether) | 1.0 |

* Polynuclear Aromatic Hydrocarbons

** No Rhode Island Department of Environmental Management (RIDEM) MDL

NOTE:

The MDL for a given analyte may vary with the type of sample. MDLs which are determined in reagent water may be lower than those determined in wastewater due to fewer matrix interferences. Wastewater is variable in composition and may therefore contain substances (interferents) that could affect MDLs for some analytes of interest. Variability in instrument performance can also lead to inconsistencies in determinations of MDLs.

To help verify the absence of matrix or chemical interference the analyst is required to complete specific quality control procedures. For the metals analyses listed above the analyst must withdraw from the sample two equal aliquots; to one aliquot add a known amount of analyte, and then dilute both to the same volume and analyze. The unspiked aliquot multiplied by the dilution factor should be compared to the original. Agreement of the results within 10% indicates the absence of interference. Comparison of the actual signal from the spiked aliquot to the expected response from the analyte in an aqueous standard should help confirm the finding from the dilution analysis. (Methods for Chemical Analysis of Water and Wastes EPA-600/4-79/020).

For Methods 624 and 625 the laboratory must on an ongoing basis, spike at least 5% of the samples from each sample site being monitored. For laboratories analyzing 1 to 20 samples per month, at least one spiked sample per month is required. The spike should be at the discharge permit limit or 1 to 5 times higher than the background concentration determined in Section 8.3.2, whichever concentration would be larger. (40 CFR Part 136 Appendix B Method 624 and 625 subparts 8.3.1 and 8.3.11).

G. MONITORING AND REPORTING

1. Monitoring

All monitoring required by this permit shall be done in accordance with sampling and analytical testing procedures specified in Federal Regulations (40 CFR Part 136).

2. Reporting

Monitoring results obtained during the previous month(s) shall be summarized and reported on Discharge Monitoring Report (DMR) Forms, postmarked no later than the 15th day of the month following the completed reporting period. A copy of the analytical laboratory report, specifying analytical methods used, shall be included with each report submission. The first report is due on December 15, 2011. Signed copies of these, and all other reports required herein, shall be submitted to:

RIPDES Program
Rhode Island Department of Environmental Management
235 Promenade Street
Providence, Rhode Island 02908

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
235 PROMENADE STREET
PROVIDENCE, RHODE ISLAND 02908-5767

FACT SHEET

RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM (RIPDES) PERMIT TO DISCHARGE TO WATERS OF THE STATE

RIPDES PERMIT NO. **RI0100030**

NAME AND ADDRESS OF APPLICANT:

The Town of East Greenwich
111 Peirce Street
P.O. Box 111
East Greenwich, Rhode Island 02818

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

East Greenwich Wastewater Treatment Facility
Crompton Avenue
East Greenwich, Rhode Island 02818

RECEIVING WATER: **Greenwich Cove**

CLASSIFICATION: **SB1**

I. **Proposed Action, Type of Facility, and Discharge Location**

The above-named applicant has applied to the Rhode Island Department of Environmental Management for reissuance of a RIPDES Permit to discharge into the designated receiving water. The facility is engaged in the treatment of domestic and industrial sewage. The discharge is from the East Greenwich Wastewater Treatment Facility's outfall.

II. **Description of Discharge**

A quantitative description of the discharge in terms of significant effluent parameters based on DMR data from January 2006 through December 2010 is shown on Attachment A-2

III. **Permit and Administrative Compliance Order Limitations and Conditions**

The final effluent limitations and monitoring requirements may be found in the permit.

IV. Permit Basis and Explanation of Effluent Limitation Derivation

The Town of East Greenwich owns and operates the East Greenwich Wastewater Treatment Facility (East Greenwich WWTF) located on Crompton Avenue East Greenwich, Rhode Island. The discharge to Greenwich Bay consists of treated sanitary and industrial wastewater. Treatment consists of:

| | |
|-------------------------------------|--------------------------|
| Coarse Screening | Nitrification |
| Primary Settling | Denitrification |
| Rotating Biological Contactors | Ultraviolet Disinfection |
| Secondary Flocculation and Settling | |

A diagram of the facility is included in Attachment A-3.

The requirements set forth in this permit are from the State's Water Quality Regulations and the State's Regulations for the Rhode Island Pollutant Discharge Elimination System (RIPDES Regulations), both filed pursuant to Chapter 46-12, as amended. RIDEM's primary authority over the permit comes from EPA's delegation of the program in September 1984 under the Federal Clean Water Act (CWA).

Development of RIPDES permit limitations is a multi-step process consisting of: determining if Federal effluent guidelines apply; calculation of allowable water quality-based discharge levels based on background data and available dilution; assigning appropriate Best Professional Judgment-based limits; comparing existing and proposed permit limits; comparing discharge data to proposed limits; and developing interim limits as appropriate. A brief description of these steps is presented below. For a more detailed presentation, the "East Greenwich Wastewater Treatment Facility Permit Development Document" is available upon request.

The "Average Monthly" and "Average Weekly" biochemical oxygen demand (BOD₅), and total suspended solids (TSS) limits for October 1-May 31, and the pH limitations are based upon the secondary treatment requirements in Section 301(b)(1)(B) of the Clean Water Act (CWA), as defined in 40 CFR 133.102 (a)-(c). Settleable solids and "Maximum Daily" BOD₅ and TSS limits are based on Rhode Island requirements for Publicly Owned Treatment Works (POTWs) under Rule 17.04(b) of the RIPDES Regulations and as provided in 40 CFR 123.25. The "Average Monthly", "Average Weekly", and "Maximum Daily" BOD and TSS limits for the months of June 1 – September 30 have been reduced to account for the additional treatment that will occur from the operation of the nutrient removal equipment during these months. The "Percent Removal" requirements for TSS and BOD₅ are in accordance with 40 CFR 133.102(a) and (b). Settleable Solids monitoring has been included as a process-control parameter that can aid in the assessment of the operation of the plant but need not have an effluent limit.

Oil & Grease monitoring has been included to ensure that the collection system will not experience blockages due to excessive levels of grease and to ensure that the WWTF will not experience inhibition.

The Rhode Island Water Quality Regulations include Enterococci criteria for primary contact/swimming of a geometric mean of 35 colonies/100 ml and a single sample maximum of 104 colonies/100 ml. The "single sample maximum" value is only used to evaluate beach swimming advisories. EPA's November 12, 2008 memorandum regarding "Initial Zones of Dilution for Bacteria in Rivers and Streams Designated for Primary Contact Recreation" clarifies that it is not appropriate to use dilution for bacteria criteria in receiving waters that are designated for primary contact recreation. Therefore, because the receiving water is designated for primary contact recreation, the DEM has assigned a monthly average Enterococci limit of 35 colonies/100 ml. The daily maximum enterococci limit has been set at the 90% upper confidence level value for "lightly used full body contact recreation" of 276 colonies/100 ml. The DEM has also assigned Fecal Coliform monitoring to ensure that the discharge from the WWTF will not have an impact on any areas designated for shellfish harvesting outside of the immediate vicinity of the outfall. To ensure that proper UV operation is being maintained, monitoring requirements for UV Intensity, Transmittance, and Dosage have been included in the permit.

In order to evaluate the need for water quality based limits, it is necessary to determine the mixing which occurs in the immediate vicinity of the wastewater discharge (initial dilution). In an effort to comply with water quality based limits, the Town of East Greenwich conducted an effluent dye study in October 1995 to determine the actual dilution factors. Similar studies have been conducted by other major RIPDES permittees, which discharge to marine waters. By using the results of this dye study and the United States Environmental Protection Agency's (EPA's) guidance document, entitled "Technical Support Document for Water Quality Based Toxics Control", the Rhode Island Department of Environmental Management (DEM) has determined that a monthly average (chronic) dilution factor of 40 and a daily maximum (acute) dilution factor of 20 are appropriate. The associated mixing zone radii were determined to be 80 meters (approximately 262 feet) and 11 meters (approximately 36 feet), respectively. A detailed document, outlining the development of the mixing zones, is available upon request.

Based on the above dilution factors and the saltwater aquatic life and non-class A human health criteria, from the Rhode Island Water Quality Regulations, allowable discharge concentrations were established using 80% allocation when no background data was available and 90% allocation when background data was available. Background data, for Cadmium, Chromium, Copper, Lead, Nickel, and Silver, was obtained from the four SINBADD cruises in Current Report #: NBP-89-22.

In accordance with 40 CFR Part 122.4(d)(1)(iii), water quality based effluent limitations are required for those pollutants in the discharge that have the reasonable potential to cause or contribute to the exceedance of instream criteria. In order to evaluate the need for permit limitations, allowable monthly average (chronic) discharge concentrations were compared to the monthly average Discharge Monitoring Report (DMR) data and the mean of the concentrations reported from the State User Fee Program (UFP) data. Additionally, the allowable daily maximum (acute) discharge concentrations were compared to the daily maximum DMR data and the maximum of the concentrations reported from the UFP data. Based on these comparisons, water quality limitations have been maintained for Total Copper because there were two instances of State User Fee Program data and DMR data approaching or exceeding 50% of the antidegradation limit for Copper of 48 ug/L. In addition, monitoring for Cyanide, Total Cadmium, Total Chromium, Total Lead, Total Zinc, Total Nickel, and Total Aluminum has been added to the permit as part of the quarterly toxicity testing requirements.

RIDEM's toxicity permitting policy is based on past toxicity data and the level of available dilution. The previous permit had an LC50 limit of 50% or greater due to toxicity caused by Fluoride in the WWTF's discharge. However, since the last permit was issued, ON Semiconductor, the source of the Fluoride, ceased its discharge into the WWTF. Since ON's discharge ceased, the WWTF has consistently demonstrated the ability to meet a LC50 limit of 100% or greater. Therefore, based upon past toxicity results and available dilution, the draft permit requires an LC₅₀ ≥ 100% effluent limit for quarterly acute tests conducted on Mysids only. At this time, chronic toxicity limits are not included based on the chronic dilution factor of 40:1, exceeding DEM's 20:1 dilution threshold used for assigning chronic toxicity limits. However, chronic toxicity monitoring is required and the WWTF must report the results of C-NOEC monitoring for Arbacia on a quarterly basis.

Nutrient monitoring and limitations have been maintained from the 2006 permit. Construction of the nitrification/denitrification unit processes was completed in April of 2006. The seasonal Nitrogen limit has been maintained at 5.0 mg/l for the months of May-October. These limits are based on an evaluation of the sources of Nitrogen to the Providence and Seekonk Rivers and Upper Narragansett Bay. These limits are necessary for the state to achieve the 50% reduction from the 1995-1996 Rhode Island WWTF loadings, consistent with the recommendations from the Governor's Narragansett Bay and Watershed Planning Commission and as required by RIGL 46-12-2(f). The DEM has developed a Nitrogen reduction plan for the Providence and Seekonk Rivers and Upper Narragansett Bay. Nitrogen limits are consistent with the permits that DEM has issued for other wastewater treatment facilities discharging into the Providence and Seekonk Rivers and Upper Narragansett Bay.

The permit contains requirements for the permittee to comply with the State's Sludge Regulations

and the RIDEM Order of Approval that was issued to the East Greenwich WWTF for sludge disposal in accordance with requirements of Section 405(d) of the Clean Water Act (CWA). Permits must contain sludge conditions requiring compliance with limits, State laws, and applicable regulations as per Section 405(d) of the CWA and 40 CFR 503. The RIDEM Sludge Order of Approval sets forth the conditions to ensure this compliance.

The permit contains a reporting requirement for a local program to regulate industrial discharges to the sewer system (referred to as pretreatment program). This program is being required under authority of Section 402 (b)(8) of the CWA and 40 CFR 122.44 (j) and 403.8 because the Town receives significant discharges of industrial wastewater.

The Office has determined that all permit limitations are consistent with the Rhode Island Anti-Degradation policy. Limitations were established to restrict the present and historic discharge and to ensure that the instream aquatic life criteria will be met. The East Greenwich Wastewater Treatment Facility Permit Development Document outlines the permit development in greater detail.

The remaining general and specific conditions of the permit are based on the RIPDES Regulations as well as 40 CFR Parts 122 through 125 and consist primarily of management requirements common to all permits.

V. Comment Period, Hearing Requests, and Procedures for Final Decisions

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to the Rhode Island Department of Environmental Management, Office of Water Resources, 235 Promenade Street, Providence, Rhode Island, 02908-5767. A public hearing will be held after a thirty (30) day public notice. In reaching a final decision on the draft permit the Director will respond to all significant comments and make these responses available to the public at DEM's Providence Office.

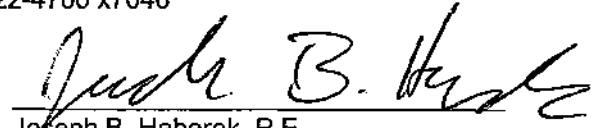
Following the close of the comment period, and after the public hearing, the Director will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within thirty (30) days following the notice of the final permit decision any interested person may submit a request for a formal hearing to reconsider or contest the final decision. Requests for formal hearings must satisfy the requirements of Rule 49 of the Regulations for the Rhode Island Pollutant Discharge Elimination System.

VI. **DEM Contact**

Additional information concerning the permit may be obtained between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday, excluding holidays from:

Samuel Kaplan, P.E.
RIPDES Program
Office of Water Resources
Department of Environmental Management
235 Promenade Street
Providence, Rhode Island 02908
Telephone: (401) 222-4700 x7046

8/8/11
Date


Joseph B. Haberek, P.E.
Principal Sanitary Engineer
RIPDES Permitting Section
Office of Water Resources
Department of Environmental Management

Attachment A-1 - EPA Region 1 Annual Pretreatment Report Summary Sheet

POTW Name:

NPDES Permit #:

Pretreatment Report Period Start Date:

Pretreatment Report Period End Date:

of Significant Industrial Users (SIUs):

of SIUs Without Control Mechanisms:

of SIUs not Inspected:

of SIUs not Sampled:

of SIUs in Significant Noncompliance (SNC)
with Pretreatment Standards:

of SIUs in SNC with Reporting
Requirements:

of SIUs in SNC with Pretreatment
Compliance Schedule:

of SIUs in SNC Published in Newspaper:

of SIUs with Compliance Schedules:

of Violation Notices Issued to SIUs:

of Administrative Orders Issued to SIUs:

of Civil Suits Filed Against SIUs:

of Criminal Suits Filed Against SIUs:

of Categorical Industrial Users (CIUs):

of CIUs in SNC:

Penalties

Total Dollar Amount of Penalties Collected \$

of IUs from which Penalties have been collected:

Local Limits

Date of Most Recent Technical Evaluation of Local Limits:

Date of Most Recent Adoption of Technically Based Local Limits:

| Pollutant | Limit (mg/l) | MAHL (lb/day) |
|-----------|--------------|---------------|
| | | |

ATTACHMENT A-2: HISTORICAL EFFLUENT DATA

DESCRIPTION OF DISCHARGE: Discharge from outfall 001A

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

| PARAMETER | AVERAGE¹ | MAXIMUM² |
|---|----------------------------|----------------------------|
| BOD (LBS/DAY) | 54.59 | 118.24 |
| BOD (MG/L) | 6.18 | 12.79 |
| PH (S.U.) | 6.35 | 7.32 |
| TSS (LBS/DAY) | 43.71 | 98.06 |
| TSS (MG/L) | 4.84 | 10.63 |
| SETTLABLE SOLIDS (ML/L) | | 0.1483 |
| OIL & GREASE | | 2.29 |
| NITROGEN, TOTAL (LBS/DAY) | 71.77 | |
| NITROGEN, TOTAL (MG/L) | 8.05 | 9.62 |
| NITROGEN, NITRITE (TOTAL AS N, MG/L) | 0.13 | 0.21 |
| NITROGEN, NITRATE (TOTAL AS N, MG/L) | 4.23 | 5.41 |
| NITROGEN, TOTAL KJELDHAL (MG/L) | 3.70 | 4.80 |
| COPPER, TOTAL (UG/L) | 10.27 | 13.21 |
| FLOW (MGD) | 1.08 | 1.37 |
| ULTRAVIOLET LIGHT DOSAGE (mW-s/cm ²) ³ | 20.29 | 4504.29 |
| ULTRAVIOLET LIGHT INTENSITY (mW/cm ²) | 31.86 | 258.90 |
| ULTRAVIOLET LIGHT TRANSMITTANCE (%) | 51.64 | 86.75 |

| PARAMETER | AVERAGE ¹ | MAXIMUM ² |
|---------------------------------|----------------------|----------------------|
| FECAL COLIFORMS (MPN/100 ML) | 14.19 | 400,083.18 |
| BOD, INFLUENT (LBS/DAY) | 1821.30 | 3577.42 |
| BOD, INFLUENT (MG/L) | 208.37 | 408.50 |
| BOD % REMOVAL | | 96.90 |
| TSS, INFLUENT (LBS/DAY) | 2021.18 | 5005.84 |
| TSS, INFLUENT (MG/L) | 233.42 | 594.67 |
| TSS % REMOVAL | | 97.76 |

Biotoxicity Data LC₅₀ Values (in percent effluent)

| | 2008 | 2009 | | | | 2010 | | | |
|---------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 4th. qtr. | 1st. qtr. | 2nd. qtr. | 3rd. qtr. | 4th. qtr. | 1st. qtr. | 2nd. qtr. | 3rd. qtr. | 4th. qtr. |
| Pre-Cl ₂ Mysid | >100 | >100 | >100 | >100 | >100 | >100 | >100 | >100 | >100 |

Biotoxicity Data C-NOEC

| | 2008 | 2009 | | | | 2010 | | | |
|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 4th. qtr. | 1st. qtr. | 2nd. qtr. | 3rd. qtr. | 4th. qtr. | 1st. qtr. | 2nd. qtr. | 3rd. qtr. | 4th. qtr. |
| Arbacia Punctulata | 100 | 25 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

¹Data represents statistical mean of the monthly average data from January 2006 – December 2010

²Data represents statistical mean of the daily maximum data from January 2006 – December 2010

ATTACHMENT A-3: FACILITY DIAGRAM

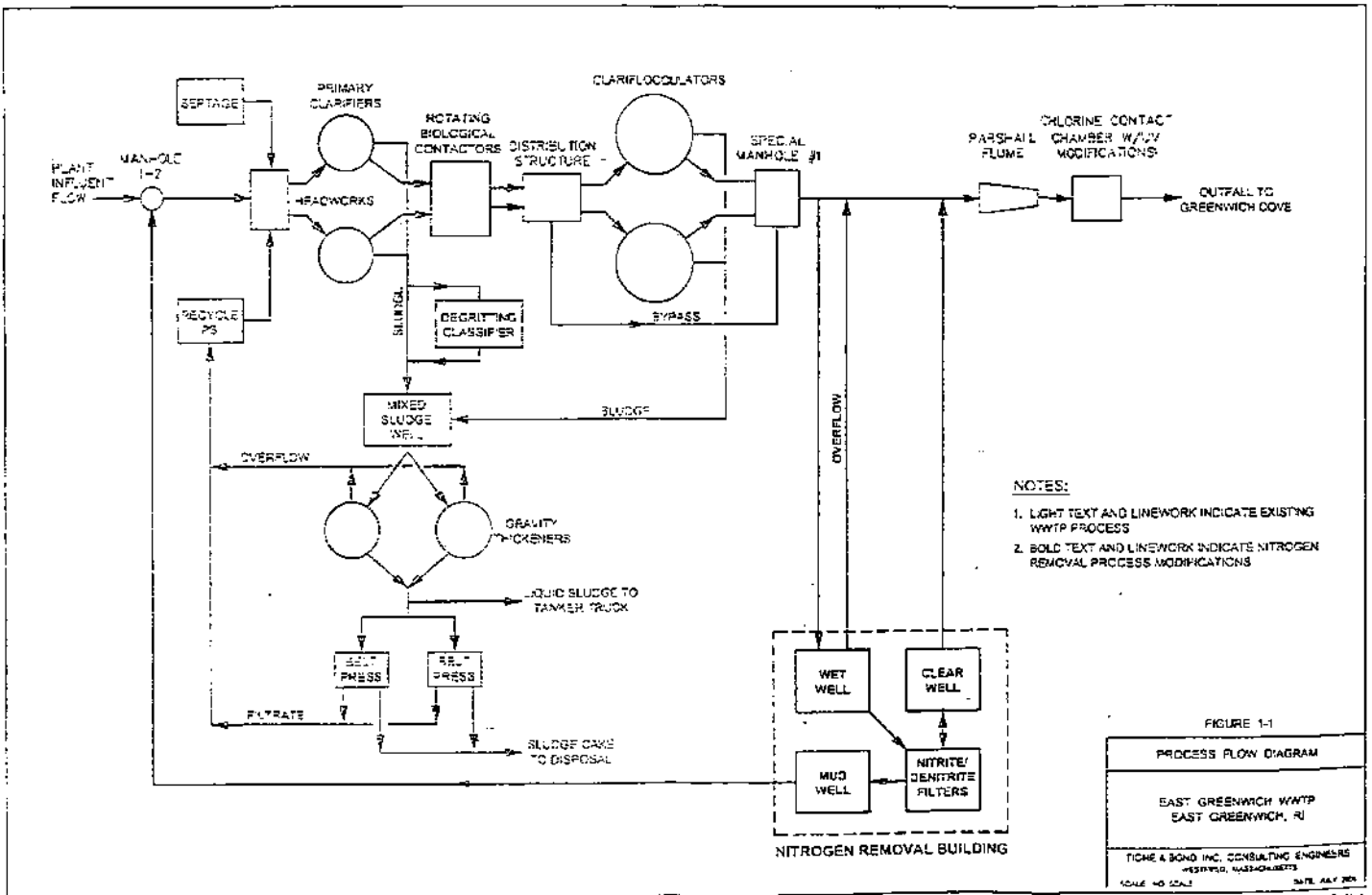


FIGURE 1-1
 PROCESS FLOW DIAGRAM
 EAST GREENWICH WWTP
 EAST GREENWICH, RI
 TICKE & BOND INC. CONSULTING ENGINEERS
 4350 WINDY HOLLOW RD
 WASHINGTON, DC 20007
 SCALE: AS SHOWN DATE: JULY 2001

PART II
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- (f) Permit Actions
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- (k) Signatory Requirements
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- (x) Best Management Practices
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DEFINITIONS

GENERAL REQUIREMENTS

(a) Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Chapter 46-12 of the Rhode Island General Laws and the Clean Water Act (CWA) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

- (1) The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants 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.
- (2) The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307 or 308 of the Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment of not more than 1 year, or both.
- (3) Chapter 46-12 of the Rhode Island General Laws provides that any person who violates a permit condition is subject to a civil penalty of not more than \$5,000 per day of such violation. Any person who willfully or negligently violates a permit condition is subject to a criminal penalty of not more than \$10,000 per day of such violation and imprisonment for not more than 30 days, or both. Any person who knowingly makes any false statement in connection with the permit is subject to a criminal penalty of not more than \$5,000 for each instance of violation or by imprisonment for not more than 30 days, or both.

(b) Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The permittee shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Director. (The Director shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

(c) 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.

(d) Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(e) 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. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures, and, where applicable, compliance with DEM "Rules and Regulations Pertaining to the Operation and Maintenance of Wastewater Treatment Facilities" and "Rules and Regulations Pertaining to the Disposal and Utilization of Wastewater Treatment Facility Sludge." 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.

(f) Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause, including but not limited to: (1) Violation of any terms or conditions of this permit; (2) Obtaining this permit by misrepresentation or failure to disclose all relevant facts; or (3) A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

(g) Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

(h) Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

(i) Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- (1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- (2) Have access to and copy, at reasonable times any records that must be kept under the conditions of this permit;
- (3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and

- (4) Sample or monitor any substances or parameters at any location, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA or Rhode Island law.

(j) Monitoring and Records

- (1) Samples and measurements taken for the purpose of monitoring shall be representative of the volume and nature of the discharge over the sampling and reporting period.
- (2) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings from continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 5 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.
- (3) Records of monitoring information shall include:
 - (i) The date, exact place, and time of sampling or measurements;
 - (ii) The individual(s) who performed the sampling or measurements;
 - (iii) The date(s) analyses were performed;
 - (iv) The individual(s) who performed the analyses;
 - (v) The analytical techniques or methods used; and
 - (vi) The results of such analyses.
- (4) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 and applicable Rhode Island regulations, unless other test procedures have been specified in this permit.
- (5) The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall upon conviction, be punished by a fine of not more than \$10,000 per violation or by imprisonment for not more than 6 months per violation or by both. Chapter 46-12 of the Rhode Island General Laws also provides that such acts are subject to a fine of not more than \$5,000 per violation, or by imprisonment for not more than 30 days per violation, or by both.
- (6) Monitoring results must be reported on a Discharge Monitoring Report (DMR).
- (7) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136, applicable State regulations, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

(k) Signatory Requirement

All applications, reports, or information submitted to the Director shall be signed and certified in accordance with Rule 12 of the Rhode Island Pollutant Discharge Elimination System (RIPDES) Regulations. Rhode Island General Laws, Chapter 46-12 provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$5,000 per violation, or by imprisonment for not more than 30 days per violation, or by both.

(l) Reporting Requirements

- (1) Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility.
- (2) Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with the permit requirements.
- (3) Transfers. This permit is not transferable to any person except after written notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under State and Federal law.
- (4) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
- (5) Twenty-four hour reporting. The permittee shall immediately report any noncompliance which may endanger health or the environment by calling DEM at (401) 222-3961, (401) 222-6519 or (401) 222-2284 at night.

A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The following information must be reported immediately:

- (i) Any unanticipated bypass which causes a violation of any effluent limitation in the permit; or
- (ii) Any upset which causes a violation of any effluent limitation in the permit; or
- (iii) Any violation of a maximum daily discharge limitation for any of the pollutants specifically listed by the Director in the permit.

The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

- (6) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (1), (2), and (5), of this section, at the time monitoring reports are submitted. The reports shall contain the information required in paragraph (1)(5) of the section.
- (7) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, they shall promptly submit such facts or information.

(m) Bypass

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

- (1) 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 (2) and (3) of this section.
- (2) Notice.
 - (i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of the bypass.
 - (ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Rule 14.18 of the RIPDES Regulations.
- (3) Prohibition of bypass.
 - (i) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:
 - (A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage, where "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) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (C) The permittee submitted notices as required under paragraph (2) of this section.

- (ii) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (3)(i) of this section.

(n) Upset

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

- (1) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph (2) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- (2) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - (a) An upset occurred and that the permittee can identify the cause(s) of the upset;
 - (b) The permitted facility was at the time being properly operated;
 - (c) The permittee submitted notice of the upset as required in Rule 14.18 of the RIPDES Regulations; and
 - (d) The permittee complied with any remedial measures required under Rule 14.05 of the RIPDES Regulations.
- (3) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

(o) Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. Discharges which cause a violation of water quality standards are prohibited. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different or increased discharges of pollutants must be reported by submission of a new NPDES application at least 180 days prior to commencement of such discharges, or if such changes will not violate the effluent limitations specified in this permit, by notice, in writing, to the Director of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by the permit constitutes a violation.

(p) Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner consistent with applicable Federal and State laws and regulations including, but not limited to the CWA and the Federal Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq., Rhode Island General Laws, Chapters 46-12, 23-19.1 and regulations promulgated thereunder.

(q) Power Failures

In order to maintain compliance with the effluent limitation and prohibitions of this permit, the permittee shall either:

In accordance with the Schedule of Compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities;

or if such alternative power source is not in existence, and no date for its implementation appears in Part I,

Halt reduce or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

(r) Availability of Reports

Except for data determined to be confidential under paragraph (w) below, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the DEM, 291 Promenade Street, Providence, Rhode Island. 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 and under Section 46-12-14 of the Rhode Island General Laws.

(s) State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law.

(t) 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.

(u) Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

(v) Reopener Clause

The Director reserves the right to make appropriate revisions to this permit in order to incorporate any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the CWA or State law. In accordance with Rules 15 and 23 of the RIPDES Regulations, if any effluent standard or prohibition, or water quality standard is promulgated under the CWA or under State law which is more stringent than any limitation on the pollutant in the permit, or controls a pollutant not limited in the permit, then the Director may promptly reopen the permit and modify or revoke and reissue the permit to conform to the applicable standard.

(w) Confidentiality of Information

(1) Any information submitted to DEM pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, DEM may make the information available to the public without further notice.

(2) Claims of confidentiality for the following information will be denied:

- (i) The name and address of any permit applicant or permittee;
- (ii) Permit applications, permits and any attachments thereto; and
- (iii) NPDES effluent data.

(x) Best Management Practices

The permittee shall adopt Best Management Practices (BMP) to control or abate the discharge of toxic pollutants and hazardous substances associated with or ancillary to the industrial manufacturing or treatment process and the Director may request the submission of a BMP plan where the Director determines that a permittee's practices may contribute significant amounts of such pollutants to waters of the State.

(y) Right of Appeal

Within thirty (30) days of receipt of notice of a final permit decision, the permittee or any interested person may submit a request to the Director for an adjudicatory hearing to reconsider or contest that decision. The request for a hearing must conform to the requirements of Rule 49 of the RIPDES Regulations.

DEFINITIONS

1. For purposes of this permit, those definitions contained in the RIPDES Regulations and the Rhode Island Pretreatment Regulations shall apply.
2. The following abbreviations, when used, are defined below.

| | |
|----------------------------------|---|
| cu. M/day or M ³ /day | cubic meters per day |
| mg/l | milligrams per liter |
| ug/l | micrograms per liter |
| lbs/day | pounds per day |
| kg/day | kilograms per day |
| Temp. °C | temperature in degrees Centigrade |
| Temp. °F | temperature in degrees Fahrenheit |
| Turb. | turbidity measured by the Nephelometric Method (NTU) |
| TNFR or TSS | total nonfilterable residue or total suspended solids |
| DO | dissolved oxygen |
| BOD | five-day biochemical oxygen demand unless otherwise specified |
| TKN | total Kjeldahl nitrogen as nitrogen |
| Total N | total nitrogen |
| NH ₃ -N | ammonia nitrogen as nitrogen |
| Total P | total phosphorus |
| COD | chemical oxygen demand |
| TOC | total organic carbon |
| Surfactant | surface-active agent |
| pH | a measure of the hydrogen ion concentration |
| PCB | polychlorinated biphenyl |
| CFS | cubic feet per second |
| MGD | million gallons per day |
| Oil & Grease | Freon extractable material |
| Total Coliform | total coliform bacteria |
| Fecal Coliform | total fecal coliform bacteria |
| ml/l | milliliter(s) per liter |
| 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 |
| Cl ₂ | total residual chlorine |



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

September 30, 2011

CERTIFIED MAIL

Mr. William Sequino Jr.
Town Manager
Town of East Greenwich
P.O. Box 111
East Greenwich, RI 02818

**RE: Final RIPDES permit for East Greenwich WWTF
RIPDES Permit No. RI0100030**

Dear Mr. Sequino:

Enclosed is your final Rhode Island Pollutant Discharge Elimination System (RIPDES) Permit issued pursuant to the referenced application. State regulations, promulgated under Chapter 46-12 of the Rhode Island General Laws of 1956, as amended, require this permit to become effective on the date specified in the permit.

Also enclosed is information relative to hearing requests and stays of RIPDES Permits.

We appreciate your cooperation throughout the development of this permit. Should you have any questions concerning this permit, feel free to contact Samuel Kaplan of the State Permits Staff at (401) 222-4700, extension 7046.

Sincerely,

Angelo S. Liberti, P.E.
Chief of Surface Water Protection

ASL:sk

Enclosures

cc: Mike Pacillo, Town of East Greenwich
Joe Duarte, P.E., Town of East Greenwich
ec: Dave Reis, CRMC
David Turin, EPA
Annie McFarland, DEM
Eric Beck, DEM
Traci Pena, DEM

Office of Water Resources/Telephone: 401.222.4700/Fax: 401.222.6177

FinalPermitLetter_East_Greenwich_093011

RESPONSE TO COMMENTS

NO SIGNIFICANT COMMENTS WERE RECEIVED ON THE DRAFT PERMIT FOR THIS FACILITY; THEREFORE, NO RESPONSE WAS PREPARED.

HEARING REQUESTS

If you wish to contest any of the provisions of this permit, you may request a formal hearing within thirty (30) days of receipt of this letter. The request should be submitted to the Administrative Adjudication Division at the following address:

Bonnie Stewart, Clerk
Department of Environmental Management
Office of Administrative Adjudication
235 Promenade Street, 3rd Floor
Providence, Rhode Island 02908

Any request for a formal hearing must conform to the requirements of Rule 49 of the State Regulations.

STAYS OF RIPDES PERMITS

Should the Department receive and grant a request for a formal hearing, the contested conditions of the permit will not automatically be stayed. However, the permittee, in accordance with Rule 50, may request a temporary stay for the duration of adjudicatory hearing proceedings. Requests for stays of permit conditions should be submitted to the Office of Water Resources at the following address:

Angelo S. Liberti, P.E.
Chief of surface Water Protection
Office of Water Resources
235 Promenade Street
Providence, Rhode Island 02908

All uncontested conditions of the permit will be effective and enforceable in accordance with the provisions of Rule 49.