RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
235 Promenade Street, Providence, RI 02908-5767 TDD 401-222-4462

September 18, 2008

CERTIFIED MAIL

Mayor Susan D. Menard
City of Woonsocket
169 Main Street
Woonsocket, RI 02895

RE: Woonsocket Regional Wastewater Commission
RIPDES No. RI0100111

Dear Mayor Menard,

Enclosed is the final Rhode Island Pollutant Discharge Elimination System (RIPDES) Permit for the Woonsocket Regional Wastewater Commission, which is being issued in accordance with paragraph 10 of consent agreement RIA-368. State regulations, promulgated under Chapter 46-12 of the Rhode Island General Laws of 1956, as amended, require this permit to become effective on the date specified in the permit. No significant comments were received on the draft permit for this facility, therefore, a response to comments was not prepared.

The City of Woonsocket (the City) is advised that it must attain compliance with the final Total Nitrogen (May – October), Total Phosphorus, and Total Cadmium limits in accordance with the compliance schedule contained in paragraph 11 of consent agreement RIA-368. While the City is working on its compliance schedule, it shall be subject to interim limits for these pollutants in accordance with the conditions contained in the consent agreement.

The Department of Environmental Management appreciates the City's cooperation throughout the development of this permit. Should the City have any questions concerning this permit, feel free to contact Aaron Mello of the RIPDES Staff at (401) 222-4700, extension 7405.

Sincerely,

Eric A. Beck, P.E.
Supervising Sanitary Engineer

Enclosures

cc: EPA Permits Branch, New England Division
✓Aaron Mello, RIDEM-OWR
Annie McFarland, RIDEM-OWR
Joseph Haberek, RIDEM-OWR
Michael A. Annarummo, City of Woonsocket
Sean O. Coffey, Burns & Levinson, LLP

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,

City of Woonsocket
City Hall
169 Main Street
Woonsocket, RI 02895

is authorized to discharge from a facility located at

Woonsocket Regional Wastewater Commission
11 Cumberland Hill Road
Woonsocket, RI 02895

to receiving waters named

Blackstone River

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

This permit shall become effective on October 1, 2008.

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

This permit supersedes the permit issued on July 15, 2000.

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

Signed this 18th day of September, 2008.

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 effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number 001A (final treated discharge after disinfection). 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	Maximum Daily *(Maximum)	Measurement Frequency	Sample Type
Flow	16 MGD	--- MGD				Continuous	Recorder
$CBOD_5$ (June 1 – October 31)	1,340	2,270	10 mg/L	15mg/L	17 mg/L	3/week	24-Hr. Comp.
BOD_5 (November 1 – May 31)	4,000	6,670	30 mg/L	45 mg/L	50 mg/L	3/Week	24-Hr. Comp.
BOD_5 - % Removal			85%			1/Month	Calculated
TSS (June 1 – October 31)	2,000	3,335	15 mg/L	20 mg/L	25 mg/L	3/Week	24-Hr. Comp.
(November 1 – May 31)	4,000	6,670	30 mg/L	45 mg/L	50 mg/L	3/Week	24-Hr. Comp.
TSS - % Removal			85%			1/Month	Calculated
Fecal Coliform			200 MPN[1] 100 mL	400 MPN[1] 100 mL	400 MPN[1] 100 mL	3/Week	Grab
Settleable Solids				--- ml/l	--- ml/l	1/Day	Grab
pH			(6.0 SU)		(9.0 SU)	2/Day	Grab
Total Residual Chlorine			56 µg/L[2]		97 µg/L[2]	Continuous	Recorder
Oil and Grease					--- mg/L	1/Month	Grab[3]

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

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

[1]The fecal coliform sample shall be taken 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."

[2]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 (3) grab samples (one (1) each eight (8) hour shift). The three (3) samples will be averaged to obtain the daily value for use in determining the daily maximum and monthly average values. The following methods may be used to analyze the grab samples: (1) Low Level Amperometric Titration, Standard Methods (18th Edition) No. 4500-Cl E; (2) DPD Spectrophotometric, EPA No. 330.5 or Standard Methods (18th Edition) No. 4500-Cl G

[3]One (1) grab sample to be taken during each eight (8) hour shift for a single twenty-four (24) hour period. Each of the three (3) grab samples must be analyzed individually.

Testing for TSS, COD and BOD shall be performed and reported on influent and effluent with appropriate allowances for hydraulic detention (flow-through) time.

Sampling for BOD, COD, TSS, and Fecal Coliform shall be performed Tuesday, Thursday and Sunday. Sampling for Settleable Solids, pH, and Total Residual Chlorine shall be performed Sunday - Saturday.

All samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations: Outfall 001A (final treated discharge after disinfection)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2. During the period beginning effective date and lasting through expiration, the permittee is authorized to discharge from outfall serial number 001A (final treated discharge after disinfection). 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	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Phosphorus, Total as P							
(Apr 1 – Oct 31)			0.1 mg/L		--- mg/L	3/Week	24-Hr. Comp.
(Nov 1 – Mar 31)			1.0 mg/L		--- mg/L	3/Week	24-Hr. Comp.
Orthophosphorus (Nov 1 – Mar 31)			--- mg/L		--- mg/L	3/Week	24-Hr. Comp.
Ammonia, Total as N							
(June 1-October 31)			2.0 mg/L		49.4 mg/L	3/Week	24-Hr. Comp.
(November 1-April 30)			15 mg/L		53.8 mg/L	1/Week	24-Hr. Comp.
(May1-31)			12 mg/L		53.8 mg/L	1/Week	24-Hr. Comp.
Nitrate, Total as N							
(Apr 1 – Oct 31)			--- mg/L		--- mg/L	3/Week	24-Hr. Comp.
(Nov 1 – Mar 31)			--- mg/L		--- mg/L	1/Month	24-Hr. Comp.
Nitrite, Total as N							
(Apr 1 – Oct 31)			--- mg/L		--- mg/L	3/Week	24-Hr. Comp.
(Nov 1 – Mar 31)			--- mg/L		--- mg/L	1/Month	24-Hr. Comp.
TKN, Total as N							
(Apr 1 – Oct 31)			--- mg/L		--- mg/L	3/Week	24-Hr. Comp.
(Nov 1 – Mar 31)			--- mg/L		--- mg/L	1/Month	24-Hr. Comp.
Total Nitrogen [TKN+ Nitrite+Nitrate]							
(April)	--- lb/d		10 mg/L		--- mg/L	3/Week	24-Hr. Comp.
(May 1 – Oct 31)	400 lb/d		3.0 mg/L		--- mg/L	3/Week	24-Hr. Comp.
(Nov 1 – Mar 31)[1]	--- lb/d		--- mg/L		--- mg/L	1/Month	24-Hr. Comp.

[1] The permittee shall operate the treatment facility to reduce the discharge of total nitrogen, during the months of November through March, to the maximum extent possible using all available treatment equipment in place at the facility, except methanol addition.

--- signifies a parameter that 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 at the following locations: Outfall 001A (final treated discharge after disinfection)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

3. During the period beginning effective date and lasting through expiration, the permittee is authorized to discharge from outfall serial number 001A (final treated discharge after disinfection). 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	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Cadmium, Total[1]			0.66 µg/L		4.32 µg/L	2/Week	24 Hr. Comp.
Copper, Total[1]			21.1 µg/L		29.8 µg/L	2/Week	24 Hr. Comp.
Cyanide, Total[1]			21.3 µg/L		90 µg/L	2/Week	Composite[2].
Lead, Total[1]			5.4 µg/L		138 µg/L	2/Week	24 Hr. Comp.
Zinc, Total[1]			272 µg/L		272 µg/L	2/Week	24 Hr. Comp.

[1]Influent and Effluent shall be sampled for the above parameters twice per week. Sampling of Influent and Effluent shall be done to account for detention through the plant.

[2]This composite shall consist of one (1) grab sample to be taken during each eight (8) hour shift, over a twenty-four (24) hour period (total of three (3) grabs), and preserved. All three (3) samples shall be composited, then analyzed.

--- Signifies a parameter that 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 Thursday and Sunday at the following locations: Outfall 001A (final treated discharge after disinfection)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

4. During the period beginning effective date and lasting through expiration, the permittee is authorized to discharge from outfall serial number 001A (final treate discharge after disinfection). 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	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Ceriodaphnia sp.							
LC_{50}[1]					100% or Greater[2]	1/Quarter	24-Hr. Comp.
C-NOEC[3]					20% or Greater[4]	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 limit of 100% or greater is defined as a sample that is composed of 100% effluent.

[3]Chronic - No Observed Effects Concentration (C-NOEC) is the concentration of toxicant or effluent to which organisms are exposed in a life-cycle or partial life-cycle which causes no adverse effect on growth, survival or reproduction (see Section I.B.).

[4]The limit of 20% or greater is defined as a sample that is composed of 20% effluent.

--- signifies a parameter that 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 at the following locations: at Outfall 001A (final treated discharge afte disinfection) in accordance with Part I.B. of the permit.

5. a. The pH of the effluent shall not be less than 6.0 nor greater than 9.0 standard units at any time, unless these values are exceeded due to natural causes or as a result of the approved treatment processes.

b. The discharge shall not cause visible discoloration of the receiving waters.

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

d. The permittee's treatment facility (outfall 001A) shall maintain a minimum of 85 percent removal of total suspended solids and biochemical oxygen demand. The percent removal shall be based on monthly average values.

e. The permittee shall analyze its effluent from outfall 001A 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 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.

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

g. This permit serves as the State's Water Quality Certificate for the discharge 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) chronic and four (4) acute toxicity tests per year on samples collected from discharge outfall 001A. The permittee shall conduct the tests during dry weather periods (no rain 48 hours prior to or during sampling unless approved by DEM) according to the following test frequency and protocol. Chronic and acute toxicity data shall be reported as outlined in Section 8. Chronic toxicity data shall be collected from the Ceriodaphnia tests. The chronic daphnid tests shall also be used to calculate the acute LC_{50} at the 48-hour exposure interval. Test results will be interpreted by the State. The State may require additional screening, range finding, definitive acute or chronic bioassays as deemed necessary based on the results of the initial bioassays required herein. Indications of toxicity could result in requiring a Toxicity Reduction Evaluation (TRE) to investigate the causes and to identify corrective actions necessary to eliminate or reduce toxicity to an acceptable level.

2. Test Frequency

On four (4) sampling events (one (1) each calendar quarter) the permittee will conduct toxicity tests on the specie listed below.

Species	Test Type	Frequency
Daphnid Ceriodaphnia sp.	Reproduction/Survival (Chronic static renewal - report chronic results and acute results 48 hours into test).	Quarterly

3. Methods

Chronic toxicity tests shall be conducted in accordance with protocols listed in the latest edition of Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/600/4-89/001), incorporating any deviations from protocol listed herein, or additional methods if approved by the Director of DEM. Acute definitive toxicity tests shall be conducted in accordance with protocols listed in the EPA document: Cornelius I. Weber et al, 1991, Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, 4th Edition EPA/600/4-90/027, incorporating any deviations from protocol listed herein, or additional methods if approved by the Director of DEM.

4. Sample Collection

For each sampling event a 24-hour flow proportioned composite, effluent sample shall be collected at a location just prior to chlorination and during a dry weather period (no rain 48 hours prior to or during sampling unless approved by DEM). Upon implementation of a disinfection process capable of meeting the total residual chlorine limits found on Page 3, the sampling location shall be moved to a point downstream from the disinfection process.

For the chronic toxicity tests, a sampling event shall consist of three (3) 24-hour composite samples collected over the seven (7) day test-period. The effluent samples shall be collected on Days 0, 3, and 5 of the seven (7) day exposure period. The first sample is used for test initiation, Day 1, and for test solution renewal on Day 2. The second sample would be used for test solution renewal on Days 3 and 4. The third sample would be used for test solution renewal on Days 5, 6, and 7.

To eliminate the problem of potential rainfall interference during the five (5) day sampling period for the chronic tests, DEM suggests collecting enough sample on Day 0 to properly store and use one-third (1/3) on both Days 3 and 5 if rain has occurred since Day 0. In addition, if no rainfall has occurred since Day 3, enough sample should also be collected on Day 3 to use for Day 5 if necessary.

In the laboratory, the initial sample (Day 0) will be split into two (2) subsamples, after thorough mixing, for the following:

A: Chemical Analysis
B: Acute and Chronic Toxicity Testing

Days 3 and 5 samples will be held until test completion. If either the Day 3 or 5 renewal sample causes lethality to 50 percent (50%) or more test organisms in any of the dilutions for the chronic tests, then a chemical analysis shall be performed on the appropriate sample(s) as well. All samples held overnight shall be refrigerated at 4°C.

5. Dilution Water

Dilution water used for freshwater toxicity analyses should be of sufficient quality to meet minimum acceptability of test results (see Sections 6 and 7). For the chronic and acute tests, natural freshwater shall be used as the dilution water. This water shall be collected from the Pawtucket Reservoir. If this natural freshwater diluent is found to be, or suspected to be toxic or unreliable during the preliminary screening for the toxicity tests, an alternate or laboratory source of water of known quality with a hardness and pH similar to that of the receiving water may be substituted AFTER RECEIVING APPROVAL FROM DEM.

6. Effluent Toxicity Test Conditions for the Daphnid (Ceriodaphnia sp.) Survival and Reproduction Test[1]

a.	Test Type	Static Renewal
b.	Temperature	25 ± 1°C
c.	Light Quality	Ambient Laboratory Illumination
d.	Photoperiod	16-Hour Light, 8-Hour Dark
e.	Test Chamber Size	30 ml
f.	Test Solution Volume	15 ml
g.	Renewal of Test Solutions	Daily, using most recently collected sample.
h.	Age of Test Organisms	Less than 24 hours and all released within an 8-hour period of each other.
i.	Number of Neonates Per Test Chamber	1
j.	Number of Replicate Test Chambers Per Treatment	10
k.	Number of Neonates Per Test Concentration	10
l.	Feeding Regime	Feed 0.1 ml each of YTC and algal suspension per exposure chamber daily.
m.	Aeration	None
n.	Dilution Water	Pawtucket Reservoir water, see Section 5.
o.	Effluent Concentrations	Five (5) effluent concentrations and a control: 100%, 50%, 25%, 12.5%, 6.25%, & 0%.
p.	Test Duration	Until 60% of control females have three (3) broods (may require seven (7) days).

q.	End Points	Survival and Reproduction
r.	Test Acceptability	80% or greater survival and an average of 15 or more young per female in the control solutions. At least 60% of surviving females in controls should have produced third brood.
s.	Sampling Requirements	For off-site tests, a minimum of three (3) samples are collected (i.e., Days 0, 3, & 5) and used for renewal (see Section 4). Off-site test samples must be first used within 48 hours of collection.
t.	Sample Volume Required	Minimum two (2) liters/day.

[1]Adapted from EPA/600/4-89/001

7. Chemical Analysis

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

Parameter	Effluent	Diluent	Minimum Detection Limit (mg/l)
Hardness[1]	X	X	0.5
Alkalinity	X	X	2.0
pH	X	X	—
Specific Conductance	X	X	—
Total Solids and Suspended Solids	X	X	—
Ammonia	X	X	0.1
Total Organic Carbon	X		0.5
Cyanide	X		0.010

[1]Method 314A (Hardness by Calculation) from APHA (1985) Standard Methods for the Examination of Water and Wastewater, 16th Edition.

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

Total Metals	Effluent	Diluent	Minimum Detection Limit (ug/l)
Cadmium	X		0.1
Chromium, Hexavalent	X		50.0
Copper	X	X	1.0
Lead	X	X	1.0
Nickel	X		1.0
Silver	X		0.2
Zinc	X		0.3

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

During the third calendar quarter bioassay sampling event a final effluent sample, collected during the same 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 User Fee Program and/or other permit conditions to fulfill any priority pollutant scan requirements.

In addition, the following chemical analyses shall be performed for the chronic toxicity tests as part of each daily renewal procedure on each dilution and the controls.

Parameter	Beginning of 24-Hour Exposure Period	End of 24-Hour Exposure Period
Dissolved Oxygen	X	X
Temperature	X	
pH	X	
Specific Conductance	X	
Alkalinity	X	
Hardness	X	

[1]These are performed on the 100% effluent and control samples only.

8. 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 analyses.
- 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.
- Raw data and laboratory sheets.
- Any other observations or test conditions affecting test outcome.
- Results of required chemical and physical analyses.

Toxicity test data shall include the following:

Chronic

- Daily survival of test organisms in the controls and all replicates in each dilution. Survival data should be analyzed by Fisher's Exact Test prior to analysis of reproduction data.
- Young per female for all replicates in each dilution for Ceriodahnia.
- Dissolved oxygen, pH, specific conductance, and temperature for each dilution.
- Results of Dunnett's Procedure and/or other EPA recommended or approved methods for analyzing the data.
- C-NOEC = Chronic No Observed Effect Concentration
- LOEC = Lowest Observed Effect Concentration
- MATC = Maximum Allowable Toxicant Concentration

Acute

- (For the acute daphnid results, these data points are to be obtained 48 hours into the chronic test)
- Survival for each concentration and replication at time 24, and 48 hours.
- Dissolved oxygen, pH, specific conductance for each concentration.
- LC_{50} and 95% confidence limits using one of the following methods in order of preference; Probit, Trimmed Spearman Karber, Moving Average Angle, or Graphical method; printout or copy of these calculations.

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 (% 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), a LC_{50} may be estimated using the graphical method.

9. 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

Bioassay testing following the protocol described herein shall commence during the 4th quarter (October 1 – December 31) of 2008, and the first report shall be submitted to DEM no later than January 15, 2009.

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

RIPDES Program
Office of Water Resources
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 users effluent.

2. Implementation

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

3. Local Limits

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

a. Within ninety (90) days of the effective date of the permit, the permittee shall submit to the DEM a workplan for the evaluation of the local discharge limitations for non-domestic users. The workplan must provide a description of the analysis to be performed, a brief summary of existing data which will be used in the evaluation, and a description of additional sampling and analysis to be performed during the evaluation. The DEM will review the workplan and provide written comment. Should the DEM determine that a deficiency exists in the proposed workplan, the permittee shall submit a revised workplan within thirty (30) days of the receipt of said notice.

b. Within six (6) months of DEM acceptance of the workplan described in Part I.C.3.a above, the permittee shall submit to the DEM a technically-based local limits evaluation in accordance with procedures set forth in the July, 2004 EPA Local Limits Guidance Manual, and the approved workplan specified in Part I.C.3.a of this permit. All supporting data must be submitted with the evaluation. Within sixty (60) days of the receipt of preliminary approval of the proposed local limits (unless a longer timeframe is specified therein), the permittee shall submit to the DEM a request for a pretreatment program modification in accordance with 40 CFR 403.18 and Part C.5.e of this permit. Upon final approval by the DEM and adoption by the permittee, these standards shall be deemed Pretreatment Standards for the purposes of Section 307(d) of the Clean Water Act.

c. Within thirty (30) days of final approval, the permittee shall adopt the revised local limits and reissue or modify all applicable industrial user permits to contain the modified effluent limits.

d. At the time of renewal of this permit and in accordance with 40 CFR 122.21(j)(4) as revised July 24, 1990, the permittee shall submit to the DEM with its permit renewal application a written technical evaluation of the need to revise local limits. The evaluation shall be based, at a minimum, on information obtained during the implementation of the permittee's local limits workplan and procedures 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 that 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, at least every two years, whether each SIU requires a slug control plan. If a slug control plan is required, it must include, at a minimum, those elements contained in 40 CFR 403.8(f)(2)(v).

b. The permittee shall reissue all necessary Industrial User (IU) control mechanisms within thirty (30) days of their expiration date. The permittee shall issue, within sixty (60) days after the determination that an IU is a Significant Industrial User (SIU), all SIU control mechanisms. All SIU control mechanisms must contain, at a minimum, those conditions stated in 40 CFR 403.8(f)(1)(iii). All control mechanisms must be mailed via Certified Mail, Return Receipt Requested. A complete bound copy of the control mechanism with the appropriate receipt must be kept as part of the Industrial User's permanent file. In addition, the permittee must develop a fact sheet describing the basis for the SIU's permit and retain this fact sheet as part of the SIU's permanent file.

c. The permittee must identify each instance of noncompliance with any pretreatment standard and/or requirement and take a formal documented action for each instance of noncompliance. Copies of all such documentation must be maintained in the Industrial User's permanent file.

d. The permittee shall prohibit Industrial Users from the dilution of a discharge as a substitute for adequate treatment in accordance with 40 CFR 403.6(d).

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 (90) days after submission of the request for modification, unless DEM determines that the modification is in fact a substantial

modification or notifies the permittee of deficiencies. Upon receipt of notification that DEM has determined the modification is substantial, the permittee shall initiate the procedures and comply with the deadlines for substantial modifications, which are outlined below.

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

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

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 defined by 40 CFR 403.5(b).

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).

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)(vii), using the EPA method of "rolling quarters", the compliance status of each Industrial User. Any Industrial User determined to meet Significant Non-Compliance (SNC) criteria shall be included in an annual public notification as specified in 40 CFR 403.8(f)(2)(vii).

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) that meet the definition contained in the permittee's sewer use ordinance. The permittee shall notify each newly designated SIU of its classification as an SIU within thirty (30) days of

identification and shall inform the SIU of the requirements of an SIU contained in 40 CFR 403.12.

6. Categorical Industrial Users (CIUs)

a. The permittee shall require Industrial Users to comply with applicable Categorical Pretreatment Standards in addition to all applicable Pretreatment Standards and Requirements. The permittee shall require of all Categorical Industrial Users (CIUs), all reports on compliance with applicable Categorical Pretreatment Standards and Categorical Pretreatment Standard deadlines as specified in and in accordance with Sections (b), (d), (e) and (g) of 40 CFR 403.12. In addition, the permittee shall require Categorical Industrial Users to comply with the report 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 July 1st through June 30th, and shall be submitted to the DEM by August 15th. Each item below must be addressed separately and any items, which are not applicable, must be so indicated. If any item is deemed not applicable a brief explanation must be provided. The annual report shall include the following information pertaining to the reporting year:

a. A listing of Industrial Users which complies with requirements stated in 40 CFR 403.12(i)(1). The list shall identify all Categorical Industrial Users, Significant Industrial Users and any other categories of users established by the permittee;

b. A summary list, including dates, of any notifications received by the permittee of any substantial change in the volume or character of pollutants being introduced into the POTW by new or existing IUs. If applicable, an evaluation of the quality and quantity of influent introduced into the POTW and any anticipated impact due to the changed discharge on the quantity or quality of effluent to be discharged from the POTW shall be included;

c. A summary list of the Compliance status of each Industrial User (IU), as of the end of last quarter covered by the annual report. The list shall identify all IUs in non-compliance, the pretreatment program requirement, which the IU failed to meet, and the type, and date of the enforcement action initiated by the permittee in response to the violation. If

applicable, the list shall also contain the date, which IUs in non-compliance returned to compliance, a description of corrective actions ordered, and the penalties levied.

d. A list of industries which were determined, in accordance with Part I.C.5.l of this permit, to be in significant non-compliance required to be published in a local newspaper and a copy of an affidavit of publication, from the newspaper, averring that the names of these violators has been published;

e. A summary list of inspection and monitoring activity performed by the permittee, including;

- significant industrial users inspected by the POTW (include inspection dates for each industrial user);
- significant industrial user sampled by the POTW (include sampling dates and dates of analysis, for each industrial user);

f. A summary list of permit issuance/reissuance activities including the name of the industrial user, expiration date of previous permit, issuance date of new permit, and a brief description of any changes to the permit;

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, and 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 pretreatment annual report summary (PARS) form (Attachment A-1 contains a copy of the PARS form, this form MUST be used).

8. Interjurisdictional Agreements

Within sixty (60) days of the effective date of the permit, the permittee shall submit to the DEM, an attorney's statement which contains an evaluation, by the City Solicitor or a public official acting in a comparable capacity, of the interjurisdictional agreements between the City of Woonsocket and the Towns of North Smithfield, RI, Bellingham, MA and Blackstone, MA. The analyses shall evaluate the adequacy of the agreements in terms of, but not limited to, legal authority provided for: the consistency of the Woonsocket Sewer Use Ordinance and adopted local limits with respect to those of the contributing jurisdictions; enforcement actions by Woonsocket for violations of the Woonsocket Pretreatment Program in the contributing jurisdictions; permitting, inspecting, and sampling of Industrial Users located in each contributing jurisdiction; Woonsocket's right to enter facilities located in the contributing jurisdictions; Woonsocket's authority to access all records compiled by each contributing jurisdiction in relation to pretreatment program activities; and remedies for breach of contract. In addition, the statement must evaluate the present status of the implementation of the agreement by the contributing jurisdictions.

If any interjurisdictional agreement is determined deficient, the statement shall contain a proposed agreement that provides adequate legal authority. A proposed compliance schedule for the contributing jurisdiction(s) shall also be submitted with the statement for implementing requirements of the agreement with Woonsocket that have yet to be fulfilled. Upon approval of the DEM, the proposed agreement and compliance schedule shall be adopted within 180 days.

9. Sewer Use Ordinance

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

D. 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 Disposal Utilization and Transportation of Wastewater Treatment Facility Sludge.

E. DETECTION LIMITS

The permittee shall assure that all wastewater testing required by this permit, is performed in conformance with the method detection limits below (the EPA method is noted for reference, other EPA approved methods found in 40 CFR Part 136 may be utilized). All sludge testing required by this permit shall be in conformance with the method detection limits found in 40 CFR 503.8. In accordance with 40 CFR Part 136, EPA approved analysis techniques, quality

assurance procedures and quality control procedures shall be followed for all reports required to be submitted under the RIPDES program. These procedures are described in "Methods for the Determination of Metals in Environmental Samples" (EPA/600/4-91/010) and "Methods for Chemical Analysis of Water and Wastes" (EPA/600/4-79/020).

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

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

For compliance purposes DEM will replace all data reported as less than the MDL with zeroes, provided that DEM determines that all appropriate EPA approved methods were followed. If the recalculated average exceeds the permit limitation it will be considered a violation.

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 (2) 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).

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	5.0
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	5.0
21V	methyl chloride	10.0
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	5.0

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	5.0
5A	2,4-dinitrophenol	10.0
6A	2-nitrophenol	1.0
7A	4-nitrophenol	2.4[1]
8A	p-chloro-m-cresol	2.0
9A	pentachlorophenol	5.0
10A	phenol	1.0
11A	2,4,6-trichlorophenol	1.0

Pesticides - EPA Method 625		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 625		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	5.0
5B	benzo(a)anthracene *	1.0
6B	benzo(a)pyrene *	1.0
7B	3,4-benzofluoranthene *	1.0
8B	benzo(ghi)perylene *	4.1[2]
9B	benzo(k)fluoranthene *	1.0
10B	bis(2-chloroethoxy)methane	1.0
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 *	2.5[2]
20B	1,2-dichlorobenzene	1.0
21B	1,3-dichlorobenzene	1.0
22B	1,4-dichlorobenzene	1.0
23B	3,3'-dichlorobenzidine	5.0
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	1.9[2]
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	0.9[2]
35B	hexachlorocyclopentadiene	2.0
36B	hexachloroethane	1.0
37B	indeno(1,2,3-cd)pyrene *	3.7[2]
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 - EPA Method 204.2[3]
Arsenic, Total	1.0 - EPA Method 206.2[3]
Beryllium, Total	0.2 - EPA Method 210.2
Cadmium, Total	0.1 - EPA Method 213.2[3]
Chromium, Total	1.0 - EPA Method 218.2[3]
Chromium, Hexavalent	50.0 - Standard Methods 16th Ed., 312.B
Copper, Total	1.0 - EPA Method 220.2[3]
Lead, Total	1.0 - EPA Method 239.2
Mercury, Total	0.2 - EPA Method 245.1
Nickel, Total	1.0 - EPA Method 249.2[3]
Selenium, Total	2.0 - EPA Method 270.2[3]
Silver, Total	0.5 - EPA Method 272.2[3]
Thallium, Total	1.0 - EPA Method 279.2[3]
Zinc, Total	5.0 - EPA Method 200.9[3]
Asbestos***	**
Cyanide, Total	10.0 - EPA Method 335.3
Phenols, Total	50.0 - EPA Method 420.2
TCDD	**
MTBE (Methyl Tert Butyl Ether)	1.0 - EPA Method 524.2

* Polynuclear Aromatic Hydrocarbons.
** No Rhode Island Department of Environmental Management (DEM) MDL.
*** Not a toxic pollutant as designated in Section 307(a)(1) of the Clean Water Act.

NOTE:

All MDLs have been established in accordance with the definition of "Detection Limits" in the DEM Water Quality Regulations for Water Pollution Control. Unless otherwise noted the MDLs have been determined in reagent water by the Rhode Island Department of Health, Division of Laboratories. 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.

[1]Method detection limits for Method 624 were determined by the US Environmental Protection Agency (USEPA) in reagent water; similar results were determined in representative wastewaters (40 CFR Part 136 Appendix A, Method 624).

[2]Method detection limits for Method 625 were determined by the USEPA in reagent water; actual results may vary based upon instrument sensitivity and matrix effects (40 CFR Part 136 Appendix A, Method 625).

[3]Method detection limits for these metals analyses were determined by the USEPA. They are not contrived values and should be obtainable with any satisfactory atomic absorption spectrophotometer. To insure valid data the analyst must analyze for matrix interference effects and if detected treat accordingly using either successive dilution matrix modification or method of Standard Additions (Methods for Chemical Analysis of Water and Wastes EPA-600/4-79/020).

F. MONITORING AND REPORTING

1. Reporting

Monitoring results obtained during the previous month shall be summarized and reported on Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the month following the completed reporting period. A copy of the analytical laboratory report, specifying analytical methods used shall be included with each report submission. The first report is due on November 15, 2008.

Signed copies of these, and all other reports required herein, shall be submitted to:

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

G. STANDARD CONDITIONS

1. Reopener Provision: In accordance with Rule 23 of the RIPDES Regulations, this permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations (and compliance schedule, if necessary), or other appropriate requirements. The Department may determine that cause exists to reopen or modify the permit including but not limited to the following events:

   a. Water Quality Standards: The water quality standards of the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than those contained in this permit.

   b. Wasteload Allocation: A wasteload allocation is developed and approved by the State and/or EPA for incorporation in this permit.

   c. Water Quality Management Plan: A revision to the current water quality management plan is approved and adapted which calls for different effluent limitations than those contained in this permit.

2. Revocation and Reissuance: In accordance with Rule 23 of the Rhode Island Pollution Discharge Elimination System Regulations, when the Department receives any information, a determination may be made as to whether cause exists including but not limited to causes as provided under paragraphs (b) and (c) of Rule 23, for modification, or revocation and reissuance of the permits.

H. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the following terms and conditions:

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.

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. **RI0100111**

NAME AND ADDRESS OF APPLICANT:

City of Woonsocket
City Hall
169 Main Street
Woonsocket, RI 02895

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Woonsocket Regional Wastewater Commission
11 Cumberland Hill Road
Woonsocket, RI 02895

RECEIVING WATER: **Blackstone River**

CLASSIFICATION: **B1**

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 the reissuance of its RIPDES Permit to discharge into the designated receiving water. The facility is engaged in the treatment of industrial and domestic wastewater.

II. Description of Discharge

A quantitative description of the discharge in terms of significant effluent parameters based upon DMR data from January 2001 through December 2005 is shown on Attachment A-2.

III. Permit Limitations and Conditions

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

IV. Permit Basis and Explanation of Effluent Limitation Derivation

The City of Woonsocket (Woonsocket) operates a regional wastewater treatment facility on Cumberland Hill Road in Woonsocket. The discharge to the Blackstone River consists of treated domestic and industrial wastewater contributed by the City of Woonsocket and the Town's of North Smithfield, RI and Blackstone and Bellingham, MA. Treatment consists of: Coarse Screening, Communition, Aerated Grit Removal, Primary Settling, Biological Treatment w/ Nutrient Removal, Secondary Settling, Effluent Polishing Filters, Chlorination, and Dechlorination. Treated wastewater is discharged from Outfall 001A.

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. DEM's primary authority over the permit comes from the Environmental Protection Agency's (EPA's) delegation of the program in September 1984 under the Federal Clean Water Act (CWA).

Development of RIPDES permit limitations is a multi-step process consisting of the following steps: calculating allowable water quality-based discharge levels based on instream criteria, background data and available dilution; identifying any technology-based limits that apply to the facility; assigning appropriate Best Professional Judgment (BPJ) limits; setting the most stringent of these limits (water quality-based, technology-based, and BPJ-based) as the final allowable discharge levels; comparing existing permit limits to the new allowable discharge levels; and evaluating the ability of the facility to meet the final permit effluent limits. A brief description of these steps is presented below. A more detailed presentation of the permit development may be found in the Woonsocket Wastewater Treatment Facility Permit Development Document. The City's first permit to contain water quality based limits was issued in 1994.

The "Average Monthly" and "Average Weekly" biochemical oxygen demand (BOD_5) and total suspended solids (TSS) limits for the winter months, November – May, the "Percent Removal" requirements for TSS and BOD_5, and the pH limitations are based upon the secondary treatment requirements of the CWA, as defined in 40 CFR 133.102 (a)-(c). The "Average Monthly" and "Average Weekly" total suspended solids (TSS) limits for the summer months, June - October, have been reduced from the secondary treatment requirements due to the increased removal that will be recognized through the operation of the additional equipment that is necessary to meet other permit limits. The Fecal coliform and "Maximum Daily" BOD_5 and TSS limits are based on Rhode Island requirements for Publicly Owned Treatment Works (POTWs) under Rule 17.04(b) of the RIPDES Regulations and as provided in 40 CFR 123.25.

The settleable solids limits have been set at monitor only since both DEM and EPA agree that the Total Suspended Solids are an appropriate measure of the solids content being discharged to the receiving waters and that settleable solids are a "process-control parameter" that can aid in assessment of the operation of the plant but need not be an effluent limit.

Oil and Grease monitoring requirements were assigned in the previous permit and 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 which may result in blockages in the collection system and that are typically attributed to restaurants and other sources of Oil and Grease loading which discharge to the sewer collection system. The facility 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.

The Woonsocket sewer system previously served many textile industries, some of which treated their fabrics with a sizing chemical "PVA" that exerts a high COD load. In order to ensure that Woonsocket is properly regulating oxygen demanding wastes discharged to the treatment facility the Department had previously decided to require monitoring of COD in the facility's discharge. However, since the permit was previously issued, the largest textile industries have gone out of business and no longer have the potential to discharge. This is supported by a review of the effluent COD data, which shows average effluent COD values have decreased from a monthly average of approximately 120 mg/l to roughly 25 mg/l. Therefore, the DEM has eliminated the COD monitoring requirement from the permit.

For toxic pollutants, the effluent limitations as they appear in the draft permit were established on the basis of acute and chronic aquatic life and applicable human health criteria, from the Rhode Island Water Quality Regulations. Using an upstream river 7Q10 flow of 102 cfs (for aquatic life criteria), the mean harmonic flow of 357 cfs, (for human health criteria of carcinogens) and the 30Q5 flow of 134.4 cfs (for human health criteria of non-carcinogens); an allocation of 80% of the criteria; and the use of zero (0) for background upstream concentrations allowable water quality-based permit limits were calculated. Allocating 80% of the criteria for all pollutants present in Woonsocket's discharge is consistent with the Department's policy where instream data is not available or is inappropriate since it was influenced by upstream sources that were not properly regulated. For those metals criteria based on hardness, a semi-lognormal relationship was developed between flow and hardness from data collected at the Woonsocket US Geological Survey gauging station. Based on this relationship a hardness of 50 mg/l at the 7Q10 flow of 102 cfs was used to determine the appropriate metals criteria.

In accordance with 40 CFR Part 122.4(d)(1))(iii), it is only necessary to establish limitations for those pollutants in the discharge which have the reasonable potential to cause or contribute to the exceedance of the instream criteria. In order to evaluate the reasonable potential and, therefore, the need for permit limitations, the monthly average (chronic) permit limitations were compared to the monthly average Discharge Monitoring Report (DMR) data and the mean of the concentrations reported from the State User Fee Program. In addition, the daily maximum (acute) permit limitations were compared to the daily maximum DMR data and the maximum concentrations reported from the State User Fee Program. Based on this analysis, water quality-based permit limitations are required for cadmium, copper, lead, zinc, cyanide, and chlorine. The only changes from the 2000 permit limits are the elimination of limits for hexavalent chromium and total silver to reflect the fact that neither of these pollutants had reasonable potential to cause or contribute to exceedances of the instream criteria, since the effluent levels were well below the allowable water quality-based permit limits. However, quarterly monitoring for these pollutants will still be required as part of the permit's whole effluent toxicity testing program. In addition, the permit limits for cadmium, copper and zinc have changed due to a change in the water quality criteria.

The required priority pollutant scans are specified in the State User Fee Program. The biomonitoring requirements are set forth in 40 CFR 131.11 and in the State's Water Quality Regulations. DEM's toxicity permitting policy is based on past toxicity data and the level of available dilution. The assigned dilution of five (5) requires that both acute and chronic toxicity be evaluated. The bioassay requirements in the permit consist of chronic toxicity tests conducted on Ceriodaphnia, where the chronic test can be used to calculate the acute LC_{50}. The permit contains an acute LC_{50} toxicity limit of $\geq$100% effluent and a CNOEC limit of $\geq$20% effluent. If recurrent toxicity is demonstrated, then toxicity identification and/or reduction will be required.

A waste load allocation (WLA) for the Blackstone River was completed in November of 1997 to establish effluent discharge limits for all point sources that will ensure compliance with water quality standards. The Blackstone River WLA is based on a dissolved oxygen (DO) model developed by Dr. Ray Wright of the University of Rhode Island and funded by the EPA, the Rhode Island Department of Environmental Management (DEM), and the Massachusetts Department of Environmental Protection (MADEP). The WLA utilizes a mathematical water quality simulation model (QUAL2E) to establish discharge limits necessary to achieve the minimum dissolved oxygen criteria of 5.0 mg/l in the river. The model was calibrated and verified using water quality survey data collected in 1991. The water quality data and modeling report can be found in the Blackstone River Initiative document dated February 1998.

The DO-based WLA established the following permit limits for Woonsocket: monthly average $CBOD_5$ of 10 mg/l for June through October and monthly average Total Ammonia (as N) of 2.0 mg/l for June through October, monthly average Total Ammonia (as N) of 12 mg/l for May. The DO-based limits for Total Ammonia will also ensure compliance with the applicable instream Total Ammonia criteria for protection of aquatic life from chronic toxicity.

The Providence and Seekonk Rivers are also impacted by low DO levels and high phytoplankton concentrations that are related to excessive nitrogen loadings. Significant areas of the Providence and Seekonk Rivers suffer from hypoxic (low DO) and anoxic (lack of DO) conditions and violate water quality standards. Available data shows that nitrogen loads are dominated by wastewater treatment facility inputs.

DEM hired a consultant and has been working with a technical advisory committee (TAC), consisting primarily of scientists and engineers representing, academic, municipal, state and federal organizations, to calibrate a model and develop a water quality restoration plan, or TMDL. It was concluded that the hydrodynamic model formulation could not adequately simulate conditions due to the relatively severe changes in the bathymetry in the Providence River. Therefore, the DEM has concluded that the best method available for evaluating impacts and setting nitrogen load reduction targets for the Providence River is to use the set of empirical relations developed from the Marine Ecosystems Research Laboratory (MERL) enrichment gradient studies at the University of Rhode Island.

In February 2004, DEM developed an analysis titled "Evaluation of Nitrogen Targets and WWTF Load Reductions for the Providence and Seekonk Rivers". This analysis indicated that wastewater treatment facility (WWTF) discharges are required to be reduced to the limit of technology (total nitrogen of 3 mg/l), but that the Seekonk River and portions of the Providence River may not fully comply with existing water quality standards for dissolved oxygen.
DEM has evaluated the implementation costs, the performance of available technology, and estimates of water quality improvement to develop a phased plan for implementation of WWTF improvements at MA and RI WWTFs which maximizes the DO levels relative to implementation cost.

Estimates of capital costs to modify existing facilities to achieve the target levels on a seasonal basis were developed. These costs included allowances for planning, design, construction and administration and must be considered Order-of-Magnitude estimates, since specific facility characteristics were not evaluated.

DEM issued permit modification to the appropriate WWTFs in June of 2005 that established seasonal (May – October) limits for total nitrogen. These limits, in combination with the reductions being assigned to the other WWTFs, will achieve a 50% reduction from the 1995-1996 Rhode Island WWTF loading, consistent with the recommendations from The Governor's Narragansett Bay and Watershed Planning Commission.

In particular, on June 27, 2005, DEM issued the City of Woonsocket a permit modifications which added a seasonal total nitrogen limit of 5.0 mg/l, and required that the permittee operate the treatment facility to reduce the discharge of total nitrogen, during the months of November through March, to the maximum extent possible using all available treatment equipment in place at the facility, and carries over the 10.0 mg/l total nitrogen limit during April from the previous permit. Assigning seasonal total nitrogen limits and requiring that the WWTF be operated year round in a manner to reduce the discharge of nitrogen to the maximum extent possible will result in substantial progress towards the mitigation of hypoxic/anoxic events and meeting water quality standards. The analysis contained in "Evaluation of Nitrogen Targets and WWTF Load Reductions for the Providence and Seekonk Rivers", indicates that the contribution of Massachusetts WWTFs is significant and, therefore, the DEM is working with the Massachusetts Department of Environmental Protection and the EPA to pursue appropriate nitrogen reductions for these WWTFs.

The City of Woonsocket and DEM have entered a Consent Agreement to resolve the City's appeal of the June 2005 permit modification. Under this agreement the City will complete construction of the facility modifications necessary to achieve compliance with a Total Nitrogen Limit of 3.0 mg/l by March 31, 2014. Therefore the Total Nitrogen limits contained in the draft permit have been revised to 3.0 mg/l.

DEM has determined that total phosphorus effluent limits of 100 ug/l for the Woonsocket WWTF are necessary to achieve compliance with the Gold Book criterion for streams and to ensure the Blackstone River does not cause a violation of the RI Water Quality criteria in Scott Pond. The Gold Book-recommended criterion is applied based on the best currently available information. Furthermore, this limit is also consistent with the requirement to remove phosphates to the extent that such removal is or may become technically and reasonably feasible, found in Rule 8.D.(2)10.b of the Rhode Island Water Quality Regulations. In addition, EPA has developed a draft permit for the Upper Blackstone Water Pollution Abatement District WWTF which includes a phosphorus limit of 100 ug/l.

This Permit includes a warm weather limit of 0.1 mg/1 total phosphorous and a cold weather limit of 1 mg/l. The total phosphorous warm weather limit (0.1 mg/l) is applied April 1st to October 31st, the period during which eutrophic conditions are most likely to occur and during which phosphorus effluent loading is most detrimental to water quality goals. The total phosphorous cold weather limit (1.0 mg/l) applies November 1st to March 31st. A higher phosphorus effluent discharge limitation in the winter period is necessary to ensure that the higher levels of phosphorus discharged in the winter period do not result in the accumulation of phosphorus in the sediments. The limitation assumes that the dissolved fraction of the total phosphorus will likely remain dissolved and flow out of the system. To ensure DEM's understanding of the anticipated behavior of dissolved and particulate phosphorus is correct, a monitoring requirement for orthophosphorous has been included for the cold weather months (November 1st – March 31st) in order to determine the dissolved particulate fraction.

In the future, lower phosphorus limits may be required upon receipt of new information, including but not limited to the development of a State numeric nutrient criterion or assessment of the response of the Blackstone River and Scott Pond to WWTF phosphorus discharges.

A comparison of the DMR data with the final permit limitations indicates that the treatment facility is currently unable to attain the new seasonal Total Nitrogen permit limitations of 3.0 mg/l May – October, and may not be able to comply with the new seasonal Total Phosphorus permit limitations and the revised Total Cadmium permit limitations, and that interim limits are necessary. The Consent Agreement noted above, provides interim limits and a compliance schedule for the City to complete construction of the facility modifications necessary to achieve compliance with the

Total Nitrogen, Total Phosphous, and Total Cadmium permit. It is anticipated that the facility can comply with all other permit limits.

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 Office has determined that all permit limitations are consistent with the Rhode Island Antidegradation Policy.

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 consisting primarily of management requirements common to all permits.

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

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to the Rhode Island Department of Environmental Management, Division 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 DEM. 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 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, 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 (16 July 1984).

VI. DEM Contact

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

Joseph Haberek, P.E.
Department of Environmental Management
Office of Water Resources
235 Promenade Street
Providence, Rhode Island 02908-5767
Telephone: (401) 222-4700 ext. 7715
e-mail: joseph.Haberek@dem.ri.gov

8/06/08
Date

Eric A. Beck, P.E.
Supervising Sanitary Engineer
Office of Water Resources
Rhode Island Department of Environmental Management

ATTACHMENT A-1
EPA Region 1Annual Pretreatment Report Summary Sheet
December 2007

POTW Name:

NPDES Permit #:

Pretreatment Report Period Start Date:

Pretreatment Report Period End Date:

# of Significant Industrial Users (SIUs):

# of SIUs Without Control Mechanisms:

# of SIUs not Inspected:

# of SIUs not Sampled:

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

# of SIUs in SNC with Reporting Requirements:

# of SIUs in SNC with Pretreatment Compliance Schedule:

# of SIUs in SNC Published in Newspaper:

# of SIUs with Compliance Schedules:

# of Violation Notices Issued to SIUs:

# of Administrative Orders Issued to SIUs:

# of Civil Suits Filed Against SIUs:

# of Criminal Suits Filed Against SIUs:

# of Categorical Industrial Users (CIUs):

# of CIUs in SNC:

Penalties

Total Dollar Amount of Penalties Collected $

# of IUs from which Penalties have been collected:

Local Limits

Date of Most Recent Technical Evaluation of Local Limits:

Date of Most Recent Adoption of Technically Based Local Limits:

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

ATTACHMENT A-2

DESCRIPTION OF DISCHARGE: Treated domestic and industrial wastewater.
DISCHARGE: 001A - Treated Discharge

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE:

PARAMETER		AVERAGE[1]	MAXIMUM[2]
FLOW		7.18 MGD	10.16 MGD
BOD_5		6.40 mg/l	16.62 mg/l
TSS		5.21 mg/l	15.53 mg/l
Fecal Coliform		3.18 MPN/100 ml	67.45 MPN/100 ml
pH		6.34 S.U.(Minimum)	7.23 S.U.(Maximum)
Total Chlorine Residual		24.65 ug/l	66.32 ug/l
Oil and Grease			1.57 mg/l
Total Phosphorus	(Nov – March)		5.05 mg/l
	(April – Oct)	0.98 mg/l	3.7 mg/l
Total Ammonia	(Nov – April)	5.48 mg/l	11.52 mg/l
	(May)	4.88 mg/l	11.24 mg/l
	(June – Oct)	2.95 mg/l	10.02 mg/l
Total Nitrate	(Nov – March)		4.94 mg/l
	(April – Oct)	4.30 mg/l	6.54 mg/l
Total Nitrite	(Nov – March)		0.18 mg/l
	(April – Oct)	0.23 mg/l	1.13 mg/l
TKN	(Nov – March)		8.17 mg/l
	(April – Oct)	5.74 mg/l	14.24 mg/l
Total Nitrogen	(Nov – March)		14.36 mg/l
	(April)	13.36 mg/l	22.14 mg/l
	(May – Oct)	9.55 mg/l	19.17 mg/l
Cadmium		0.94 ug/l	1.51 ug/l
Copper		7.68 ug/l	16.45 ug/l
Cyanide		17.36 ug/l	37.17 ug/l
Lead		1.62 ug/l	3.72 ug/l
Zinc		67.52 ug/l	211.77 ug/l

[1]Data represents the mean of the monthly average data from January 2001 – December 2005.
[2]Data represents the mean of the daily maximum data from January 2001 – December 2005.

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

	2003 4th qtr.	2004 1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	2005 1st qtr.	2nd qtr.	3rd qtr.	4th qtr.
Daphnid LC50	50	50	100	100	100	50	100	100	20
Daphnid NOEC	100	100	100	100	100	100	100	100	100
Fathead Minnow	100	57	100	100	100	100	100	100	100