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

PUBLIC NOTICE OF PROPOSED PERMIT ACTIONS UNDER THE RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM (RIPDES) PROGRAM WHICH REGULATES DISCHARGES INTO THE WATERS OF THE STATE UNDER CHAPTER 46-12 OF THE RHODE ISLAND GENERAL LAWS OF 1956, AS AMENDED.

DATE OF NOTICE: Friday, July 22, 2016

PUBLIC NOTICE NUMBER: PN16-03

DRAFT RIPDES PERMITS

RIPDES PERMIT NUMBER: **RI0100005**

NAME AND MAILING ADDRESS OF APPLICANT:

Town Bristol
Bristol Town Hall
10 Court Street
Bristol, Rhode Island 02809

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Bristol Wastewater Treatment Facility
Plant Avenue
Bristol, Rhode Island 02809

RECEIVING WATER: Bristol Harbor

RECEIVING WATER CLASSIFICATION: SB1

The facility, which is the source of the discharge, is located in Bristol and is engaged in the treatment of wastewater from the sanitary sewer system in the town of Bristol. On October 6, 2015, the facility reapplied to the Rhode Island Department of Environmental Management for reissuance of an individual RIPDES permit to discharge water from the treatment plant, which includes the use of the following equipment and processes: aerated grit chamber, fine screening, primary settling, rotating biological contactors, secondary settling, chlorination, and dechlorination. The discharge of treated effluent is made to Bristol Harbor through outfall 001A. This permit includes limits to ensure that the discharge will not cause a water quality violation.

The DEM has determined that the proposed activities comply with the Policy on the Implementation of the Antidegradation Provisions of the Rhode Island Water Quality Regulations and that existing uses will be maintained and protected. A detailed evaluation of the water quality impact from the proposed activities and any important benefits demonstrations, if required, may be found in the fact sheet which is available

as noted below.

FURTHER INFORMATION:

A fact sheet (describing the type of facility and significant factual, legal and policy questions considered in these permit actions) may be obtained at no cost by writing or calling DEM as noted below:

Samuel Kaplan, P.E.
Rhode Island Department of Environmental Management
Office of Water Resources
Permits Section
235 Promenade Street
Providence, Rhode Island 02908-5767
(401) 222-4700 ext. 7046

The administrative record containing all documents relating to these permit actions is on file and may be inspected, by appointment, at the DEM's Providence office mentioned above between 8:30 a.m. and 4:00 p.m., Monday through Friday, except holidays.

PUBLIC COMMENT AND REQUEST FOR PUBLIC HEARING:

Pursuant to Chapter 42-17.4 of the Rhode Island General Laws a public hearing has been scheduled to consider these permits if requested. Requests for a Public Hearing must be submitted in writing to the attention of Samuel Kaplan at the address indicated above. Notice should be taken that if DEM receives a request from twenty-five (25) people, a governmental agency or subdivision, or an association having no less than twenty-five (25) members on or before 4:00PM, Monday, August 22, 2016 a public hearing will be held at the following time and place:

5:00PM, Thursday, August 25, 2016
Room 280
235 Promenade Street
Providence, Rhode Island 02908

Interested persons should contact DEM to confirm if a hearing will be held at the time and location noted above.

235 Promenade Street is accessible to the handicapped. Individuals requesting communication assistance (assistive listening devices/readers/interpreters/captions) must notify the D.E.M. at the telephone number listed above or at 831-5508 (T.D.D.) 48 hours in advance of the hearing date.

Interested parties may submit comments on the permit actions and the administrative record to the address above no later than 4:00PM, Friday, August 26, 2016.

If, during the public comment period, significant new questions are raised concerning the permit, DEM may require a new draft permit or statement of basis or may reopen the public comment period. A public notice will be issued for any of these actions.

Any person, including the permittee/applicant, who believes these permit actions are inappropriate, must raise all reasonably ascertainable issues and submit all reasonably available arguments and factual grounds supporting their position, including all supporting material, by the close of the public comment

period under Rule 41. The public comment period is from Friday, July 22, 2016 to Friday, August 26, 2016. Commenters may request a longer comment period if necessary to provide a reasonable opportunity to comply with these requirements. Comments should be directed to DEM as noted above.

FINAL DECISION AND APPEALS:

Following the close of the comment period, and after a public hearing, if such hearing is held, the Director will issue a final decision and forward a copy of the final decision to the permittee and each person who has submitted written comments or requested notice. Within 30 days following the notice of the final decision, any interested person may submit a request for a formal hearing in accordance with the requirements of Rule 49.

6/29/16
Date

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

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

Town of Bristol
Bristol Town Hall
10 Court Street
Bristol, Rhode Island 02809

is authorized to discharge from a facility located at the

Bristol Wastewater Treatment Facility
Plant Avenue
Bristol, Rhode Island 02809

to receiving waters named

Bristol Harbor

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

This permit shall become effective on _____, 201_.

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

This permit supersedes the permit issued on March 18, 2011.

This permit consists of 22 pages in Part I including effluent limitations, monitoring requirements, etc. and 10 pages in Part II including General Conditions.

Signed this _____ day of _____, 201_

DRAFT

_____
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 dechlorination).

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

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity - lbs./day		Concentration - specify units				
	Average Monthly	Maximum Daily	Average Monthly *(Minimum)	Average Weekly *(Average)	Maximum Daily *(Maximum)	Measurement Frequency	Sample Type
Flow	3.79 MGD	--- MGD				Continuous	Recorder
BOD_5	948 lbs/Day	1,580 lbs/Day	30 mg/l	45 mg/l	50 mg/l	3/Week	24-Hr. Comp.
BOD_5 - % Removal			85%			1/Month	Calculated
TSS	948 lbs/Day	1,580 lbs/Day	30 mg/l	45 mg/l	50 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 TSS and BOD_5 influent and effluent shall be performed Sunday, Tuesday, and Thursday 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 de-chlorination).

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 dechlorination).

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

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity - lbs./day		Concentration - specify units				
	Average Monthly	Maximum Daily	Average Monthly *(Minimum)	Average Weekly *(Average)	Maximum Daily *(Maximum)	Measurement Frequency	Sample Type
Fecal Coliform			--- MPN[1] / 100 ml	--- MPN[1] / 100 ml	--- MPN[1] / 100 ml	3/Week	Grab
Enterococci			35 cfu[2] / 100 ml		276 cfu[2] / 100 ml	3/Week	Grab
Total Residual Chlorine (TRC)			364 ug/l[3]		364 ug/l[3]	Continuous	Recorder[3]
pH			(6.5 SU)		(8.5 SU)	2/Day	Grab

[1]The Fecal Coliform samples are to be taken Sunday, Tuesday, and Thursday at the same time as one of the TRC samples. The Geometric Mean shall be used to obtain the "weekly average" and the "monthly average." The facility shall immediately report to RIDEM, verbally, any fecal coliform sample result that exceeds 400 mpn/100 ml.
[2]Two (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 “average monthly" values.
[3]The use of a continuous TRC recorder after chlorination and prior to dechlorination is required to provide a record that proper disinfection was achieved at all times. Compliance with these limitations shall be determined by taking three grab samples per day, Monday - Friday (except holidays), equally spaced over one (1) eight (8) hour shift with a minimum of three hours between grabs. On Saturdays, Sundays, and holidays by taking at least two (2) grab samples each day with a minimum of two (2) hours between grabs. The maximum daily and average monthly values are to be computed from the averaged grab sample results. The following methods may be used to analyze the grab samples**:** (1) DPD Spectrophotometric, EPA No. 330.5 or Standard Methods (18th Edition) No. 4500-Cl; (2) DPD Titrimetric, EPA No. 330.4 or Standard Methods No. 4500-Cl F; (3) Amperometric Titration, EPA No. 330.1 or Standard Methods No. 4500-Cl D or ASTM No. D1253-86(92);

*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 and Chlorine Residual 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 de-chlorination)

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 dechlorination).

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

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity - lbs. per day		Concentration - specify units				
	Average Monthly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Oil and Grease					--- mg/l	1/Month	3 Grabs[1]
TKN (as N) [Nov. 1 – April 30]			--- mg/l		--- mg/l	1/Month	24-Hr. Comp.
TKN (as N) [May 1 – Oct. 31]			--- mg/l		--- mg/l	2/Month	24-Hr. Comp.
Nitrate, Total (as N) [Nov. 1 – April 30]			--- mg/l		--- mg/l	1/Month	24-Hr. Comp.
Nitrate, Total (as N) [May 1 – Oct. 31]			--- mg/l		--- mg/l	2/Month	24-Hr. Comp.
Nitrite, Total (as N) [Nov. 1 – April 30]			--- mg/l		--- mg/l	1/Month	24-Hr. Comp.
Nitrite, Total (as N) [May 1 – Oct. 31]			--- mg/l		--- mg/l	2/Month	24-Hr. Comp.
Nitrogen, Total [Nov. 1 – April 30]	--- lb/day		--- mg/l		--- mg/l	1/Month	Calculated
Nitrogen, Total [May 1 – Oct. 31]	--- lb/day		--- mg/l		--- mg/l	2/Month	Calculated

[1]Three (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 de-chlorination).

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 chlorination).

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

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity - lbs. per day		Concentration - specify units				
	Average Monthly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Total Copper[1]			--- ug/L		--- ug/L	1/Quarter	24-Hr. Composite
Total Cadmium[1]			--- ug/L		--- ug/L	1/Quarter	24-Hr. Composite
Hexavalent Chromium[1]			--- ug/L		--- ug/L	1/Quarter	24-Hr. Composite
Total Lead[1]			--- ug/L		--- ug/L	1/Quarter	24-Hr. Composite
Total Zinc[1]			--- ug/L		--- ug/L	1/Quarter	24-Hr. Composite
Total Nickel[1]			--- ug/L		--- ug/L	1/Quarter	24-Hr. Composite
Total Aluminum[1]			--- ug/L		--- ug/L	1/Quarter	24-Hr. Composite
Cyanide[1]			--- ug/L		--- ug/L	1/Quarter	Composite[2]
Total Ammonia[1]			--- ug/L		--- ug/L	1/Quarter	24-Hr. Composite

[1] Monitoring data may be obtained in conjunction with the bioassay testing required in Part I.B of the permit.

[2] Composite shall be obtained by taking three grab samples per day, spaced over one (1) day with a minimum of three hours between grabs, and preserved immediately upon collection. All three (3) samples shall be composited, then analyzed for available Cyanide.

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 de-chlorination).

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 dechlorination).

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

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity - lbs. per day		Concentration - specify units				
	Average Monthly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Mysidopsis bahia – LC_{50}[1]					≥100%[2]	1/Quarter	24-Hr. Comp.

[1] LC_{50} is defined as the concentration of wastewater that causes mortality to 50% of the test organisms.

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

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

6. a. The pH of the effluent shall not be less than 6.5 nor greater than 8.5 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 90 consecutive days exceeds 80 percent of the designed flow, the permittee shall submit to the permitting authorities projections 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.

B. BIOMONITORING REQUIREMENTS AND INTERPRETATION OF RESULTS

1. General

Beginning on the effective date of the permit, the permittee shall perform four (4) acute toxicity tests per year on dechlorinated effluent 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. Acute data shall be reported as outlined in Section 9. The State may require additional screening, range finding, definitive acute or chronic bioassays testing 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 will conduct forty-eight-hour (48) acute definitive toxicity tests on the specie listed below, for a total of four (4) acute toxicity tests per year.

Species	Test Type (Four Times Annually)	Frequency
Mysids (*Mysidopsis bahia*)	Definitive 48-Hour Acute Static (LC_{50})	Quarterly

3. Testing Methods

Acute definitive toxicity tests shall be conducted in accordance with protocols listed in 40 CFR Part 136.

4. Sample Collection

For each sampling event a twenty-four- (24) hour flow-proportioned composite effluent sample shall be collected at a location after dechlorination during dry weather (no rain forty-eight (48) hours prior to or during sampling unless approved by RIDEM). This sample shall be kept cool (at 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 acute permit limit and acute monitoring requirements.

6. Dilution Water

Dilution water used for marine acute toxicity analyses should be of sufficient quality to meet minimum acceptability of test results (See Section 7). 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 at 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 Mysids (Mysidopsis bahia)

a.	Test Type	48-Hour Static Acute Definitive
b.	Salinity	25 ppt ± 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 Test 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).
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 LC_{50} 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. Chemical Analysis

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

Parameter	Effluent	Saline Diluent	Detection Limit (mg/l)
pH	X	X	---
Specific Conductance	X	X	---
Total Solids and Suspended Solids	X	X	---
Total Ammonia	X		0.1
Total Organic Carbon	X		0.5
Available 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 event, the following chemical analyses shall be performed:

Total Metals	Effluent	Saline Diluent	Detection Limit (ug/l)
Total Copper	X	X	1.0 ug/L
Total Cadmium	X	X	0.1 ug/L
Hexavalent Chromium	X	X	20.0 ug/L
Total Lead	X	X	1.0 ug/L
Total Zinc	X	X	5.0 ug/L
Total Nickel	X	X	1.0 ug/L
Total Aluminum	X	X	5.0 ug/L

The above metal analyses may be used to fulfill, in part or in whole, monthly 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 the other permit conditions to fulfill any priority pollutant scan requirements.

9. 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 (include detection limits).

- Raw data and bench sheets.

- Any other observations or test conditions affecting test outcome.

Toxicity test data shall include the following:

- Survival for each concentration and replication at time twenty-four (24) and forty-eight (48) hours.

- LC_{50} 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, and 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 LC_{50} may be estimated using the graphical method.

10. 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 granting authorization to collect samples. Requests to use another source of dilution water will have to be approved by the Department of Environmental Management, Division of Water Resources.

11. Reporting of Bioassay Testing

Bioassay Testing shall be reported as follows:

Quarter Testing to be Performed	Report Due No Later Than	Results Submitted on DMR for
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

The first report shall be submitted to RIDEM no later than _____, 20___.

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.

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 user’s 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.

a. The permittee has an approved Local Limits Monitoring Plan (LLMP) that shall continue to be implemented at all times.

b. At the time of renewal of this permit and in accordance with 40 CFR 122.44(j)(2), 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 Local Limits Monitoring Plan as required by Part I.C.3.a of this permit 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 ERP, dated March 7, 1996, which was approved on March 12, 1996. A modification to the EPR was submitted dated August 13, 2008, and the modification was approved on September 3, 2008. The approved modification meets the requirements of 40 CFR 403.8(f)(5). The permittee shall continue to implement its approved ERP at all times.

5. General

a. The permittee shall carry out inspection, surveillance, and monitoring procedures which will determine, independent of information supplied by the industrial user, 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 whether each SIU requires a Slug Control Plan. If a Slug Control Plan is required, it shall include the contents specified by 40 CFR 403.8(f)(2)(vi).

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)(B). 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).

e. 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 forty-five (45) 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 documentation (as required by 403.9(b)(2)) that any local public notification/participation procedures required by law have been completed, including any responses to public comments, and a statement that the local officials will endorse and/or approve the modification upon approval by DEM.

Within thirty (30) days of DEM's final approval of the proposed modification(s), the permittee shall implement the modification and submit proof that the local officials have endorse and/or approved the modification(s) to the DEM. 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).

f. 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.

g. 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).

h. 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 summarized in 40 CFR 403.5.

i. The permittee shall require all Industrial Users to notify the permittee of substantial changes in discharge as specified in 40 CFR 403.12(j) and the permittee shall also notify DEM of each such substantial change in discharge prior to acceptance.

j. 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).

k. The permittee shall require all Industrial Users who are required to sample their effluent and report the results of analysis to the POTW to comply with signatory requirements contained in 40 CFR 403.12(l) when submitting such reports.

l. The permittee shall determine, based on the criteria set forth in 40 CFR 403.8(f)(2)(viii), 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)(viii).

m. 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.

n. The permittee shall continue to designate, as SIUs, those Industrial Users (IUs) which meet the definition contained in 40 CFR 403.3 and 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 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 January 1st through December 31st and shall be submitted to the DEM by March 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, 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 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 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 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;

g. A list including the report/notification type, due date, and receipt date for each report/notification required by 40 CFR 403.12.

h. 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;

i. 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;

j. 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);

k. 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;

l. 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

m. A completed Annual Pretreatment Report Summary Sheet.

8. Interjurisdictional Agreement

The DEM has no interjurisdictional agreements on file regarding the contribution of industrial wastewater to the Bristol WWTF. Any such interjurisdictional agreements which may be necessary in the future must be submitted to the DEM in draft form for approval prior to execution.

9. Sewer Use Ordinance

The permittee has an approved Sewer Use Ordinance which shall continue to be implemented at all times.

D. OPERATION AND MAINTENACE OF 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. Infiltration/Inflow

The permittee shall minimize infiltration/inflow to the sewer system. A summary report of all actions taken to minimize infiltration/inflow during the previous six (6) months shall be submitted to RIDEM, Office of Water Resources, by the 15th day of January and July of each year. The first report is due _____, 20___.

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

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)
1V	acrolein	10.0
2V	acrylonitrile	5.0
3V	benzene	1.0
5V	bromoform	1.0
6V	carbon tetrachloride	1.0
7V	chlorobenzene	1.0
8V	chlorodibromomethane	1.0
9V	chloroethane	1.0
10V	2-chloroethylvinyl ether	5.0
11V	chloroform	1.0
12V	dichlorobromomethane	1.0
14V	1,1-dichloroethane	1.0
15V	1,2-dichloroethane	1.0
16V	1,1-dichloroethylene	1.0
17V	1,2-dichloropropane	1.0
18V	1,3-dichloropropylene	1.0
19V	ethylbenzene	1.0
20V	methyl bromide	1.0
21V	methyl chloride	1.0
22V	methylene chloride	1.0
23V	1,1,2,2-tetrachloroethane	1.0
24V	tetrachloroethylene	1.0
25V	toluene	1.0
26V	1,2-trans-dichloroethylene	1.0
27V	1,1,1-trichloroethane	1.0
28V	1,1,2-trichloroethane	1.0
29V	trichloroethylene	1.0
31V	vinyl chloride	1.0

Acid Compounds - EPA Method 625		MDL ug/l (ppb)
1A	2-chlorophenol	1.0
2A	2,4-dichlorophenol	1.0
3A	2,4-dimethylphenol	1.0
4A	4,6-dinitro-o-cresol	1.0
5A	2,4-dinitrophenol	2.0
6A	2-nitrophenol	1.0
7A	4-nitrophenol	1.0
8A	p-chloro-m-cresol	2.0
9A	pentachlorophenol	1.0
10A	phenol	1.0
11A	2,4,6-trichlorophenol	1.0

Pesticides - EPA Method 608		MDL ug/l (ppb)
1P	aldrin	0.059
2P	alpha-BHC	0.058
3P	beta-BHC	0.043
4P	gamma-BHC	0.048
5P	delta-BHC	0.034
6P	chlordane	0.211
7P	4,4'-DDT	0.251
8P	4,4'-DDE	0.049
9P	4,4'-DDD	0.139
10P	dieldrin	0.082
11P	alpha-endosulfan	0.031
12P	beta-endosulfan	0.036
13P	endosulfan sulfate	0.109
14P	endrin	0.050
15P	endrin aldehyde	0.062
16P	heptachlor	0.029
17P	heptachlor epoxide	0.040

Pesticides - EPA Method 608		MDL ug/l (ppb)
18P	PCB-1242	0.289
19P	PCB-1254	0.298
20P	PCB-1221	0.723
21P	PCB-1232	0.387
22P	PCB-1248	0.283
23P	PCB-1260	0.222
24P	PCB-1016	0.494
25P	toxaphene	1.670

Base/Neutral - EPA Method 625		MDL ug/l (ppb)
1B	acenaphthene *	1.0
2B	acenaphthylene *	1.0
3B	anthracene *	1.0
4B	benzidine	4.0
5B	benzo(a)anthracene *	2.0
6B	benzo(a)pyrene *	2.0
7B	3,4-benzofluoranthene *	1.0
8B	benzo(ghi)perylene *	2.0
9B	benzo(k)fluoranthene *	2.0
10B	bis(2-chloroethoxy)methane	2.0
11B	bis(2-chloroethyl)ether	1.0
12B	bis(2-chloroisopropyl)ether	1.0
13B	bis(2-ethylhexyl)phthalate	1.0
14B	4-bromophenyl phenyl ether	1.0
15B	butylbenzyl phthalate	1.0
16B	2-chloronaphthalene	1.0
17B	4-chlorophenyl phenyl ether	1.0
18B	chrysene *	1.0
19B	dibenzo (a,h)anthracene *	2.0
20B	1,2-dichlorobenzene	1.0
21B	1,3-dichlorobenzene	1.0
22B	1,4-dichlorobenzene	1.0
23B	3,3'-dichlorobenzidine	2.0
24B	diethyl phthalate	1.0
25B	dimethyl phthalate	1.0
26B	di-n-butyl phthalate	1.0
27B	2,4-dinitrotoluene	2.0
28B	2,6-dinitrotoluene	2.0
29B	di-n-octyl phthalate	1.0
30B	1,2-diphenylhydrazine (as azobenzene)	1.0
31B	fluoranthene *	1.0
32B	fluorene *	1.0
33B	hexachlorobenzene	1.0
34B	hexachlorobutadiene	1.0
35B	hexachlorocyclopentadiene	2.0
36B	hexachloroethane	1.0
37B	indeno(1,2,3-cd)pyrene *	2.0
38B	isophorone	1.0
39B	naphthalene *	1.0
40B	nitrobenzene	1.0
41B	N-nitrosodimethylamine	1.0
42B	N-nitrosodi-n-propylamine	1.0
43B	N-nitrosodiphenylamine	1.0
44B	phenanthrene *	1.0
45B	pyrene *	1.0
46B	1,2,4-trichlorobenzene	1.0

OTHER TOXIC POLLUTANTS

	MDL ug/l (ppb)
Antimony, Total	3.0
Arsenic, Total	1.0
Beryllium, Total	0.2
Cadmium, Total	0.1
Chromium, Total	1.0
Chromium, Hexavalent	20.0
Copper, Total	1.0
Lead, Total	1.0
Mercury, Total	0.2
Nickel, Total	1.0
Selenium, Total	2.0
Silver, Total	0.5
Thallium, Total	1.0
Zinc, Total	5.0
Asbestos	**
Cyanide, Total	10.0
Phenols, Total	50.0
Aluminum, Total	5.0
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

The monitoring program in the permit specifies sampling and analysis, which will provide continuous information on compliance and the reliability and effectiveness of the installed pollution abatement equipment. The approved analytical procedures found in 40 CFR Part 136 are required unless other procedures are explicitly required in the permit. The Permittee is obligated to monitor and report sampling results to the DEM within the time specified within the permit.

Unless otherwise specified in this permit, the permittee shall submit reports, requests, and information and provide notices in the manner described in this section.

1. Submittal of DMRs Using NetDMR

   The permittee shall continue to submit its monthly monitoring data in discharge monitoring reports (DMRs) to DEM no later than the 15th day of the month electronically using NetDMR. When the permittee submits DMRs using NetDMR, it is not required to submit hard copies of DMRs to DEM.

2. Submittal of Reports as NetDMR Attachments

   Unless otherwise specified in this permit, the permittee must submit electronic copies of documents in NetDMR that are directly related to the DMR. These include the following:

   - DMR Cover Letters
   - Below Detection Limit summary tables
   - Monthly Operating Reports

   All other reports (i.e. I/I reports, Bioassays, P/T reports, etc.) should be submitted to DEM hard copy via regular US mail (see Part I.F.4 below).

3. Submittal of Requests and Reports to DEM

   The following requests, reports, and information described in this permit shall be submitted to the DEM.

   A. Transfer of Permit notice
   B. Request for changes in sampling location
   C. Request for reduction in testing frequency
   D. Request for reduction in WET testing requirement
   E. Report on unacceptable dilution water / request for alternative dilution water for WET testing

   These reports, information, and requests shall be submitted to DEM by hard copy mail to the following address:

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

4. Submittal of Reports in Hard Copy Form

The following notifications and reports shall be submitted as hard copy with a cover letter describing the submission. These reports shall be signed and dated originals submitted to DEM.

A. Written notifications required under Part II
B. Notice of unauthorized discharges, including Sanitary Sewer Overflow (SSO) reporting
C. Priority Pollutant Scan results
D. Biological Monitoring Reports
E. Infiltration/Inflow Reports

This information shall be submitted to DEM at the following address:

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

5. Verbal Reports and Verbal Notifications

Any verbal reports or verbal notifications, if required in Parts I and/or II of this permit, shall be made to the DEM. This includes verbal reports and notifications which require reporting within 24 hours. (See Part II.(l)(5) General Requirements for 24-hour reporting) Verbal reports and verbal notifications shall be made to DEM at (401) 222-4700 or (401) 222-3070 at night.

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. **RI0100005**

NAME AND ADDRESS OF APPLICANT:

Town of Bristol
Bristol Town Hall
10 Court Street
Bristol, Rhode Island 02809

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Bristol Wastewater Treatment Facility
Plant Avenue
Bristol, Rhode Island 02809

RECEIVING WATER: Bristol Harbor (water body ID #:RI0007026E-01D)

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 (DEM) 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 Wastewater Treatment Plant (outfall 001A). As of December 2015, the end of Bristol's most recent Industrial Pretreatment Program reporting year, there were seven Significant Industrial Users (SIUs) contributing wastewater to the Bristol WWTF.

II. Description of Discharge

A quantitative description of the discharge in terms of significant effluent parameters based on DMR data from October 2010 through September 2015is shown on Attachment A-1.

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 Bristol owns and operates the Bristol Wastewater Treatment Facility (WWTF) located on Plant Avenue in Bristol, Rhode Island. The discharge to Bristol Harbor consists of treated sanitary sewage. A process flow diagram of the facility is shown in Attachment A-2.

Bristol's most recent RIPDES permit, authorizing discharges from the above-mentioned facility,

was issued on March 18, 2011. The permit became effective on May 1, 2011 and expired on May 1, 2016. Bristol submitted an application for permit reissuance to the DEM on October 6, 2015. On November 4, 2015 the DEM issued an application complete letter to Bristol. In accordance with Rule 13(a) of the Regulations for the Rhode Island Pollutant Discharge Elimination System, Bristol's March 18, 2011 permit remains in effect since the DEM has determined that a timely and complete permit application was submitted. Once this permit is reissued, it will supersede the March 18, 2011 permit.

Treatment consists of:

Aerated Grit Chamber	Secondary Settling
Fine Screening	Chlorination
Primary Settling	Dechlorination
Rotating Biological Contactors	

Receiving Water Description

The water body segment that receives the discharge from the Bristol WWTF is described as Bristol Harbor. The waterbody identification # for this water body is RI0007026E-01D. This segment is located in Bristol and is classified as a class SB1 water body according to the Rhode Island Water Quality Regulations. SB1 waters are designated for primary and secondary contact recreational activities and fish and wildlife habitat. They shall be suitable for aquacultural uses, navigation, and industrial cooling. These waters shall have good aesthetic value. Primary contact recreational activities may be impacted due to pathogens from approved wastewater discharges. However, all Class SB criteria must be met. Currently, this segment is not listed as impaired in the DEM's 2014 303(d) List of Impaired Waters.

Permit Development

Development of RIPDES permit limitations is a multi-step process consisting of the following steps: calculating allowable water quality-based discharge levels using instream criteria, background data and available dilution; determining if technology based limits apply; developing Best Professional Judgment (BPJ)-based limits; taking the most stringent of the water quality-based, technology-based, and BPJ-based limits as the new allowable discharge levels; comparing existing permit limits to the new allowable discharge levels and performing an antidegradation/antibacksliding analysis to determine the final permit limits; and evaluating the ability of the facility to meet the final permit limits.

Water quality criteria are comprised of numeric and narrative criteria. Numeric criteria are scientifically derived ambient concentrations developed by EPA or the State for various pollutants of concern to protect human health and aquatic life. Narrative criteria are statements that describe the desired water quality goal. A technology-based limit is a numeric limit, which is determined by examining the capability of a treatment process to reduce or eliminate pollutants.

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, 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).

<u>WWTF Conventional Pollutant Permit Limitations</u>

Flow limits

The basis for the facility's flow limit of 3.79 MGD is the facility's Facilities Plan dated August 17, 2000.

BOD_5, TSS, Settleable Solids, and pH

The "Average Monthly" and "Average Weekly" BOD_5 and TSS limitations are based upon the

secondary treatment requirements of Section 301(b)(1)(B) of the Clean Water Act (CWA) as defined in 40 CFR 133.102(a) – (c). The "Maximum Daily" BOD_5 and TSS limits are based on Rhode Island requirements for Publicly Owned Treatment Works (POTWs) under Section 401 (a)(1) of the CWA and in 40 CFR 124.53 and 124.56. The "Percent Removal" requirements are in accordance with 40 CFR 133.103. Settleable Solids has been included as a process-control parameters that can aid in the assessment of the operation of the plant but need not be an effluent limit. The pH limits have been set equal to the water quality criteria for saltwater from the Rhode Island Water Quality Regulations.

Oil and Grease

Oil and Grease monitoring requirements have been maintained in this permit in order to serve as a process control parameter. Monitoring data will serve as an indicator of excessive levels of Oil and Grease in the collection system that is typically attributed to restaurants and other sources of Oil and Grease loading which discharge to the sewer collection system. Bristol and DEM will be able to use this data to track and potentially initiate corrective action if necessary to prevent backups and blockages within the sewer collection system.

Bacteria

Table 2.8.D(3) of the Rhode Island Water Quality Regulations includes 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. However, the "single sample maximum" value is only used by the Rhode Island Department of Health to evaluate swimming advisories at public beaches and is not applied to the receiving water in the area of the Bristol WWTF's outfall. EPA's November 12, 2008 memorandum regarding "Initial Zones of Dilution for Bacteria in Rivers and Streams Designated for Primary Contact Recreation" specifies 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. This limit is consistent with the water quality criteria from Table 2.8.D(3) of the Rhode Island Water Quality Regulations. 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 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.

WWTF Toxic Pollutant Limits

The allowable effluent limitations were established on the basis of acute and chronic aquatic life criteria and human health criteria using the following: available instream dilution; an allocation factor; and background concentrations when available and/or appropriate. The aquatic life and human health criteria are specified in the Rhode Island Water Quality Regulations. Aquatic life criteria have been established to ensure the protection and propagation of aquatic life while human health criteria represent the pollutant levels that would not result in a significant risk to public health from ingestion of aquatic organisms. The more stringent of the two criteria was then used in establishing allowable effluent limitations. Details concerning the calculation of potential permit limitations, selection of factors, which influence their calculation, and the selection of final permit limitations are included below or in the attached documents. The Town's previous permit contained water quality based limits.

Mixing Zones and Dilution Factors

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). The Bristol WWTF's effluent is discharged through a 30-inch pipe which is approximately 25.25 feet offshore. As presented in the Bristol Wastewater Treatment Facility's March 2005 Development Document, it was determined that a mixing zone and corresponding dilution factor is acceptable for the effluent from the Bristol WWTF. Based on the analysis of a Dye Study (ASA, 1991), a chronic dilution factor of 100 with a mixing zone of 200m in radius and an acute dilution factor of

28 with a mixing zone of 34m in radius were deemed appropriate. The Bristol WWTF mixing zone is presented in Attachment A-3.

Using the above-mentioned dilution factors the allowable discharge limits were calculated as follows:

a) Background concentration unknown or available data is impacted by sources that have not yet achieved water quality based limits.

$$Limit_1 = (DF) * (Criteria) * (80\%)$$

Where: DF = acute or chronic dilution factor, as appropriate

b) Using available background concentration data[1].

$$Limit_1 = (DF) * (Criteria) * 90\% - (Background) * (DF - 1)$$

Where: DF = acute or chronic dilution factor, as appropriate

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. 90% allocation was used when background data was available. Background data for Cadmium, Chromium, Copper, Lead, Nickel, and Silver was obtained from the four (4) SINBADD cruises in “Cruise and Data Report”, SINBADD 1,2,3 and 4.

The formulas and data noted above were applied with the following exceptions:

A) Pollutants that, based on the acute and chronic dilution factors, have a higher allowable chronic limit than allowable acute limit. For this situation, both the "Monthly Average" and "Daily Maximum" limits were set at the allowable acute limit.

B) Total Residual Chlorine (TRC). The limits for TRC were established in accordance with the DEM Effluent Disinfection Policy. The "Monthly Average" and "Daily Maximum" were based on a 100% allocation, a zero background concentration, and the appropriate dilution factors. The 100% allocation factor for TRC was used due to the non-conservative nature of chlorine and the improbability of the receiving water having a detectable background TRC concentration.

The potential ammonia limitations were derived from acute and chronic water quality criteria for saltwater from the Rhode Island Water Quality Regulations, which are based upon salinity, pH, and temperature. A salinity equal to 30 ppt., pH equal to 8.0 standard units, and average temperatures equal to 20°C and 5°C during Summer and Winter seasons, respectively, were used to calculate the allowable water quality-based discharge levels for ammonia. Salinity and temperature values were based upon data contained in the Narragansett Bay Project Reports, #NBP-89-22 and #NBP-89-24, titled “Water Quality Survey of Narragansett Bay-A Summary of the SINBADD 1985-1986” and “SPRAY Cruise-Dissolved Oxygen and Chlorophyll”, respectively. The pH value was determined from data contained in a report titled “Monitoring of the Providence and Seekonk Rivers for Trace Metals and Associated Parameters-SPRAY Cruises I, II, III” [Deoring et al., 1988], and from a University of Rhode Island Graduate School of Oceanography research paper titled “Co-occurrence of Dinoflagellate Blooms and High pH in Marine Enclosures”, [Hinga, 1992].

Reference Attachment A-4 for calculations of allowable limits based on Aquatic Life and Human Health Criteria.

[1]Source of background data is *Water Quality Survey of Narragansett Bay - A Summary of Results from the SINBADD 1985-1986*; Pilson, Michael E.Q. and Hunt, Carlton, D.; March 1989; Report #NBP-89-22.

Antibacksliding

Antibacksliding restricts the level of relaxation of water quality based limits from the previous permit. Section 303(d)(4) of the Clean Water Act addresses antibacksliding as the following:

Section 303(d)(4)

A) Standards not attained - For receiving waters that have not attained the applicable water quality standards, limits based on a TMDL or WLA can only be revised if the water quality standards will be met. This may be done by (i) determining that the cumulative effect of all such revised limits would assure the attainment of such water quality standards; or (ii) removing the designated use which is not being attained in accordance with regulations under Section 303.

B) Standards attained - For receiving waters achieving or exceeding applicable water quality standards, limits can be relaxed if the revision is consistent with the State's Antidegradation Policy.

Therefore, in order to determine whether backsliding is permissible, the first question that must be answered is whether or not the receiving water is attaining the water quality standard. The Office has determined the most appropriate evaluation of existing water quality is by calculating the pollutant levels, which would result after consideration of all currently valid RIPDES permit limits or historic discharge data (whichever is greater), background data (when available), and any new information (i.e.: dilution factors).

Antidegradation

The RIDEM's "Policy on the Implementation of the Antidegradation Provisions of the Rhode Island Water Quality Regulations July 2006" (the Policy) establishes four tiers of water quality protection:

Tier 1. In all surface waters, existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

Tier 2. In waters where the existing water quality exceeds levels necessary to support propagation of fish and wildlife, and recreation in and on the water, that quality shall be maintained and protected, except for insignificant changes in water quality as determined by the Director and in accordance with the Antidegradation Implementation Policy, as amended. In addition, the Director may allow significant degradation which is determined to be necessary to achieve important economic or social benefits to the State in accordance with the Antidegradation Implementation Policy, as amended.

Tier 2½. Where high quality waters constitute a Special Resource Protection Water SRPW[2], there shall be no measurable degradation of the existing water quality necessary to protect the characteristic(s) which cause the waterbody to be designated a SRPW. Notwithstanding that all public drinking water supplies are SRPWs, public drinking water suppliers may undertake temporary and short-term activities within the boundary perimeter of a public drinking water supply impoundment for essential maintenance or to address emergency conditions in order to prevent adverse effect on public health or safety. These activities must comply with the requirements set fourth in Tier 1 and Tier 2.

[2]SRPWs are surface waters identified by the Director as having significant recreational or ecological uses.

Tier 3. Where high quality waters constitute an Outstanding Natural Resource ONRWs[3], that water quality shall be maintained and protected. The State may allow some limited activities that result in temporary and short-term changes in the water quality of an ONRW. Such activities must not permanently degrade water quality or result in water quality lower than necessary to protect the existing uses in the ONRW.

The formulas previously presented ensure that permit limitations are based upon water quality criteria and methodologies established to ensure that all designated uses will be met.

In terms of the applicability of Tier 2 of the Policy, a water body is assessed as being high quality on a parameter-by-parameter basis. In accordance with Part II of the Policy, "Antidegradation applies to all new or increased projects or activities which may lower water quality or affect existing water uses, including but not limited to all 401 Water Quality Certification reviews and any new, reissued, or modified RIPDES permits." Part VI.A of the Policy indicates that it is not applicable to activities which result in insignificant (i.e.: short-term minor) changes in water quality and that significant changes in water quality will only be allowed if it is necessary to accommodate important economic and social development in the area in which the receiving waters are located (important benefits demonstration). Part VI.B.4 of the Policy states that: "Theoretically, any new or increased discharge or activity could lower existing water quality and thus require the important benefits demonstration. However, RIDEM will: 1) evaluate applications on a case-by-case basis, using BPJ and all pertinent and available facts, including scientific and technical data and calculations as provided by the applicant; and 2) determine whether the incremental loss is significant enough to require the important benefits demonstration described below. [If not then as a general rule RIDEM will allocate no more than 20%.] Some of the considerations which will be made to determine if an impact is significant in each site specific decision are: 1) percent change in water quality parameter value and their temporal distribution; 2) quality and value of the resource; 3) cumulative impact of discharges and activities on water quality to-date; 4) measurability of the change; 5) visibility of the change; 6) impact on fish and wildlife habitat; and 7) impact on potential and existing uses. As a general guide, any discharge or activity which consumes greater than 20% of the remaining assimilative capacity (See Section VI.B.2) will be considered a significant impact and will be required to demonstrate important economic or social benefits to justify the activity (See Section VI.C. below). However, on a case-by-case basis, <u>any</u> proposed percent consumption of the remaining assimilative capacity may be deemed significant and invoke full requirements to demonstrate important economic or social benefits."

In terms of a RIPDES permit, an increased discharge is defined as an increase in any limitation, which would result in an increased mass loading to a receiving water. The baseline for this comparison would be the monthly average mass loading established by the previous permit. It would be inappropriate to use the daily maximum mass loading since the Policy is not applicable to short-term changes in water quality.

For the purposes of ensuring that the revised limit is consistent with the requirements of antidegradation, existing water quality must be defined. As explained earlier, RIDEM evaluates existing water quality by determining the pollutant levels which would result under the design conditions appropriate for the particular criteria (i.e., background water quality, when available and/or appropriate; non-point source inputs; and existing RIPDES permit limitations or recent historical discharge data, whichever is higher). In general, available data would be used to make this determination.

[3]ONRWs are a special subset of high quality water bodies, identified by the State as having significant recreational or ecological water uses.

Using the above-mentioned criteria, the present instream water quality C_p is defined as:

$$C_p = \frac{(DF - 1) * C_b + (1 * C_d)}{DF}$$

where: C_b = background concentration[4]
C_d = discharge data[5]
DF = dilution factor

If the waterbody is a high quality water for the pollutant in question ($C_p < C_{criteria}$), then the discharge requires an evaluation under Tier 2 protection. If the waterbody is not determined to be high quality for that parameter, then antibacksliding will allow an increased permit limit only if it can be assured that water quality standards would be attained. Therefore, the permit limit would be calculated to comply with Tier 1 protection, using the procedures noted previously (i.e., $Limit_1$).

Assuming the receiving water has been designated as a high quality waterbody for the parameter under investigation, the next step is to determine whether the new or increased discharge is permissible and if so whether an important benefits demonstration is required. As explained above, for existing discharges RIDEM shall follow the general rule of allocating no more than 20% of the remaining assimilative capacity without the need to complete this demonstration (assuming the receiving water is not an SRPW or ONRW). On a case-by-case basis, the RIDEM may limit the allocation or determine that any incremental loss or impact to the receiving water is significant enough to require a detailed important benefits demonstration.

Water Quality Based Limits - Considering Antibacksliding and Antidegradation

Below are the four (4) steps RIDEM used to establish permit limitations for Copper to be consistent with Tier 2 protection of antidegradation.

1) Determine the remaining assimilative capacity of the receiving water C_{rac} . The remaining assimilative capacity (or buffer) is equivalent to the difference between the criteria and the calculated present instream water quality concentrations:

$$C_{rac} = C_{criteria} - C_p$$

where:
$C_{criteria}$=applicable standard for the most sensitive use; and
C_p = the calculated present water quality concentration.

2) Establish the percentage of the remaining assimilative capacity that will be allocated to the permittee.

RIDEM allocated 0% of the remaining assimilative capacity for Copper because the historical discharge concentration was well below the previous permit limit.

[4]Data collected at a location that is unimpacted by significant point source discharges.

[5]Discharge data refers to the maximum of the permit limit or the historic discharge level. The historic discharge level is determined by calculating the upper 95th percent confidence interval for the monthly average reported data for the past five (5) years. For specific cases, changes in treatment efficiency or pretreatment limitations may support the use of an alternative period of time. Calculations of the upper 95th percentile may be found in Attachment A-7.

3) Calculate an increased permit limit that would meet the Antidegradation Implementation Policy.

The next step is to calculate a permit limit based on the available concentration. Basically, the available concentration is a percentage of the remaining assimilative capacity of the receiving water, which can be allocated to the permittee, plus the present water quality. This concentration is then used to calculate a permit limit. The limit is calculated by subtracting background data (if available or appropriate) from the criteria and using the appropriate dilution factors and allocation factors in a mass balanced relationship.

The limit is determined by:

$$Limit_2 = (C_p + \% * C_{rac}) * DF - (DF - 1) * C_b$$

4) Finally, compare $Limit_1$ to $Limit_2$.

The final limit is the minimum of $Limit_1$ and $Limit_2$.

Attachment A-7 contains calculations determining the historic discharge level and illustrating the antibacksliding/antidegradation process for Copper.

A summary of State User Fee Program data and a summary of DMR data for the past five (5) years are provided in Attachments A-6 and A-5 respectively.

Attachment A-8 is a summary comparison of the allowable limits vs. the DMR and State User Fee Program data.

Reasonable Potential

In accordance with 40 CFR Part 122.4(d)(1)(i), 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, the most stringent calculated acute and chronic concentrations were compared to the average Discharge Monitoring Report (DMR) data and the mean of the concentrations reported in the WWTF's annual priority pollutant scans. After the metals data collected from the Bristol WWTF during the previous five (5) years was evaluated, the data showed that limits could be eliminated for Copper, due to a lack of reasonable potential for a water quality exceedance. Copper monitoring is still required as part of the bioassay testing. In addition, permit limits are required for TRC.

BPJ-Based Permit Limits for Nutrients

The requirement of testing for nutrients, nitrate, nitrite, and TKN has been maintained to make a determination on nutrient loadings in the receiving water. This information will aid the Department in decision making on the necessity of nutrient removal from the treatment plant wastewater.

Bioassay Testing

The biomonitoring requirements are set forth in 40 CFR 133.11 and in the State's Water Quality Regulations. The bioassay requirements in the permit, one (1) acute toxicity test to be conducted on effluent once per quarter, shall assure control of toxicity in the effluent. DEM's toxicity permitting policy is based on past toxicity data and the level of available dilution. Past bioassay monitoring data for Bristol has shown two occurrences of toxicity over the past five (5) years. DEM's toxicity permitting policy requires that acute toxicity be evaluated for effluents with dilutions between 20:1 and 100:1. Therefore, the permit requires that an acute toxicity test be conducted once per quarter on Mysids. The permit contains an acute LC_{50} $\geq$100% effluent limit that shall assure control of the toxicity in the effluent. If recurrent toxicity is demonstrated, then toxicity identification and reduction will be required.

Although these pollutants did not have “reasonable potential”, quarterly monitoring for Cyanide, Total Ammonia, Total Aluminum, Total Cadmium, Total Copper, Hexavalent Chromium, Total Lead, Total Nickel, and Total Zinc have been included in the permit as part of the standard list of pollutants monitored as part of the quarterly toxicity testing.

Other Limits and Conditions

The effluent monitoring requirements have been specified in accordance with RIPDES regulations as well as 40 CFR 122.41 (J), 122.44 (i), and 122.48 to yield data representative of the discharge.

The permit contains requirements for the permittee to comply with the State’s Sludge Regulations and the RIDEM Order of Approval for sludge disposal in accordance with the 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 an Industrial Pretreatment Program (IPP)). This program is being required under authority of Section 402(b)(8) of the CWA and 40 CFR 122.44(j)(2) and 403.8 because Bristol receives discharges of industrial wastewater. RIDEM approved Bristol’s IPP on February 29, 1984.

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.

Final Permit Limits

Table 1

Presented in the following Table is a summary of the permit limitations for outfall 001A set forth in the Final Permit.

Parameter	Monthly Average (Minimum)	Weekly Average	Daily Maximum (Maximum)
Flow	3.79 MGD		--- MGD
BOD_5	948 lbs/day		1580 lbs/day
BOD_5	30 mg/l	45 mg/l	50 mg/l
BOD - % removal	85%		
TSS	948 lbs/day		1580 lbs/day
TSS	30 mg/l	45 mg/l	50 mg/l
TSS - % removal	85%		
Settleable Solids		--- ml/l	--- ml/l
Fecal Coliform	--- MPN/100 ml	--- MPN/100 ml	--- MPN/100 ml
Enterococci	35 cfu/100 ml		276 cfu/100 ml
Total Residual Chlorine (TRC)	364 ug/l		364 ug/l
pH	(6.5 SU)		(8.5 SU)
Oil and Grease			--- mg/l
TKN (as N)	--- mg/l		--- mg/l
Nitrate, Total (as N)	--- mg/l		--- mg/l
Nitrite, Total (as N)	--- mg/l		--- mg/l
Nitrogen, Total (as N)	--- lb/day		
Nitrogen, Total (as N)	--- mg/l		--- mg/l
Mysidopsis bahia – LC_{50}			>=100%
Total Copper	--- ug/L		--- ug/L
Total Cadmium	--- ug/L		--- ug/L
Hexavalent Chromium	--- ug/L		--- ug/L
Total Lead	--- ug/L		--- ug/L
Total Zinc	--- ug/L		--- ug/L
Total Nickel	--- ug/L		--- ug/L
Total Aluminum	--- ug/L		--- ug/L
Cyanide	--- ug/L		--- ug/L
Total Ammonia	--- ug/L		--- ug/L

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

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. Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to the Rhode Island Department of Environmental Management. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty (30) days public notice whenever the Director finds that response to this notice indicates significant public interest. 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 a public hearing, if such hearing is held, 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.
Department of Environmental Management
Office of Water Resources
235 Promenade Street
Providence, Rhode Island 02908
Telephone: (401) 222-4700 x7046

7/22/16
Date

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

ATTACHMENT A-1: HISTORICAL EFFLUENT DATA

DESCRIPTION OF DISCHARGE: Discharge from settling tanks 001

EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

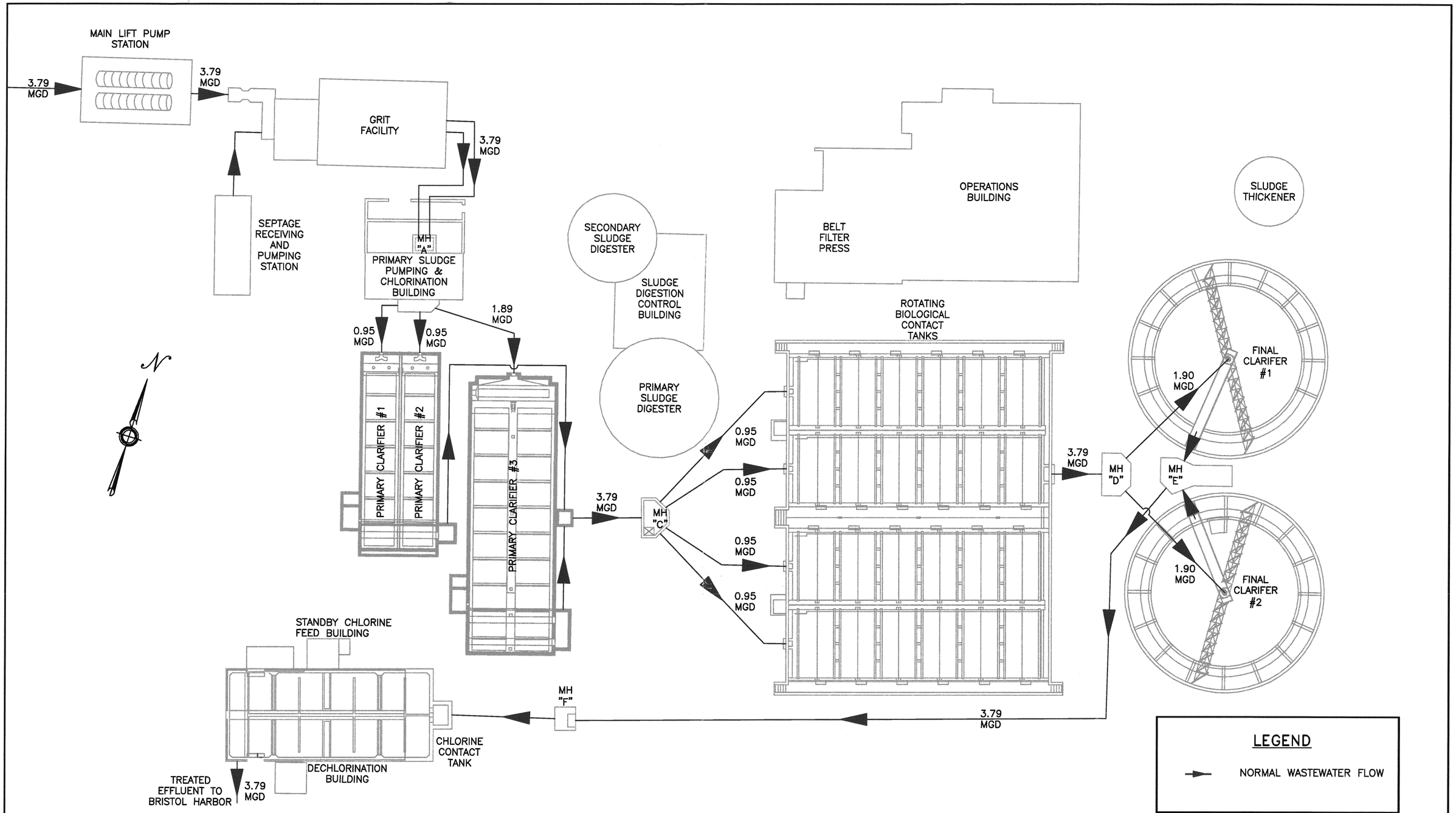
PARAMETER	MONTHLY AVG.[1]	WEEKLY AVG.[2]	DAILY MAX.[3]
FLOW, MGD	3.01		14[4]
BOD, LBS/DY	303.9 (AVG. MASS)		517.9 (MAX. MASS)
BOD, MG/L	12.43	18.70	19.52
BOD, % REMOVAL	92.38		
TSS, LBS/DY	254.94		522.42
TSS, MG/L	11.20	15.16	20.32
TSS, % REMOVAL[5]	94.35		
SETTLEABLE SOLIDS, ML/L		0.0783	0.0937
FECAL COLIFORMS MPN/100 ML	35.00 MPN / 100 ML	115.02 MPN / 100 ML	1200283.03 MPN / 100 ML
CHLORINE, TOTAL RESIDUAL UG/L	98.43		305.17
PH, S.U.	6.84		7.55
OIL & GREASE MG/L			0.925
NITROGEN TOTAL KJELDHAL MG/L	20.37		23.84
NITROGEN NITRATE (TOTAL AS N)	8.88		9.40
NITROGEN NITRITE (TOTAL AS N)	0.40		0.26
TOTAL NITROGEN	33.56		32.75
TOTAL NITROGEN LOAD (LB/DAY)	663.6217		
COPPER, TOTAL, UG/L	14.37		20.25

Biotoxicity Data LC_{50} Values (in percent effluent)

	2013		2014				2015		
	3rd qtr.	4th qtr.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	1st qtr.	2nd qtr.	3rd qtr.
Pre-Cl_2 Mysid	>100	>100	>100	>100	=61.6	=75	>100	>100	>100

[1]Data represents statistical mean of the monthly average from October 2010 – September 2015
[2]Data represents statistical mean of the weekly average from October 2010 – September 2015
[3]Data represents statistical mean of the daily maximum from October 2010 – September 2015
[4]Data represents maximum monthly value of maximum flow from October 2010 – September 2015
[5]Data represents mean minimum value from October 2010 – September 2015

ATTACHMENT A-2: Process flow diagram for Bristol WWTF



NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION

REVISIONS

DRAWN BY: AJG
DEPT. CHECK: BW
PROJ. CHECK: JRD

BRISTOL WASTEWATER TREATMENT FACILITY
BRISTOL, RI

BETA Group, Inc.
Engineers . Scientists . Planners
6 Blackstone Valley Place
Lincoln, RI 02865
401.333.2382
email: BETA@BETA-inc.com

SCALE: NOT TO SCALE

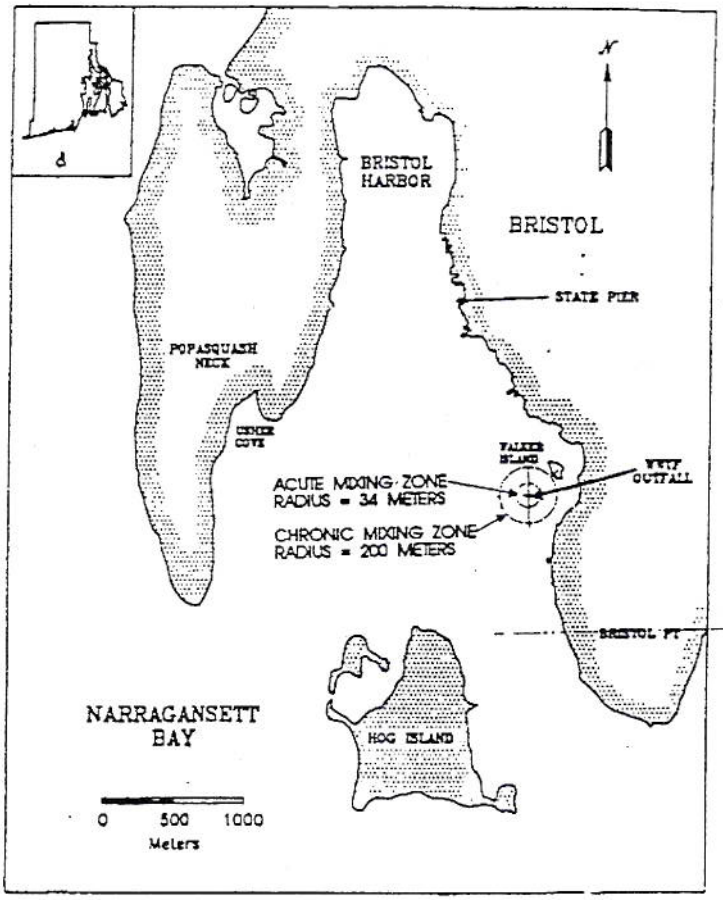
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

FIGURE 1-1
FLOW SCHEMATIC

JOB 3800
FILE NO.
SHEET 1

ATTACHMENT A-3: Bristol WWTF Mixing Zone

FIGURE #1 BRISTOL WWTF MIXING ZONE



ATTACHMENT A-4

Calculation of Allowable Acute and Chronic Discharge Limitations Based on Saltwater Aquatic Life Criteria and Human Health Criteria

CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS

FACILITY SPECIFIC DATA INPUT SHEET

NOTE: LIMITS BASED ON RI WATER QUALITY CRITERIA DATED JULY 2006

FACILITY NAME: **Bristol WWTF**

RIPDES PERMIT #: **RI0100005**

	DISSOLVED BACKGROUND DATA (ug/L)	ACUTE METAL TRANSLATOR	CHRONIC METAL TRANSLATOR
ALUMINUM	NA	NA	NA
ARSENIC	NA	1	1
CADMIUM	0.04601	0.994	0.994
CHROMIUM III	NA	NA	NA
CHROMIUM VI	0.2137	0.993	0.993
COPPER	0.992	0.83	0.83
LEAD	0.07987	0.951	0.951
MERCURY	NA	0.85	NA
NICKEL	2.1862	0.99	0.99
SELENIUM	NA	0.998	0.998
SILVER	0.008523	0.85	0.85
ZINC	NA	0.946	0.946

USE NA WHEN NO DATA IS AVAILABLE

NOTE 1: BACKGROUND DATA BASED ON AVERAGE CONCENTRATIONS OBTAINED FROM THE FOUR SINBADD CRUISES IN JANUARY 1987 REPORT LOCATION 12 B8, B9, B13, B14, B15, & B16).

NOTE 2: METAL TRANSLATORS FROM RI WATER QUALITY REGS.

DILUTION FACTORS		
ACUTE =	28	x
CHRONIC =	100	x
HUMAN HEALTH =	100	x

NOTE: TEST WWTF'S DILUTION FACTORS OBTAINED FROM A DYE STUDY.

TOTAL AMMONIA CRITERIA (ug/L)		
WINTER ACUTE =	21000	
CHRONIC =	3100	
SUMMER ACUTE =	7300	
CHRONIC =	1100	

NOTE 1: LIMITS ARE FROM TABLE 3 IN THE RI WATER QUALITY REGS. USING:
SALINITY = 30 g/Kg
WINTER (NOV-APRIL) pH=8.0 s.u.;
SUMMER (MAY-OCT) pH=8.0 s.u.;
WINTER (NOV-APRIL) TEMP=5.0 C;
SUMMER (MAY-OCT) TEMP=20.0 C.

Water Quality Based Effluent Limits - Saltwater

CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS

FACILITY NAME: Bristol WWTF RIPDES PERMIT #: RI0100005

NOTE: METALS CRITERIA ARE DISSOLVED, METALS LIMITS ARE TOTAL; AMMONIA CRITERIA AND LIMITS HAVE BEEN CONVERTED TO ug/l N.

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	SALTWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	SALTWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
PRIORITY POLLUTANTS:							
TOXIC METALS AND CYANIDE							
ANTIMONY	7440360			No Criteria		640	51200
ARSENIC (limits are total recoverable)	7440382	NA	69	1545.6	36	1.4	112
ASBESTOS	1332214			No Criteria			No Criteria
BERYLLIUM	7440417			No Criteria			No Criteria
CADMIUM (limits are total recoverable)	7440439	0.04601	40	1012.834738	8.8		792.1981992
CHROMIUM III (limits are total recoverable)	16065831	NA		No Criteria			No Criteria
CHROMIUM VI (limits are total recoverable)	18540299	0.2137	1100	27909.59728	50		4510.416616
COPPER (limits are total recoverable)	7440508	0.992	4.8	113.4650602	3.1		217.8216867
CYANIDE	57125		1	22.40	1	140	80
LEAD (limits are total recoverable)	7439921	0.07987	210	5562.401167	8.1		758.2469716
MERCURY (limits are total recoverable)	7439976	NA	1.8	47.43529412	0.94	0.15	12
NICKEL (limits are total recoverable)	7440020	2.1862	74	1824.012727	8.2	4600	526.8345455
SELENIUM (limits are total recoverable)	7782492	NA	290	6509.018036	71	4200	5691.382766
SILVER (limits are total recoverable)	7440224	0.008523	1.9	56.05868118			No Criteria
THALLIUM	7440280			No Criteria		0.47	37.6
ZINC (limits are total recoverable)	7440666	NA	90	2131.078224	81	26000	6849.894292
VOLATILE ORGANIC COMPOUNDS							
ACROLEIN	107028			No Criteria		290	23200
ACRYLONITRILE	107131			No Criteria		2.5	200
BENZENE	71432			No Criteria		510	40800
BROMOFORM	75252			No Criteria		1400	112000
CARBON TETRACHLORIDE	56235			No Criteria		16	1280
CHLOROBENZENE	108907			No Criteria		1600	128000
CHLORODIBROMOMETHANE	124481			No Criteria		130	10400
CHLOROFORM	67663			No Criteria		4700	376000
DICHLOROBROMOMETHANE	75274			No Criteria		170	13600
1,2DICHLOROETHANE	107062			No Criteria		370	29600
1,1DICHLOROETHYLENE	75354			No Criteria		7100	568000
1,2DICHLOROPROPANE	78875			No Criteria		150	12000
1,3DICHLOROPROPYLENE	542756			No Criteria		21	1680
ETHYLBENZENE	100414			No Criteria		2100	168000
BROMOMETHANE (methyl bromide)	74839			No Criteria		1500	120000
CHLOROMETHANE (methyl chloride)	74873			No Criteria			No Criteria
METHYLENE CHLORIDE	75092			No Criteria		5900	472000

Water Quality Based Effluent Limits - Saltwater

CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS

FACILITY NAME: Bristol WWTF RIPDES PERMIT #: RI0100005

NOTE: METALS CRITERIA ARE DISSOLVED, METALS LIMITS ARE TOTAL; AMMONIA CRITERIA AND LIMITS HAVE BEEN CONVERTED TO ug/l N.

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	SALTWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	SALTWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
1,1,2,2TETRACHLOROETHANE	79345			No Criteria		40	3200
TETRACHLOROETHYLENE	127184			No Criteria		33	2640
TOLUENE	108883			No Criteria		15000	1200000
1,2TRANSDICHLOROETHYLENE	156605			No Criteria		10000	800000
1,1,1TRICHLOROETHANE	71556			No Criteria			No Criteria
1,1,2TRICHLOROETHANE	79005			No Criteria		160	12800
TRICHLOROETHYLENE	79016			No Criteria		300	24000
VINYL CHLORIDE	75014			No Criteria		2.4	192
ACID ORGANIC COMPOUNDS							
2CHLOROPHENOL	95578			No Criteria		150	12000
2,4DICHLOROPHENOL	120832			No Criteria		290	23200
2,4DIMETHYLPHENOL	105679			No Criteria		850	68000
4,6DINITRO2METHYL PHENOL	534521			No Criteria		280	22400
2,4DINITROPHENOL	51285			No Criteria		5300	424000
4NITROPHENOL	88755			No Criteria			No Criteria
PENTACHLOROPHENOL	87865		13	291.2	7.9	30	632
PHENOL	108952			No Criteria		1700000	136000000
2,4,6TRICHLOROPHENOL	88062			No Criteria		24	1920
BASE NEUTRAL COMPUNDS							
ACENAPHTHENE	83329			No Criteria		990	79200
ANTHRACENE	120127			No Criteria		40000	3200000
BENZIDINE	92875			No Criteria		0.002	0.16
POLYCYCLIC AROMATIC HYDROCARBONS				No Criteria		0.18	14.4
BIS(2CHLOROETHYL)ETHER	111444			No Criteria		5.3	424
BIS(2CHLOROISOPROPYL)ETHER	108601			No Criteria		65000	5200000
BIS(2ETHYLHEXYL)PHTHALATE	117817			No Criteria		22	1760
BUTYL BENZYL PHTHALATE	85687			No Criteria		1900	152000
2CHLORONAPHTHALENE	91587			No Criteria		1600	128000
1,2DICHLOROBENZENE	95501			No Criteria		1300	104000
1,3DICHLOROBENZENE	541731			No Criteria		960	76800
1,4DICHLOROBENZENE	106467			No Criteria		190	15200
3,3DICHLOROBENZIDENE	91941			No Criteria		0.28	22.4
DIETHYL PHTHALATE	84662			No Criteria		44000	3520000
DIMETHYL PHTHALATE	131113			No Criteria		1100000	88000000
DInBUTYL PHTHALATE	84742			No Criteria		4500	360000
2,4DINITROTOLUENE	121142			No Criteria		34	2720

Water Quality Based Effluent Limits - Saltwater

CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS

FACILITY NAME: Bristol WWTF RIPDES PERMIT #: RI0100005

NOTE: METALS CRITERIA ARE DISSOLVED, METALS LIMITS ARE TOTAL; AMMONIA CRITERIA AND LIMITS HAVE BEEN CONVERTED TO ug/l N.

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	SALTWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	SALTWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
1,2DIPHENYLHYDRAZINE	122667			No Criteria		2	160
FLUORANTHENE	206440			No Criteria		140	11200
FLUORENE	86737			No Criteria		5300	424000
HEXACHLOROBENZENE	118741			No Criteria		0.0029	0.232
HEXACHLOROBUTADIENE	87683			No Criteria		180	14400
HEXACHLOROCYCLOPENTADIENE	77474			No Criteria		1100	88000
HEXACHLOROETHANE	67721			No Criteria		33	2640
ISOPHORONE	78591			No Criteria		9600	768000
NAPHTHALENE	91203			No Criteria			No Criteria
NITROBENZENE	98953			No Criteria		690	55200
NNITROSODIMETHYLAMINE	62759			No Criteria		30	2400
NNITROSODINPROPYLAMINE	621647			No Criteria		5.1	408
NNITROSODIPHENYLAMINE	86306			No Criteria		60	4800
PYRENE	129000			No Criteria		4000	320000
1,2,4trichlorobenzene	120821			No Criteria		70	5600
PESTICIDES/PCBs							
ALDRIN	309002		1.3	29.12		0.0005	0.04
Alpha BHC	319846			No Criteria		0.049	3.92
Beta BHC	319857			No Criteria		0.17	13.6
Gamma BHC (Lindane)	58899		0.16	3.584		1.8	144
CHLORDANE	57749		0.09	2.016	0.004	0.0081	0.32
4,4DDT	50293		0.13	2.912	0.001	0.0022	0.08
4,4DDE	72559			No Criteria		0.0022	0.176
4,4DDD	72548			No Criteria		0.0031	0.248
DIELDRIN	60571		0.71	15.904	0.0019	0.00054	0.0432
ENDOSULFAN (alpha)	959988		0.034	0.7616	0.0087	89	0.696
ENDOSULFAN (beta)	33213659		0.034	0.7616	0.0087	89	0.696
ENDOSULFAN (sulfate)	1031078			No Criteria		89	7120
ENDRIN	72208		0.037	0.8288	0.0023	0.06	0.184
ENDRIN ALDEHYDE	7421934			No Criteria		0.3	24
HEPTACHLOR	76448		0.053	1.1872	0.0036	0.00079	0.0632
HEPTACHLOR EPOXIDE	1024573		0.053	1.1872	0.0036	0.00039	0.0312
POLYCHLORINATED BIPHENYLS3	1336363			No Criteria	0.03	0.00064	0.0512
2,3,7,8TCDD (Dioxin)	1746016			No Criteria		0.000000051	0.00000408
TOXAPHENE	8001352		0.21	4.704	0.0002	0.0028	0.016
TRIBUTYLTIN			0.42	9.408	0.0074		0.592

CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS

FACILITY NAME: Bristol WWTF RIPDES PERMIT #: RI0100005

NOTE: METALS CRITERIA ARE DISSOLVED, METALS LIMITS ARE TOTAL; AMMONIA CRITERIA AND LIMITS HAVE BEEN CONVERTED TO ug/l N.

CHEMICAL NAME	CAS #	BACKGROUND CONCENTRATION (ug/L)	SALTWATER CRITERIA ACUTE (ug/L)	DAILY MAX LIMIT (ug/L)	SALTWATER CRITERIA CHRONIC (ug/L)	HUMAN HEALTH NON-CLASS A CRITERIA (ug/L)	MONTHLY AVE LIMIT (ug/L)
NON PRIORITY POLLUTANTS:							
OTHER SUBSTANCES							
ALUMINUM (limits are total recoverable)	7429905	NA		No Criteria			No Criteria
AMMONIA as N (winter/summer)	7664417		17262 6000.6	386669 134413	2548 904.2		203856 72336
4BROMOPHENYL PHENYL ETHER				No Criteria			No Criteria
CHLORIDE	16887006			No Criteria			No Criteria
CHLORINE	7782505		13	364	7.5		750
4CHLORO2METHYLPHENOL				No Criteria			No Criteria
1CHLORONAPHTHALENE				No Criteria			No Criteria
4CHLOROPHENOL	106489			No Criteria			No Criteria
2,4DICHLORO6METHYLPHENOL				No Criteria			No Criteria
1,1DICHLOROPROPANE				No Criteria			No Criteria
1,3DICHLOROPROPANE	142289			No Criteria			No Criteria
2,3DINITROTOLUENE				No Criteria			No Criteria
2,4DINITRO6METHYL PHENOL				No Criteria			No Criteria
IRON	7439896			No Criteria			No Criteria
pentachlorobenzene	608935			No Criteria			No Criteria
PENTACHLOROETHANE				No Criteria			No Criteria
1,2,3,5tetrachlorobenzene				No Criteria			No Criteria
1,1,1,2TETRACHLOROETHANE	630206			No Criteria			No Criteria
2,3,4,6TETRACHLOROPHENOL	58902			No Criteria			No Criteria
2,3,5,6TETRACHLOROPHENOL				No Criteria			No Criteria
2,4,5TRICHLOROPHENOL	95954			No Criteria			No Criteria
2,4,6TRINITROPHENOL	88062			No Criteria			No Criteria
XYLENE	1330207			No Criteria			No Criteria

CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS

FACILITY NAME: Bristol WWTF RIPDES PERMIT #: RI0100005

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
PRIORITY POLLUTANTS:			
TOXIC METALS AND CYANIDE			
ANTIMONY	7440360	No Criteria	51200.00
ARSENIC, TOTAL	7440382	1545.60	112.00
ASBESTOS	1332214	No Criteria	No Criteria
BERYLLIUM	7440417	No Criteria	No Criteria
CADMIUM, TOTAL	7440439	1012.83	792.20
CHROMIUM III, TOTAL	16065831	No Criteria	No Criteria
CHROMIUM VI, TOTAL	18540299	27909.60	4510.42
COPPER, TOTAL	7440508	113.47	113.47
CYANIDE	57125	22.40	22.40
LEAD, TOTAL	7439921	5562.40	758.25
MERCURY, TOTAL	7439976	47.44	12.00
NICKEL, TOTAL	7440020	1824.01	526.83
SELENIUM, TOTAL	7782492	6509.02	5691.38
SILVER, TOTAL	7440224	56.06	No Criteria
THALLIUM	7440280	No Criteria	37.60
ZINC, TOTAL	7440666	2131.08	2131.08
VOLATILE ORGANIC COMPOUNDS			
ACROLEIN	107028	No Criteria	23200.00
ACRYLONITRILE	107131	No Criteria	200.00
BENZENE	71432	No Criteria	40800.00
BROMOFORM	75252	No Criteria	112000.00
CARBON TETRACHLORIDE	56235	No Criteria	1280.00
CHLOROBENZENE	108907	No Criteria	128000.00
CHLORODIBROMOMETHANE	124481	No Criteria	10400.00
CHLOROFORM	67663	No Criteria	376000.00
DICHLOROBROMOMETHANE	75274	No Criteria	13600.00
1,2DICHLOROETHANE	107062	No Criteria	29600.00
1,1DICHLOROETHYLENE	75354	No Criteria	568000.00
1,2DICHLOROPROPANE	78875	No Criteria	12000.00
1,3DICHLOROPROPYLENE	542756	No Criteria	1680.00
ETHYLBENZENE	100414	No Criteria	168000.00
BROMOMETHANE (methyl bromide)	74839	No Criteria	120000.00
CHLOROMETHANE (methyl chloride)	74873	No Criteria	No Criteria
METHYLENE CHLORIDE	75092	No Criteria	472000.00
1,1,2,2TETRACHLOROETHANE	79345	No Criteria	3200.00

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
TETRACHLOROETHYLENE	127184	No Criteria	2640.00
TOLUENE	108883	No Criteria	1200000.00
1,2TRANSDICHLOROETHYLENE	156605	No Criteria	800000.00
1,1,1TRICHLOROETHANE	71556	No Criteria	No Criteria
1,1,2TRICHLOROETHANE	79005	No Criteria	12800.00
TRICHLOROETHYLENE	79016	No Criteria	24000.00
VINYL CHLORIDE	75014	No Criteria	192.00
ACID ORGANIC COMPOUNDS			
2CHLOROPHENOL	95578	No Criteria	12000.00
2,4DICHLOROPHENOL	120832	No Criteria	23200.00
2,4DIMETHYLPHENOL	105679	No Criteria	68000.00
4,6DINITRO2METHYL PHENOL	534521	No Criteria	22400.00
2,4DINITROPHENOL	51285	No Criteria	424000.00
4NITROPHENOL	88755	No Criteria	No Criteria
PENTACHLOROPHENOL	87865	291.20	291.20
PHENOL	108952	No Criteria	136000000.00
2,4,6TRICHLOROPHENOL	88062	No Criteria	1920.00
BASE NEUTRAL COMPUNDS			
ACENAPHTHENE	83329	No Criteria	79200.00
ANTHRACENE	120127	No Criteria	3200000.00
BENZIDINE	92875	No Criteria	0.16
PAHs		No Criteria	14.40
BIS(2CHLOROETHYL)ETHER	111444	No Criteria	424.00
BIS(2CHLOROISOPROPYL)ETHER	108601	No Criteria	5200000.00
BIS(2ETHYLHEXYL)PHTHALATE	117817	No Criteria	1760.00
BUTYL BENZYL PHTHALATE	85687	No Criteria	152000.00
2CHLORONAPHTHALENE	91587	No Criteria	128000.00
1,2DICHLOROBENZENE	95501	No Criteria	104000.00
1,3DICHLOROBENZENE	541731	No Criteria	76800.00
1,4DICHLOROBENZENE	106467	No Criteria	15200.00
3,3DICHLOROBENZIDENE	91941	No Criteria	22.40
DIETHYL PHTHALATE	84662	No Criteria	3520000.00
DIMETHYL PHTHALATE	131113	No Criteria	88000000.00
DI-n-BUTYL PHTHALATE	84742	No Criteria	360000.00
2,4DINITROTOLUENE	121142	No Criteria	2720.00
1,2DIPHENYLHYDRAZINE	122667	No Criteria	160.00
FLUORANTHENE	206440	No Criteria	11200.00

CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS

FACILITY NAME: Bristol WWTF RIPDES PERMIT #: RI0100005

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
FLUORENE	86737	No Criteria	424000.00
HEXACHLOROBENZENE	118741	No Criteria	0.23
HEXACHLOROBUTADIENE	87683	No Criteria	14400.00
HEXACHLOROCYCLOPENTADIENE	77474	No Criteria	88000.00
HEXACHLOROETHANE	67721	No Criteria	2640.00
ISOPHORONE	78591	No Criteria	768000.00
NAPHTHALENE	91203	No Criteria	No Criteria
NITROBENZENE	98953	No Criteria	55200.00
N-NITROSODIMETHYLAMINE	62759	No Criteria	2400.00
N-NITROSODI-N-PROPYLAMINE	621647	No Criteria	408.00
N-NITROSODIPHENYLAMINE	86306	No Criteria	4800.00
PYRENE	129000	No Criteria	320000.00
1,2,4trichlorobenzene	120821	No Criteria	5600.00
PESTICIDES/PCBs			
ALDRIN	309002	29.12	0.04
Alpha BHC	319846	No Criteria	3.92
Beta BHC	319857	No Criteria	13.60
Gamma BHC (Lindane)	58899	3.58	3.58
CHLORDANE	57749	2.02	0.32
4,4DDT	50293	2.91	0.08
4,4DDE	72559	No Criteria	0.18
4,4DDD	72548	No Criteria	0.25
DIELDRIN	60571	15.90	0.04
ENDOSULFAN (alpha)	959988	0.76	0.70
ENDOSULFAN (beta)	33213659	0.76	0.70
ENDOSULFAN (sulfate)	1031078	No Criteria	7120.00
ENDRIN	72208	0.83	0.18
ENDRIN ALDEHYDE	7421934	No Criteria	24.00
HEPTACHLOR	76448	1.19	0.06
HEPTACHLOR EPOXIDE	1024573	1.19	0.03
POLYCHLORINATED BIPHENYLS3	1336363	No Criteria	0.05
2,3,7,8TCDD (Dioxin)	1746016	No Criteria	0.00
TOXAPHENE	8001352	4.70	0.02
TRIBUTYLTIN		9.41	0.59

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
NON PRIORITY POLLUTANTS:			
OTHER SUBSTANCES			
ALUMINUM, TOTAL	7429905	No Criteria	No Criteria
AMMONIA (as N), WINTER (NOV-APR	7664417	386668.80	203856.00
AMMONIA (as N), SUMMER (MAY-OC	7664417	134413.44	72336.00
4BROMOPHENYL PHENYL ETHER		No Criteria	No Criteria
CHLORIDE	16887006	No Criteria	No Criteria
CHLORINE	7782505	364.00	364.00
4CHLORO2METHYLPHENOL		No Criteria	No Criteria
1CHLORONAPHTHALENE		No Criteria	No Criteria
4CHLOROPHENOL	106489	No Criteria	No Criteria
2,4DICHLORO6METHYLPHENOL		No Criteria	No Criteria
1,1DICHLOROPROPANE		No Criteria	No Criteria
1,3DICHLOROPROPANE	142289	No Criteria	No Criteria
2,3DINITROTOLUENE		No Criteria	No Criteria
2,4DINITRO6METHYL PHENOL		No Criteria	No Criteria
IRON	7439896	No Criteria	No Criteria
pentachlorobenzene	608935	No Criteria	No Criteria
PENTACHLOROETHANE		No Criteria	No Criteria
1,2,3,5tetrachlorobenzene		No Criteria	No Criteria
1,1,1,2TETRACHLOROETHANE	630206	No Criteria	No Criteria
2,3,4,6TETRACHLOROPHENOL	58902	No Criteria	No Criteria
2,3,5,6TETRACHLOROPHENOL		No Criteria	No Criteria
2,4,5TRICHLOROPHENOL	95954	No Criteria	No Criteria
2,4,6TRINITROPHENOL	88062	No Criteria	No Criteria
XYLENE	1330207	No Criteria	No Criteria

ATTACHMENT A-5

Summary of Discharge Monitoring Report Data
October 2010 through September 2015

BRISTOL WPCF

DMR Data Summary 3/7/16

***** NOT ICIS CERTIFIED*****

001A

BOD, 5-day, 20 deg. C Location= 1

	MO AVG lb/d	DAILY MX lb/d
Mean	303.9313	517.898
Minimum	2.88	4.38
Maximum	664.	992.
Data Count	60	60

	MO AVG mg/L	WKLY AVG mg/L	DAILY MX mg/L
Mean	12.4323	18.7012	19.515
Minimum	9.03	9.57	11.24
Maximum	17.37	217.3	34.87
Data Count	60	60	60

Chlorine, total residual Location= 1

	MO AVG ug/L	DAILY MX ug/L
Mean	98.4333	305.1667
Minimum	20.	70.
Maximum	240.	3340.
Data Count	60	60

Coliform, fecal general Location= 1

	MO AVG MPN/100mL	WKLY AVG MPN/100mL	DAILY MX MPN/100mL
Mean	35.0048	115.0235	1200283.025
Minimum	1.73	2.18	7.5
Maximum	149.2	1950.	24000000.
Data Count	60	60	60

Copper, total [as Cu] Location= 1

	MO AVG ug/L	DAILY MX ug/L
Mean	14.3697	20.2458
Minimum	4.	7.
Maximum	29.	47.
Data Count	60	60

Flow, in conduit or thru treatment plant Locat

	MO AVG MGD	DAILY MX MGD
Mean	3.0145	8.345
Minimum	1.771	3.2
Maximum	5.784	14.
Data Count	60	60

Nitrogen, Kjeldahl, total [as N] Location= 1

	MO AVG mg/L	DAILY MX mg/L

Mean	20.3713	23.8352
Minimum	2.5	2.5
Maximum	85.25	138.
Data Count	54	60

Nitrogen, nitrate total [as N] Location= 1

	MO AVG mg/L	DAILY MX mg/L
Mean	8.8835	9.3965
Minimum	.	.
Maximum	19.1	20.9
Data Count	54	60

Nitrogen, nitrite total [as N] Location= 1

	MO AVG mg/L	DAILY MX mg/L
Mean	.3983	.2583
Minimum	.	.
Maximum	9.25	10.8
Data Count	30	60

Nitrogen, total [as N] Location= 1

	MO AVG lb/d
Mean	663.6217
Minimum	49.3
Maximum	2206.
Data Count	60

	MO AVG mg/L	DAILY MX mg/L
Mean	33.5627	32.7483
Minimum	17.1	5.3
Maximum	96.1	144.7
Data Count	30	60

Oil & Grease Location= 1

	DAILY MX mg/L
Mean	.925
Minimum	.
Maximum	1.4
Data Count	60

pH Location= 1

	MINIMUM SU	MAXIMUM SU
Mean	6.842	7.5532
Minimum	6.51	7.19
Maximum	7.15	7.91
Data Count	60	60

Solids, settleable Location= 1

	WKLY AVG mL/L	DAILY MX mL/L
Mean	.0783	.0937
Minimum	.	.
Maximum	.1	.3
Data Count	60	60

Solids, total suspended Location= 1

	MO AVG lb/d	DAILY MX lb/d
Mean	254.9408	522.4205
Minimum	2.45	4.23
Maximum	464.	1318.
Data Count	60	60

	MO AVG mg/L	WKLY AVG mg/L	DAILY MX mg/L
Mean	11.2038	15.1572	20.3167
Minimum	5.16	6.16	8.5
Maximum	19.88	26.67	44.
Data Count	60	60	60

BOD, 5-day, 20 deg. C Location= G

	MO AVG lb/d	DAILY MX lb/d
Mean	4657.6067	7169.95
Minimum	423.4	4782.
Maximum	10210.	11838.
Data Count	60	60

	MO AVG mg/L	WKLY AVG mg/L	DAILY MX mg/L
Mean	193.396	234.935	282.0967
Minimum	16.46	135.2	165.5
Maximum	332.3	383.3	430.9
Data Count	60	60	60

Copper, total [as Cu] Location= G

	MO AVG ug/L	DAILY MX ug/L
Mean	75.0143	88.1429
Minimum	59.75	67.
Maximum	103.5	127.
Data Count	7	7

Solids, total suspended Location= G

	MO AVG lb/d	DAILY MX lb/d
Mean	4760.6583	8601.2633
Minimum	564.5	4670.
Maximum	9061.	19210.
Data Count	60	60

	MO AVG mg/L	WKLY AVG mg/L	DAILY MX mg/L
Mean	203.7758	255.595	348.8167
Minimum	23.45	31.2	21.
Maximum	366.6	484.	800.
Data Count	60	60	60

BOD, 5-day, percent removal Location= K

	MINIMUM %	MO AV MN %
Mean	93.3375	92.3829
Minimum	89.37	91.01
Maximum	96.21	94.31
Data Count	53	7

Solids, suspended percent removal Location

	MINIMUM %
Mean	94.3507
Minimum	90.97
Maximum	96.84
Data Count	60

001T

LC50 Static 48Hr Acute Mysid. Bahia Locati

	DAILY MN %
Mean	96.6632
Minimum	61.6
Maximum	100.
Data Count	19

ATTACHMENT A-6

Summary of State User Fee Program Data and Priority Pollutant Scan Data 2011 through 2015

results above detection, units ug/L

year	**parameter**	**values**	**max**	**ave**	**units**	**comment** - *PPS data unless otherwise noted*
2014	Ammonia-N	12500	12500	12500	ug/L	summer
2011	Arsenic	5	5	5	ug/L	2011 UFP
2011	Bis(2-ethylhexyl) phthalate	44.8	44.8	44.8	ug/L	
2011	Chromium	2	2	2	ug/L	2011 UFP
2011	Copper	17			ug/L	2011 UFP
2014	Copper	20			ug/L	
2011	Copper	22			ug/L	
2013	Copper	30			ug/L	
2015	Copper	30	30	23.8	ug/L	
2011	Diethyl Phthalate	17.4	17.4	17.4	ug/L	
2011	Nickel	7	7	7	ug/L	2011 UFP
2013	Phenol	80	80	80	ug/L	
2011	Selenium	13	13	13	ug/L	2011 UFP
2013	Silver	10	10	10	ug/L	
2011	Zinc	20			ug/L	
2013	Zinc	30			ug/L	
2014	Zinc	40			ug/L	
2011	Zinc	46	46	34	ug/L	2011 UFP

ATTACHMENT A-7

Anti-Backsliding Analysis for Copper

MONTHLY AVERAGE AND DAILY MAXIMUM PERMIT LIMIT
CALCULATIONS FOR MORE THAN TEN SAMPLES TSD pg E-19 and pg E-15

Determine Monthly Average and Daily Maximum Interim Limit

ALL MEASUREMENTS > DETECTION LIMIT

$n := 1$ Number of times the permittee will sample per month

$k := 50$ sample size of the data set $i := 1, 2 .. k$ counter

$x_i :=$ Daily pollutant data is best, use monthly average if necessary

16.6
17.5
11.38
10
9
14.6
12.75
10.6
15
10.6
14.5
15.75
8.2
11
12.5
12
6.75
8.4
4
4.25
15
16.75
21.5
17
20.4
14.75
17.2
11.75
16.4
10.75
9.5
10.75
8
10.75
13.5
16.4
22.5
12.75
15.6
15
10.4
15.25
10.5
12
15.8

$y_i := \ln(x_i)$

$$\mu y := \sum_i \frac{y_i}{k}$$

$$\sigma y := \sqrt{\sum_i \frac{(y_i - \mu y)^2}{k - 1}}$$

$E(x) := \exp(\mu y + 0.5 \cdot \sigma y^2)$ $E(x) = 13.3$

$Vx := \exp(2 \cdot \mu y + \sigma y^2) \cdot (\exp(\sigma y^2) - 1)$ $Vx = 22.6$

$Vn := \frac{Vx}{n}$

$E(n) := E(x)$

$X_{95} := E(n) + 1.645 \cdot Vn^{.5}$

$X_{95} = 21.1$ 95th percentile - monthly average limit normally distributed

$X_{99} := \exp(\mu y + 2.326 \cdot \sigma y)$

$X_{99} = 28.1$ 99th percentile - daily maximum limit log-normally distributed

14.5
18
13.5
12.75
15

ATTACHMENT A-8

Comparison of Allowable Limits with Discharge Monitoring Report Data and State User Fee Data

Facility Name: *Bristol WWTF*
RIPDES Permit #: *RI0100005*
Outfall #: *001A*

`	CAS #	Concentration Limits (ug/L) Based on WQ Criteria		Antideg. Limits (ug/L)	Ave UFP/PPS Data (ug/L) 2011-2015		Ave. DMR Data (ug/L) 10/10 - 9/15		Potential Permit Limits (ug/L)		Reasonable Potential?	
		Daily Max	Monthly Ave	Monthly Ave	Max	Ave	Daily Max	Monthly Ave	Daily Max	Monthly Ave	Daily Max	Monthly Ave
PRIORITY POLLUTANTS												
TOXIC METALS AND CYANIDE												
ANTIMONY	7440360	No Criteria	51200.00	---	---	---	---	---	---	51200		
ARSENIC (limits are total recoverable)	7440382	1545.60	112.00	---	5	5	---	---	1545.6	112	N	N
ASBESTOS	1332214	No Criteria	No Criteria	---	---	---	---	---	---	---		
BERYLLIUM	7440417	No Criteria	No Criteria	---	---	---	---	---	---	---		
CADMIUM (limits are total recoverable)	7440439	1012.83	792.20	---	---	---	---	---	1012.83474	792.1981992		
CHROMIUM III (limits are total recoverable)	16065831	No Criteria	No Criteria	---	---	---	---	---	---	---		
CHROMIUM VI (limits are total recoverable)	18540299	27909.60	4510.42	---	2	2	---	---	27909.5973	4510.416616	N	N
COPPER (limits are total recoverable)	7440508	113.47	113.47	73	30	23.8	20.25	14.37	113.46506	73	N	N
CYANIDE	57125	22.40	22.40	---	---	---	---	---	22.4	22.4		
LEAD (limits are total recoverable)	7439921	5562.40	758.25	---	---	---	---	---	5562.40117	758.2469716		
MERCURY (limits are total recoverable)	7439976	47.44	12.00	---	---	---	---	---	47.4352941	12		
NICKEL (limits are total recoverable)	7440020	1824.01	526.83	---	7	7	---	---	1824.01273	526.8345455	N	N
SELENIUM (limits are total recoverable)	7782492	6509.02	5691.38	---	13	13	---	---	6509.01804	5691.382766	N	N
SILVER (limits are total recoverable)	7440224	56.06	No Criteria	---	10	10	---	---	56.0586812	56.05868118	N	N
THALLIUM	7440280	No Criteria	37.60	---	---	---	---	---	---	37.6		
ZINC (limits are total recoverable)	7440666	2131.08	2131.08	---	46	34	---	---	2131.07822	2131.078224	N	N
VOLATILE ORGANIC COMPOUNDS												
ACROLEIN	107028	No Criteria	23200.00	---	---	---	---	---	---	23200		
ACRYLONITRILE	107131	No Criteria	200.00	---	---	---	---	---	---	200		
BENZENE	71432	No Criteria	40800.00	---	---	---	---	---	---	40800		
BROMOFORM	75252	No Criteria	112000.00	---	---	---	---	---	---	112000		
CARBON TETRACHLORIDE	56235	No Criteria	1280.00	---	---	---	---	---	---	1280		
CHLOROBENZENE	108907	No Criteria	128000.00	---	---	---	---	---	---	128000		
CHLORODIBROMOMETHANE	124481	No Criteria	10400.00	---	---	---	---	---	---	10400		
CHLOROFORM	67663	No Criteria	376000.00	---	---	---	---	---	---	376000		
DICHLOROBROMOMETHANE	75274	No Criteria	13600.00	---	---	---	---	---	---	13600		
1,2DICHLOROETHANE	107062	No Criteria	29600.00	---	---	---	---	---	---	29600		
1,1DICHLOROETHYLENE	75354	No Criteria	568000.00	---	---	---	---	---	---	568000		

1,2DICHLOROPROPANE	78875	No Criteria	12000.00	---	---	---	---	---	---	12000		
1,3DICHLOROPROPYLENE	542756	No Criteria	1680.00	---	---	---	---	---	---	1680		
ETHYLBENZENE	100414	No Criteria	168000.00	---	---	---	---	---	---	168000		
BROMOMETHANE (methyl bromide)	74839	No Criteria	120000.00	---	---	---	---	---	---	120000		
CHLOROMETHANE (methyl chloride)	74873	No Criteria	No Criteria	---	---	---	---	---	---	---		
METHYLENE CHLORIDE	75092	No Criteria	472000.00	---	---	---	---	---	---	472000		
1,1,2,2TETRACHLOROETHANE	79345	No Criteria	3200.00	---	---	---	---	---	---	3200		
TETRACHLOROETHYLENE	127184	No Criteria	2640.00	---	---	---	---	---	---	2640		
TOLUENE	108883	No Criteria	1200000.00	---	---	---	---	---	---	1200000		
1,2TRANSDICHLOROETHYLENE	156605	No Criteria	800000.00	---	---	---	---	---	---	800000		
1,1,1TRICHLOROETHANE	71556	No Criteria	No Criteria	---	---	---	---	---	---	---		
1,1,2TRICHLOROETHANE	79005	No Criteria	12800.00	---	---	---	---	---	---	12800		
TRICHLOROETHYLENE	79016	No Criteria	24000.00	---	---	---	---	---	---	24000		
VINYL CHLORIDE	75014	No Criteria	192.00	---	---	---	---	---	---	192		
ACID ORGANIC COMPOUNDS												
2CHLOROPHENOL	95578	No Criteria	12000.00	---	---	---	---	---	---	12000		
2,4DICHLOROPHENOL	120832	No Criteria	23200.00	---	---	---	---	---	---	23200		
2,4DIMETHYLPHENOL	105679	No Criteria	68000.00	---	---	---	---	---	---	68000		
4,6DINITRO2METHYL PHENOL	534521	No Criteria	22400.00	---	---	---	---	---	---	22400		
2,4DINITROPHENOL	51285	No Criteria	424000.00	---	---	---	---	---	---	424000		
4NITROPHENOL	88755	No Criteria	No Criteria	---	---	---	---	---	---	---		
PENTACHLOROPHENOL	87865	291.20	291.20	---	---	---	---	---	291.2	291.2		
PHENOL	108952	No Criteria	136000000.00	---	80	80	---	---	---	136000000		N
2,4,6TRICHLOROPHENOL	88062	No Criteria	1920.00	---	---	---	---	---	---	1920		
BASE NEUTRAL COMPOUNDS												
ACENAPHTHENE	83329	No Criteria	79200.00	---	---	---	---	---	---	79200		
ANTHRACENE	120127	No Criteria	3200000.00	---	---	---	---	---	---	3200000		
BENZIDINE	92875	No Criteria	0.16	---	---	---	---	---	---	0.16		
POLYCYCLIC AROMATIC HYDROCARBONS		No Criteria	14.40	---	---	---	---	---	---	14.4		
BIS(2CHLOROETHYL)ETHER	111444	No Criteria	424.00	---	---	---	---	---	---	424		
BIS(2CHLOROISOPROPYL)ETHER	108601	No Criteria	5200000.00	---	---	---	---	---	---	5200000		
BIS(2ETHYLHEXYL)PHTHALATE	117817	No Criteria	1760.00	---	44.8	44.8	---	---	---	1760		N
BUTYL BENZYL PHTHALATE	85687	No Criteria	152000.00	---	---	---	---	---	---	152000		
2CHLORONAPHTHALENE	91587	No Criteria	128000.00	---	---	---	---	---	---	128000		
1,2DICHLOROBENZENE	95501	No Criteria	104000.00	---	---	---	---	---	---	104000		
1,3DICHLOROBENZENE	541731	No Criteria	76800.00	---	---	---	---	---	---	76800		
1,4DICHLOROBENZENE	106467	No Criteria	15200.00	---	---	---	---	---	---	15200		
3,3DICHLOROBENZIDENE	91941	No Criteria	22.40	---	---	---	---	---	---	22.4		
DIETHYL PHTHALATE	84662	No Criteria	3520000.00	---	17.4	17.4	---	---	---	3520000		N
DIMETHYL PHTHALATE	131113	No Criteria	88000000.00	---	---	---	---	---	---	88000000		

DInBUTYL PHTHALATE	84742	No Criteria	360000.00	---	---	---	---	---	---	360000		
2,4DINITROTOLUENE	121142	No Criteria	2720.00	---	---	---	---	---	---	2720		
1,2DIPHENYLHYDRAZINE	122667	No Criteria	160.00	---	---	---	---	---	---	160		
FLUORANTHENE	206440	No Criteria	11200.00	---	---	---	---	---	---	11200		
FLUORENE	86737	No Criteria	424000.00	---	---	---	---	---	---	424000		
HEXACHLOROBENZENE	118741	No Criteria	0.23	---	---	---	---	---	---	0.232		
HEXACHLOROBUTADIENE	87683	No Criteria	14400.00	---	---	---	---	---	---	14400		
HEXACHLOROCYCLOPENTADIENE	77474	No Criteria	88000.00	---	---	---	---	---	---	88000		
HEXACHLOROETHANE	67721	No Criteria	2640.00	---	---	---	---	---	---	2640		
ISOPHORONE	78591	No Criteria	768000.00	---	---	---	---	---	---	768000		
NAPHTHALENE	91203	No Criteria	No Criteria	---	---	---	---	---	---	---		
NITROBENZENE	98953	No Criteria	55200.00	---	---	---	---	---	---	55200		
NNITROSODIMETHYLAMINE	62759	No Criteria	2400.00	---	---	---	---	---	---	2400		
NNITROSODINPROPYLAMINE	621647	No Criteria	408.00	---	---	---	---	---	---	408		
NNITROSODIPHENYLAMINE	86306	No Criteria	4800.00	---	---	---	---	---	---	4800		
PYRENE	129000	No Criteria	320000.00	---	---	---	---	---	---	320000		
1,2,4trichlorobenzene	120821	No Criteria	5600.00	---	---	---	---	---	---	5600		
PESTICIDES/PCBs												
ALDRIN	309002	29.12	0.04	---	---	---	---	---	29.12	0.04		
Alpha BHC	319846	No Criteria	3.92	---	---	---	---	---	---	3.92		
Beta BHC	319857	No Criteria	13.60	---	---	---	---	---	---	13.6		
Gamma BHC (Lindane)	58899	3.58	3.58	---	---	---	---	---	3.584	3.584		
CHLORDANE	57749	2.02	0.32	---	---	---	---	---	2.016	0.32		
4,4DDT	50293	2.91	0.08	---	---	---	---	---	2.912	0.08		
4,4DDE	72559	No Criteria	0.18	---	---	---	---	---	---	0.176		
4,4DDD	72548	No Criteria	0.25	---	---	---	---	---	---	0.248		
DIELDRIN	60571	15.90	0.04	---	---	---	---	---	15.904	0.0432		
ENDOSULFAN (alpha)	959988	0.76	0.70	---	---	---	---	---	0.7616	0.696		
ENDOSULFAN (beta)	33213659	0.76	0.70	---	---	---	---	---	0.7616	0.696		
ENDOSULFAN (sulfate)	1031078	No Criteria	7120.00	---	---	---	---	---	---	7120		
ENDRIN	72208	0.83	0.18	---	---	---	---	---	0.8288	0.184		
ENDRIN ALDEHYDE	7421934	No Criteria	24.00	---	---	---	---	---	---	24		
HEPTACHLOR	76448	1.19	0.06	---	---	---	---	---	1.1872	0.0632		
HEPTACHLOR EPOXIDE	1024573	1.19	0.03	---	---	---	---	---	1.1872	0.0312		
POLYCHLORINATED BIPHENYLS3	1336363	No Criteria	0.05	---	---	---	---	---	---	0.0512		
2,3,7,8TCDD (Dioxin)	1746016	No Criteria	0.00	---	---	---	---	---	---	0.00000408		
TOXAPHENE	8001352	4.70	0.02	---	---	---	---	---	4.704	0.016		
TRIBUTYLTIN		9.41	0.59						9.408	0.592		
NON PRIORITY POLLUTANTS:												
OTHER SUBSTANCES												

ALUMINUM (limits are total recoverable)	7429905	No Criteria	No Criteria	---	---	---	---	---	---	---		
AMMONIA (winter)	7664417	386668.80	203856.00	---	12500	12500	---	---	386668.8	203856	N	N
AMMONIA (summer)		134413.44	72336.00	---	---	---	---	---	134413.44	72336		
4BROMOPHENYL PHENYL ETHER	16887006	No Criteria	No Criteria	---	---	---	---	---	---	---		
CHLORIDE	7782505	No Criteria	No Criteria						---	---		
CHLORINE		364.00	364.00	---	---	---	305.2	98.4	364	364		
4CHLORO2METHYLPHENOL		No Criteria	No Criteria	---	---	---	---	---	---	---		
1CHLORONAPHTHALENE	106489	No Criteria	No Criteria	---	---	---	---	---	---	---		
4CHLOROPHENOL		No Criteria	No Criteria	---	---	---	---	---	---	---		
2,4DICHLORO6METHYLPHENOL		No Criteria	No Criteria	---	---	---	---	---	---	---		
1,1DICHLOROPROPANE	142289	No Criteria	No Criteria	---	---	---	---	---	---	---		
1,3DICHLOROPROPANE		No Criteria	No Criteria	---	---	---	---	---	---	---		
2,3DINITROTOLUENE		No Criteria	No Criteria	---	---	---	---	---	---	---		
2,4DINITRO6METHYL PHENOL	7439896	No Criteria	No Criteria	---	---	---	---	---	---	---		
IRON	608935	No Criteria	No Criteria						---	---		
pentachlorobenzene		No Criteria	No Criteria	---	---	---	---	---	---	---		
PENTACHLOROETHANE		No Criteria	No Criteria	---	---	---	---	---	---	---		
1,2,3,5tetrachlorobenzene	630206	No Criteria	No Criteria	---	---	---	---	---	---	---		
1,1,1,2TETRACHLOROETHANE	58902	No Criteria	No Criteria	---	---	---	---	---	---	---		
2,3,4,6TETRACHLOROPHENOL		No Criteria	No Criteria	---	---	---	---	---	---	---		
2,3,5,6TETRACHLOROPHENOL	95954	No Criteria	No Criteria	---	---	---	---	---	---	---		
2,4,5TRICHLOROPHENOL	88062	No Criteria	No Criteria	---	---	---	---	---	---	---		
2,4,6TRINITROPHENOL	1330207	No Criteria	No Criteria	---	---	---	---	---	---	---		
XYLENE		No Criteria	No Criteria						---	---		