RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
235 Promenade Street, Providence, Rhode Island 02908

CERTIFIED MAIL

August 30, 2017

Mr. James M. Manni
Town Manager
Town of Narragansett
25 Fifth Avenue
Narragansett, RI 02882

RE: Final Permit for Scarborough Wastewater Treatment Facility
RIPDES No. RI0100188

Dear Mr. Manni:

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

Also enclosed is a copy of the Department's response to the comments received on the draft permit and information relative to hearing requests and stays of RIPDES Permits.

We appreciate the Town's cooperation throughout the development of this permit. Should you have any questions concerning this permit, feel free to contact Samuel Kaplan of the State Permits Staff at (401) 222-4700, extension 7046 or samuel.kaplan@dem.ri.gov.

Sincerely,

Joseph B. Haberek, PE
Supervising Sanitary Engineer

JBH:sk

Enclosures

ecc: Jeff Ceasrine, PE, Town of Narragansett
Peter Eldridge, Scarborough WWTF
Traci Pena, RIDEM-OWR
Dave Turin, EPA Region I

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 (allowing the collection of the dilution water) should be signed and submitted to the Graduate School of Oceanography. Requests to use another source of dilution water will have to be approved by the Department of Environmental Management, Office of Water Resources.

RESPONSE TO PUBLIC COMMENTS
Scarborough Wastewater Treatment Facility
RIPDES Permit No. RI0100188

From May 25, 2017 to June 30, 2017, the Rhode Island Department of Environmental Management (DEM) solicited public comments on the draft Rhode Island Pollutant Discharge Elimination System (RIPDES) permit for the Scarborough WWTF. No public hearing was held, because although a hearing was requested by the Town, the Town later withdrew that request, opting to submit comments in writing in a letter dated June 23, 2017.

The following is a presentation of comments received from the Town and the DEM's response to those comments.

The following responses address the comments that were raised:

Comment 1: In a letter dated June 23, 2017, the Town noted that DEM had included new, lower minimum detection limits ("MDLs") for ten (10) out of fifteen (15) toxins. The Town requested the scientific or ideological rationale from DEM regarding the setting of the new, lower MDLs.

Response 1: DEM's rationale for lowering ten (10) out of fifteen (15) MDLs is that analysis technology has advanced since the time of Scarborough's 2011 permit. Additionally, the MDLs specified for Scarborough in the draft RIPDES permit are consistent with MDLs established for similar wastewater treatment facilities in Rhode Island.

Comment 2: In the June 23, 2017 letter, the Town also stated that it was not able find a lab that could achieve all of the new, lower Minimum Detection Limits ("MDLs") for metals specified in the draft permit.

Response 2: Upon reviewing the information submitted by the Town dated July 31, 2017, DEM noted that Microbac Laboratories, Inc. is able to meet all of the new MDLs for metals found in the draft permit, including the new lower MDLs, with the exception of the MDL for Aluminum. Therefore, DEM has revised the MDL for Aluminum found in the final permit upward to the MDL that Microbac is able to achieve for Aluminum (10 ug/L) to allow for the Town to continue to use Microbac for all metals testing. The higher MDL of 10 ug/L for Aluminum is below the water quality standard for Aluminum. Please note that there are no permit limits for Aluminum in the permit, however, MDLs for metals are presented in the biomonitoring and toxicity sections of the permit.

HEARING REQUESTS

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

Bonnie Stewart, Clerk
Department of Environmental Management
Office of Administrative Adjudication
One Capitol Hill
Second Floor
Providence, RI 02903

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

STAYS OF RIPDES PERMITS

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

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

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

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 Narragansett
Narragansett Town Hall
25 Fifth Avenue
Narragansett, RI

is authorized to discharge from a facility located at the

Scarborough Wastewater Treatment Facility
990 Ocean Road
Narragansett, Rhode Island

to receiving waters named

Rhode Island Sound

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

This permit shall become effective on October 1, 2017.

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

This permit supersedes the permit issued on September 30, 2011.

This permit consists of 16 pages in Part I including effluent limitations, monitoring requirements, etc. and 10 pages in Part II including General Conditions.

Signed this 30th day of August, 2017.

Angelo S. Liberti

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	1.4 MGD	---MGD				Continuous	Recorder
BOD_5	350 lbs/day	584 lbs/day	30 mg/l	45 mg/l	50 mg/l	3/Week	24-Hr. Comp.
BOD_5 - % Removal			85%			1/Month	Calculated
TSS	350 lbs/day	584 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 shall be performed Sunday, Tuesday, and Thursday. All BOD_5 and TSS samples shall be taken on the influent and effluent 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 dechlorination)

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
Enterococci			35 cfu[1] 100 ml		276 cfu[1] 100 ml	3/Week	Grab
Fecal Coliform			--- MPN[1] 100 ml		--- MPN[1] 100 ml	3/Week	Grab
Total Residual Chlorine (TRC)			325 ug/l[2]		325 ug/l[2]	Daily	Grab[2]
pH			(6.0 SU)		(9.0 SU)	2/Day	Grab

[1]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 "weekly average" and the "monthly average." The facility shall report any fecal coliform sample result that exceeds 400 mpn/100 ml to the RIDEM in accordance with the 24-hour reporting requirements under Part II(I)(5) of the permit.

[2]The use of a continuous TRC recorder after chorination 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 of the final effluent (after dechlorination) over an eight hour shift, Monday - Friday (except holidays), equally spaced with a minimum of three hours between grabs, and 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 for each day. 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 G; (2) DPD Titrimetric, EPA No. 330.4 or Standard Methods (18th Edition) No. 4500-Cl F; (3) Amperometric Titration, EPA No. 330.1 or Standard Methods (18th Edition) No. 4500-Cl D or ASTM No. D1253-86(92).

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

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 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
Copper, Total[1]			--- ug/l		--- ug/l	1/Quarter	24-Hr. Comp.
Cyanide[1]			--- ug/l		--- ug/l	1/Quarter	Composite[2]
Cadmium, Total[1]			--- ug/l		--- ug/l	1/Quarter	24-Hr. Comp.
Chromium, Hexavalent[1]			--- ug/l		--- ug/l	1/Quarter	24-Hr. Comp.
Lead, Total[1]			--- ug/l		--- ug/l	1/Quarter	24-Hr. Comp.
Zinc, Total[1]			--- ug/l		--- ug/l	1/Quarter	24-Hr. Comp.
Nickel, Total[1]			--- ug/l		--- ug/l	1/Quarter	24-Hr. Comp.
Aluminum, Total[1]			--- ug/l		--- ug/l	1/Quarter	24-Hr. Comp.

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

[1]Monitoring data may be obtained in conjunction with bioassay testing.

[2]Three (3) grab samples shall be equally spaced over one (1) eight (8) hour shift, with a minimum of three (3) hours between grabs. 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 at the following location: Outfall 001A (final discharge after dechlorination).

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 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 (May 1-October 31)					--- mg/l	1/Month	24-Hr. Comp.
Nitrate, Total (as N) (May 1-October 31)					--- mg/l	1/Month	24-Hr. Comp.
Nitrite, Total (as N) (May 1-October 31)					--- mg/l	1/Month	24-Hr. Comp.
Nitrogen, Total (TKN+Nitrate+Nitrite, as N) (May 1-October 31)					--- mg/l	1/Month	Calculated

[1]Three (3) grab samples shall be equally spaced over the course of an eight (8) hour shift with a minimum of three (3) hours between samples. 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 location: Outfall 001A. (final discharge after dechlorination)

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
LC_{50}[1] (Mysids)					100% or Greater[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 location: Outfall 001A in accordance with Part I.B. of the permit. (final discharge after dechlorination)

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

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

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

d. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and 5-day biochemical oxygen demand. The percent removal shall be based on monthly average values.

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

f. The permittee shall analyze its effluent annually for the EPA Priority Pollutants as listed in 40 CFR 122, Appendix D, Tables II and III. These priority pollutant scans shall be coordinated with the 3rd quarter bioassay sample and the results of these analyses shall be submitted to the Department of Environmental Management by October 15th of each 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 samples collected from discharge outfall 001A the final discharge after dechlorination. The permittee shall conduct the tests during dry weather periods (no rain within fourty-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 Part I.B.9. 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 forty-eight (48) hour acute definitive toxicity tests on the species listed below, for a total of four (4)

acute toxicity tests per year. This requirement entails performing one (1) species testing as follows:

Species	Test Type One (1) Specie Test (Four (4) 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 final effluent (i.e., after dechlorination) sample shall be collected during a 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 Part I.B.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° ± 1°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 events the following chemical analyses shall be performed:

Total Metals	Effluent	Saline Diluent	Detection Limit (ug/l)
Total Cadmium	X	X	0.1 ug/L
Hexavalent Chromium	X	X	20.0 ug/L
Total Copper	X	X	1.0 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	10.0 ug/L

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

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

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. Requests to use another source of dilution water will have to be approved by the Department of Environmental Management, Office of Water Resources.

11. Reporting of Bioassay Testing

Bioassay Testing shall be conducted 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

Reports shall be maintained by the permittee and shall be made available upon request by RIDEM.

C. 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.

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 two (2) years shall be submitted to RIDEM, Office of Water Resources, by the 15th day of January every other year. The first report is due January 15, 2018.

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

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

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

Therefore, all sample results shall be reported as: an actual value, "could not be analyzed", less than the reagent water MDL, or less than an effluent or sludge specific MDL. The effluent or sludge specific MDL must be calculated using the methods outlined in 40 CFR Part 136, Appendix B. Samples which have been diluted to ensure that the sample concentration will be within the linear

dynamic range shall not be diluted to the extent that the analyte is not detected. If this should occur the analysis shall be repeated using a lower degree of dilution.

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

1. "could not be analyzed" data shall be excluded, and shall not be considered as failure to comply with the permit sampling requirements;

2. results reported as less than the MDL shall be included as zeros.

LIST OF TOXIC POLLUTANTS

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

Volatiles - EPA Method 624		MDLug/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
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
TCDD	**
MTBE (Methyl Tert Butyl Ether)	1.0
Aluminum, Total	10.0

* Polynuclear Aromatic Hydrocarbons
** No Rhode Island Department of Environmental Management (RIDEM) MDL
*** Not a priority pollutant

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).

F. 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 Li mit summary tables
   - Monthly Operating Reports

   All other reports (i.e. I/I reports, Priority Pollutant Scans, etc.) should be submitted to DEM hard copy via regular US mail (see Part I.F.3 below).

3. 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. 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

4. 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.(I)(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. **R10100188**

NAME AND ADDRESS OF APPLICANT:

Town of Narragansett
Narragansett Town Hall
25 Fifth Avenue
Narragansett, Rhode Island 02882

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Scarborough Wastewater Treatment Facility
990 Ocean Road
Narragansett, Rhode Island 02882

RECEIVING WATER: **Rhode Island Sound** (water body ID #: RI0010042E-02A)

CLASSIFICATION: **SB1**

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

The above named applicant has applied to the Rhode Island Department of Environmental Management for renewal of a RIPDES Permit to discharge into the designated receiving water. The facility is engaged in the treatment of domestic, commercial, and industrial sewage. The discharge is from the Scarborough Wastewater Treatment Facility at outfall 001A.

II. Description of Discharge

A quantitative description of the discharge in terms of significant effluent parameters based on DMR data from July 2011 through June 2016 is shown on Attachment A-1.

III. Permit Limitations and Conditions

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

IV. Permit Basis and Explanation of Effluent Limitation Derivation

The Town of Narragansett owns and operates the Scarborough Wastewater Treatment Facility (WWTF) located on Ocean Road in Narragansett, Rhode Island. The discharge to Rhode Island Sound consists of treated sanitary sewage. A facility process diagram is included as Attachment A-2, headworks diagrams are included in Attachment A-3, and a diffuser schematic is included in Attachment A-4.

Scarborough's most recent RIPDES permit, authorizing discharges from the above-mentioned facility, was issued on September 30, 2011. The permit became effective on November 1, 2011 and expired on

November 1, 2016. Scarborough submitted an application for permit reissuance to the DEM on March 14, 2016, and updated that submittal on May 2, 2016. On June 2, 2016 the DEM issued an application complete letter to Scarborough. In accordance with Rule 13(a) of the Regulations for the Rhode Island Pollutant Discharge Elimination System, Scarborough's September 30, 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 September 30, 2011 permit.

Treatment consists of Coarse Screening, Fine Screening, Aerated Grit Removal, Grit Removal via Screw Conveyer, Extended Aeration, Secondary Settling, Chlorination, and Dechlorination.

Receiving Water Description

The water body segment in the Rhode Island Sound that receives the discharge from the Scarborough WWTF is described as coastal waters in the vicinity of Scarborough within 500 feet of the Narragansett-Scarborough WWTF outfall located approximately 2000 feet from a point of land at the northern boundary of Fort Nathaniel Greene. The waterbody identification for this water body is RI0010042E-02A. This segment is located in Narragansett 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.

Permit Development

The requirements set forth in this permit are from the State's Water Quality Regulations and the State's Regulations for the Rhode Island Pollutant Discharge Elimination System (RIPDES), 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).

WWTF Conventional Pollutant Permit Limitations

Flow Limits

The basis for the facility's flow limit of 1.4 MGD is the facility's Facilities Plan dated October 11, 2007.

BOD5, TSS, Settleable Solids, and pH

The "Average Monthly" and "Average Weekly" biochemical oxygen demand (BOD_5) and total suspended solids (TSS) limits, and the pH limitations are based upon the secondary treatment requirements in Section 301(b)(1)(B) of the Clean Water Act (CWA), as defined in 40 CFR 133.102 (a)-(c). "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 "Percent Removal" requirements for BOD_5 and TSS are consistent with the requirement from 40 CFR 133.103. Settleable Solids monitoring has been included as a process control parameter that can aid in the assessment of the operation of the plant but need not have an effluent limit.

Oil and Grease

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

Bacteria

Table 2.8.D(3) of the Rhode Island Water Quality Regulations include Enterococci criteria for primary contact/swimming of a geometric mean of 35 colonies/100 ml and a single sample maximum of 104 colonies/100 ml. However, the "single sample maximum" value is only used by the Rhode Island Department of Health to evaluate beach swimming advisories. EPA's November 12, 2008 memorandum regarding "Initial Zones of Dilution for Bacteria in Rivers and Streams Designated for Primary Contact Recreation" clarifies that it is not appropriate to use dilution for bacteria criteria in receiving waters that are designated for primary contact recreation. Therefore, because the receiving

water is designated for primary contact recreation, the DEM has assigned a monthly average Enterococci limit of 35 colonies/100 ml. 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 also assigned Fecal Coliform monitoring to ensure that the discharge from the WWTF will not have an impact on any areas designated for shellfish harvesting outside of the immediate vicinity of the outfall.

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 Scarborough WWTF's effluent is discharged through a twenty-two (22) inch pipe which is approximately 2,000 feet offshore and is fitted with a diffuser. The diffuser pipe diameter ranges from twenty (20) inches to sixteen (16) inches and consists of three (3) twelve (12) inch diameter ports, each of which is 4.5 feet above the ocean bottom. A diagram of the pipe diffuser is included in Attachment A-4 of the permit. As outlined in the fact sheet of Scarborough WWTF's September 30, 1994 permit, the DEM defined acute and chronic mixing zones in accordance with RI Water Quality Regulations and guidance provided by the U.S. EPA publication entitled "Technical Support Document for Water Quality-Based Toxics Control (1991)." The procedure used was to limit the acute mixing zone to a small area where rapid mixing occurs, and the chronic mixing zone to a larger area where ocean currents and diffusion provide additional mixing. Using the results of the EPA mixing zone guidance, the acute zone is defined as a circular region centered at the outfall with a radius of approximately 13.5 meters or 44 feet. The chronic zone is also circular, centered at diffuser midpoint, and has a radius of approximately 135 meters or 443 feet. In order to determine dilution factors for both mixing zones, the EPA computer model, CORMIX2, was applied.

As also discussed in the fact sheet of the December 27, 2005 permit, Rule 17 of the RIPDES Regulations requires the use of the design flow when establishing limits for POTWs. Based upon the design flow of 1.4 MGD (as noted in Order of Approval No. 436), the mean low water depth at the discharge pipe of twenty (20) feet, and a conservative estimate of ambient current velocity (0.16 feet per second), an acute dilution of 25:1 and a chronic dilution of 45:1 were determined using CORMIX2. The Scarborough WWTF mixing zone is presented in Attachment A-5, and an aerial photograph of the mixing zone is presented in Attachment A-6.

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.

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

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

Since specific background data was not available for this discharge, the DEM used the equation in part (a) above to calculate water quality-based limits. Reference Attachment A-7 for calculations of allowable limits based on Aquatic Life and Human Health Criteria.

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. The limits for total residual chlorine (TRC) were established in accordance with the RIDEM Effluent Disinfection Policy. The "Monthly Average" and "Daily Maximum" were based on a 100% allocation, a zero background concentration, and the appropriate dilution factor(s). 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.

C) Pollutants with water quality based monthly average limits in the previous RIPDES permit. The relaxation of monthly average limits from the previous permit was restricted in accordance with the antibacksliding provisions of the Clean Water Act and the Policy on the Implementation of the Antidegradation Provisions of the Rhode Island Water Quality Regulations. None of the permit limits calculated in Attachment A-7 were less stringent than limits from the previous permit, therefore the limits in Attachment A-7 comply with the antidegradation provisions of the Rhode Island Water Quality Regulations.

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 since no background data was available.

Attachment A-8 contains a summary of Discharge Monitoring Report data for the past five (5) years, and Attachment A-9 contains a summary of pollutants detected by the User Fee Program and Priority Pollutant Scan data for the past five (5) years. Attachment A-10 is a summary comparison of the allowable limits vs. the DMR and State User Fee Program and Priority Pollutant Scan data.

Reasonable Potential

In accordance with 40 CFR 122.4(d)(1)(iii), it is only necessary to establish limitations for those pollutants in the discharge which have "reasonable potential" to cause or contribute to the exceedance of instream criteria. In order to evaluate the need for permit limits, the most stringent calculated acute and chronic permit limits were compared to the mean of the daily maximum and monthly average Discharge Monitoring Report (DMR) data and the maximum and mean of the concentrations reported in the WWTF's annual Priority Pollutant Scans and State User Fee Program data. Based on this analysis, it was determined that no pollutants have "reasonable potential" except for Chlorine, 4,4 DDE, and 4,4 DDT. User Fee Program testing in 2011 indicated trace detections of 4,4DDE and 4,4DDT. However, after further review, DEM determined that there is no reasonable potential for the exceedance of 4,4DDE and 4,4DDT due to these detections being at the Method Detection Limits (MDLs) for those parameters, and due to 4,4DDE and 4,4DDT not being detected in Priority Pollutant Scan testing since the User Fee Program detections of these parameters took place in 2011. Therefore, no permit limits have been implemented for 4,4DDE and 4,4DDT. Although these pollutants do not have "reasonable potential", monitoring for Total Copper, Cyanide, Total Cadmium, Hexavalent Chromium, Total Lead, Total Zinc, Total Nickel, and Total Aluminum has been maintained in the permit as part of the quarterly toxicity testing requirements.

Nutrients

Nutrient criteria have not been established for the receiving water. Seasonal (May through October) testing requirements for TKN, Nitrate, and Nitrite have been maintained to determine nutrient loadings to the receiving water, and are consistent with the Department's policy requiring all facilities to perform baseline nutrient monitoring. This information will aid the Department in the determination of the necessity for future nutrient removal from the treatment plant effluent.

Bioassay Testing

RIDEM's toxicity permitting policy is based on past toxicity data and the level of available dilution. Evaluation of the data collected for biotoxicity during the period of the Second (3rd) Quarter 2011 through the second (2nd) Quarter 2016 revealed that the final effluent samples have demonstrated acceptable toxicity values for the Mysid (shrimp) tests. RIDEM's toxicity permitting policy requires that acute toxicity be evaluated for effluents with dilutions between 20:1 – 100:1. The permit requires that acute toxicity tests be conducted once per quarter on Mysids. The permit contains an acute $LC_{50} \geq$ 100% effluent limit which shall assure control of the toxicity in the effluent. If recurrent toxicity is demonstrated, then toxicity identification and reduction will be required.

Other Limits and Conditions

The permit contains requirements for the permittee to comply with the State's Sludge Regulations and RIDEM's 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 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 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	1.4 MGD		--- MGD
BOD_5	350 lbs/day		584 lbs/day
BOD_5	30 mg/l	45 mg/l	50 mg/l
BOD - % removal	85%		
TSS	350 lbs/day		584 lbs/day
TSS	30 mg/l	45 mg/l	50 mg/l
TSS - % removal	85%		
Settleable Solids		--- ml/l	--- ml/l
Enterococci	35 cfu/100 ml		276 cfu/100 ml
Fecal Coliform	--- MPN/100 ml		--- MPN/100 ml
Total Residual Chlorine	325 ug/l		325 ug/l

(TRC)			
pH	(6.0 SU)		(9.0 SU)
Total Copper	--- ug/l		--- ug/l
Cyanide	--- 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
Oil and Grease			--- mg/l
TKN [May 1-October 31]			--- mg/l
Nitrate, Total (as N) [May 1-October 31]			--- mg/l
Nitrite, Total (as N) [May 1-October 31]			--- mg/l
Nitrogen, Total (TKN+Nitrate+Nitrite, as N) [May 1-October 31]			--- mg/l
LC_{50} (Mysids)			≥100%

--- 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. A public hearing will be held after a thirty (30) day public notice. In reaching a final decision on the draft permit the Director will respond to all significant comments and make these responses available to the public at DEM's Providence Office.

Following the close of the comment period, and after the public hearing, the Director will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments, provided oral testimony, 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 permit may be obtained between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday, excluding holidays from:

Samuel Kaplan, P.E.
RIPDES Program
Office of Water Resources
Department of Environmental Management
235 Promenade Street
Providence, Rhode Island 02908
Telephone: (401) 222-4700, ext. 7046
email: samuel.kaplan@dem.ri.gov

5/19/17
Date

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

ATTACHMENT A-1 – EFFLUENT DATA

DESCRIPTION OF DISCHARGE: Secondary treated domestic and industrial wastewater.
DISCHARGE: 001A - Secondary Treatment Discharge

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE:

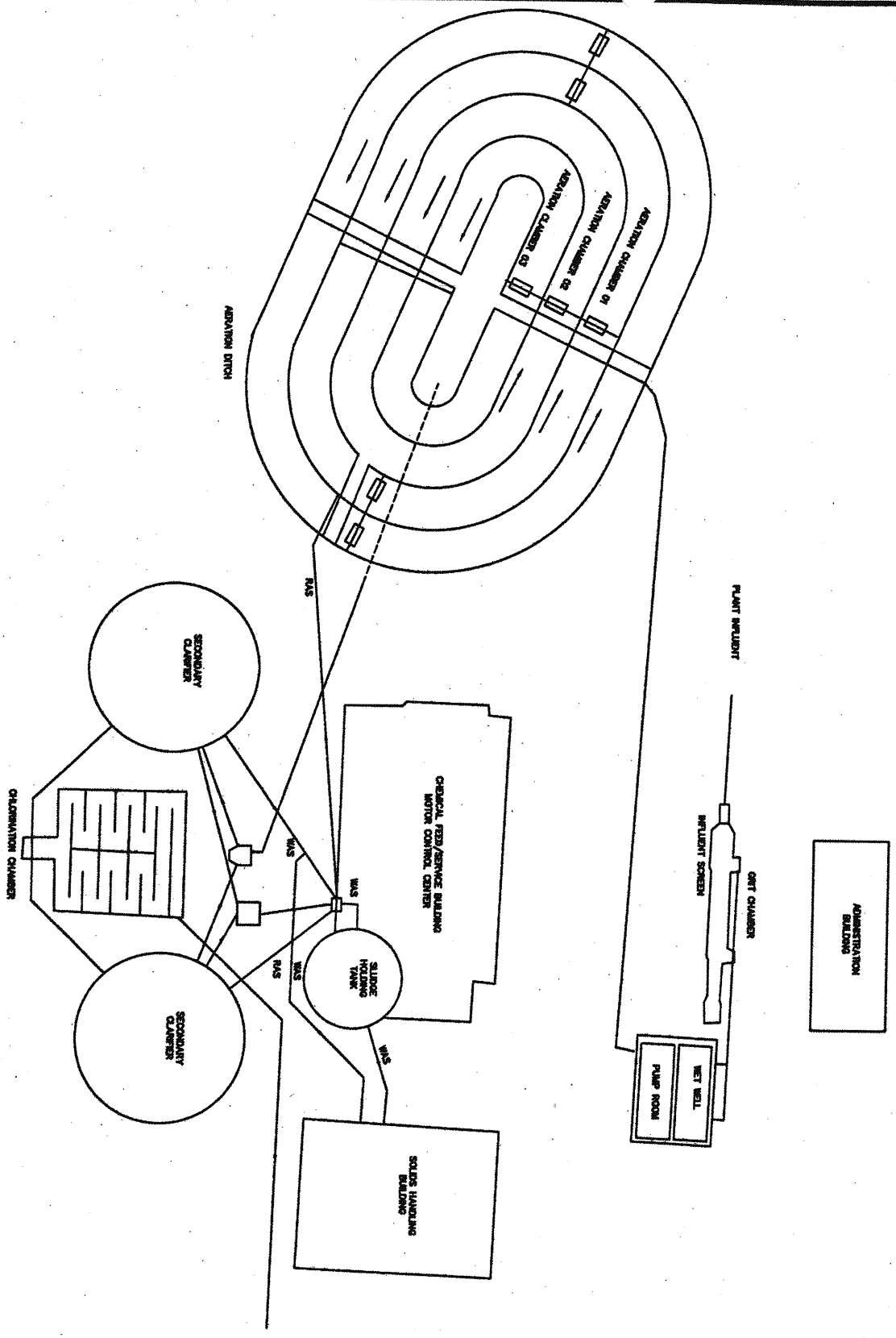
PARAMETER	AVERAGE[1]	WEEKLY[2]	MAXIMUM[3]
FLOW (MGD) MGD	0.59 MGD		1.13 MGD
BOD_5 (PPM)	6.04 mg/l	7.76 mg/l	10.41 mg/l
BOD_5 (LBS)	28.74 lb/d		56.71 lb/d
TSS (PPM)	8.04 mg/l	9.95 mg/l	13.76 mg/l
TSS (LBS)	38.49 lb/d		75.57 lb/d
Fecal Coliform ml	3.13 MPN/100 ml		20.74 MPN/100
Enterococci ml	2.99 CFU/100 ml		50.36 CFU/100
pH S.U.(maximum)	6.53 S.U.(minimum)		7.59
Chlorine Residual	7.78 ug/l		26.6 ug/l
Oil & Grease			3.32 mg/l
Nitrite, Total (as N)			1.61 mg/l
Nitrate, Total (as N)			10.09 mg/l
TKN			9.38 mg/l
Nitrogen, Total (TKN+Nitrate+Nitrite, as N)			18.50 mg/l
Settleable Solids		0.3827 mL/L	0.466 ml/l
Aluminum, Total	17.36 ug/l		17.36 ug/l
Cadmium, Total	1.09 ug/l		1.09 ug/l
Chromium, Total	1.99 ug/l		1.99 ug/l
Copper, Total	11.13 ug/l		11.13 ug/l
Cyanide, Total	4.36 ug/l		4.36 ug/l
Lead, Total	4.64 ug/l		4.64 ug/l
Nickel, Total	1.94 ug/l		1.94 ug/l
Zinc, Total	32.01 ug/l		32.01 ug/l

[1]Data represents the mean of the monthly average data from July 2011 – June 2016.
[2]Data represents the mean of the weekly average date from July 2016-June 2016.
[3]Data represents the mean of the daily maximum data from July 2011 – June 2016.

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

2014 3rd qtr. 100	4th qtr. 100	2015 1st qtr. 100	2nd qtr. 100	3rd qtr. 100	4th qtr. 100	2016 1st qtr. 100	2nd qtr. 100

ATTACHMENT A-2 – SCARBOROUGH WWTF FACILITY PROCESS DIAGRAM



Town of Narragansett
Rhode Island

Figure 4-11
SCARBOROUGH TREAMENT FACILITY

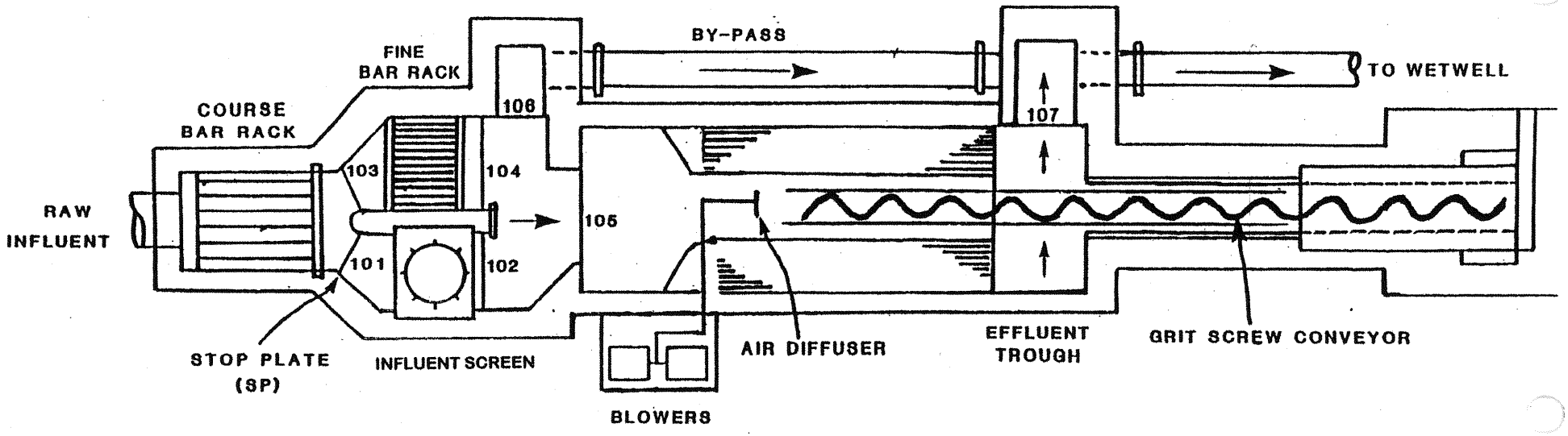
JAMES J. GEREMIA & ASSOCIATES, INC.
CONSULTING ENVIRONMENTAL ENGINEERS & SCIENTISTS
272 W. Exchange Street Suite 201 Providence,RI 02903-1025
Phone: 401-454-7000 Fax: 401-454-7415

Source: Town of Narragansett

Date: 2005

Scale: No Scale

ATTACHMENT A-3 – SCARBOROUGH HEADWORKS DIAGRAMS



HEADWORKS TREATMENT SYSTEM
Figure 3-2

Scarborough WWTF headworks diagram

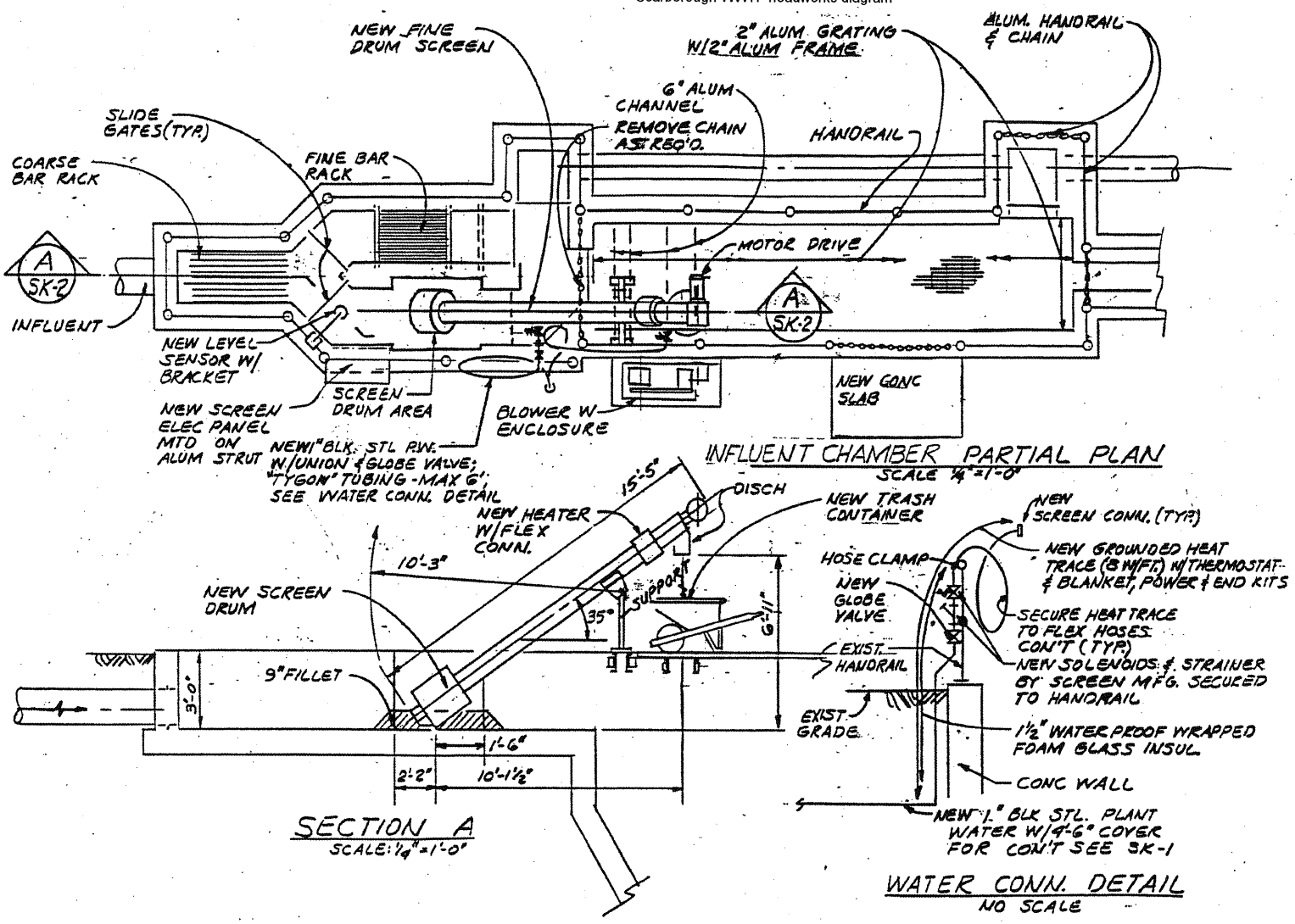


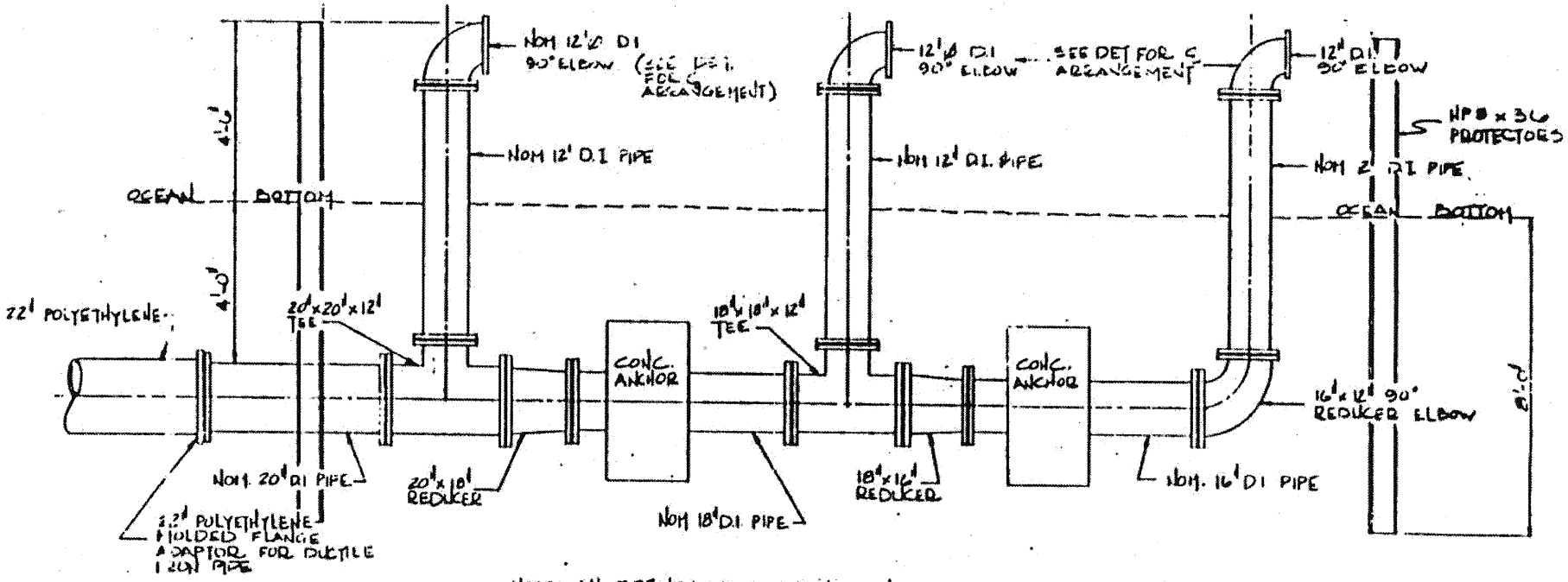
Figure 3-1

TRAVASSOS–GEREMIA & ASSOCIATES, INC.
CONSULTING ENVIRONMENTAL ENGINEERS & SCIENTISTS

SCARBOROUGH WWTF
HEADWORKS FACILITY

Dates: JAN. 97 | SCALE: AS NOTED

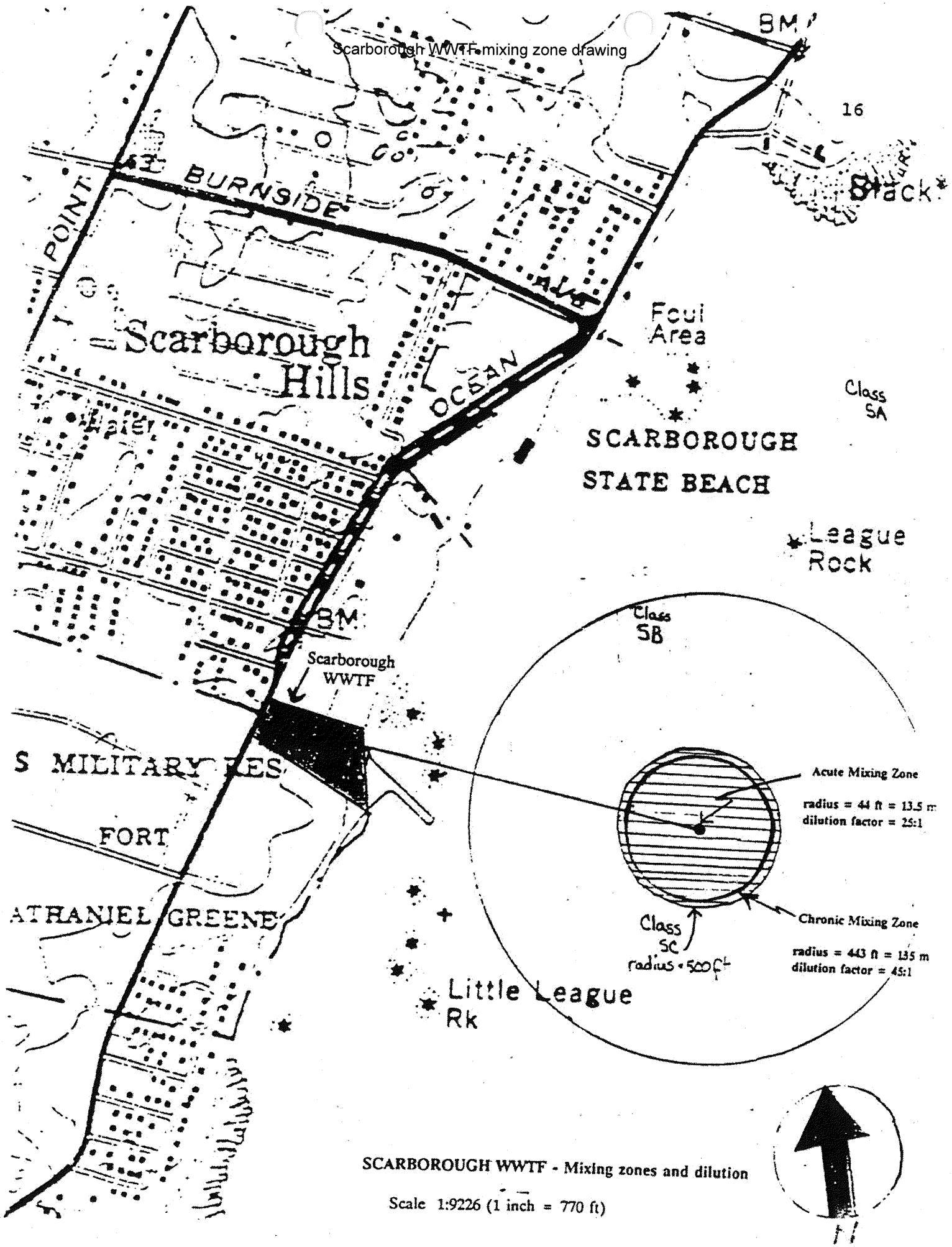
ATTACHMENT A-4 – SCARBOROUGH WWTF DIFFUSER SCHEMATIC



NOTE: ALL FITTINGS TO BE DUCTILE IRON

Scarborough WWTF Outfall Diffuser Diagram

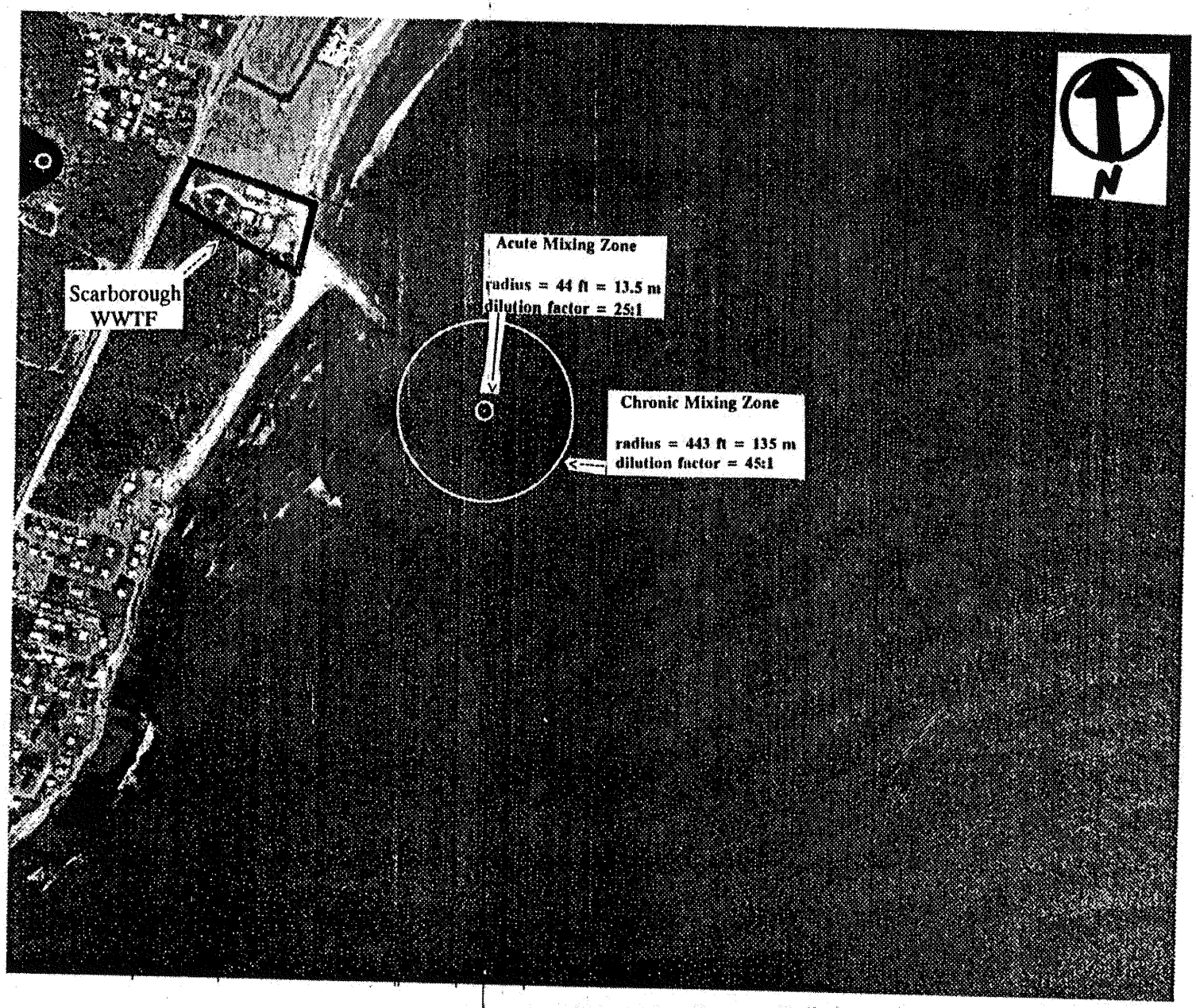
ATTACHMENT A-5 - SCARBOROUGH WWTF MIXING ZONE DRAWING



SCARBOROUGH WWTF - Mixing zones and dilution

Scale 1:9226 (1 inch = 770 ft)

ATTACHMENT A-6 – SCARBOROUGH WWTF AERIAL PHOTOGRAPH WITH MIXING ZONES



Scarborough WWTF Mixing Zones and Dilution

Scale 1:9000 (1 inch = 750 feet)

Scarborough WWTF aerial photograph with mixing zones

ATTACHMENT A-7 – WQ CALCULATIONS

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: **SCARBOROUGH WWTF**

RIPDES PERMIT #: **RI0100188**

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

USE NA WHEN NO DATA IS AVAILABLE

NOTE 1: METAL TRANSLATORS FROM RI WATER QUALITY REGS.

DILUTION FACTORS		
	ACUTE =	25 x
	CHRONIC =	45 x
	HUMAN HEALTH =	45 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; pH = 8.0 s.u.
WINTER (NOV-APRIL) TEMP=5.0 C;
SUMMER (MAY-OCT) TEMP=20.0 C.

CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS

FACILITY NAME: SCARBOROUGH WWTF RIPDES PERMIT #: RI0100188

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	23040
ARSENIC (limits are total recoverable)	7440382	NA	69	1380	36	1.4	50.4
ASBESTOS	1332214			No Criteria			No Criteria
BERYLLIUM	7440417			No Criteria			No Criteria
CADMIUM (limits are total recoverable)	7440439	NA	40	804.8289738	8.8		318.7122736
CHROMIUM III (limits are total recoverable)	16065831	NA		No Criteria			No Criteria
CHROMIUM VI (limits are total recoverable)	18540299	NA	1100	22155.0856	50		1812.688822
COPPER (limits are total recoverable)	7440508	NA	4.8	115.6626506	3.1		134.4578313
CYANIDE	57125		1	20.00	1	140	36
LEAD (limits are total recoverable)	7439921	NA	210	4416.403785	8.1		306.6246057
MERCURY (limits are total recoverable)	7439976	NA	1.8	42.35294118	0.94	0.15	5.4
NICKEL (limits are total recoverable)	7440020	NA	74	1494.949495	8.2	4600	298.1818182
SELENIUM (limits are total recoverable)	7782492	NA	290	5811.623246	71	4200	2561.122244
SILVER (limits are total recoverable)	7440224	NA	1.9	44.70588235			No Criteria
THALLIUM	7440280			No Criteria		0.47	16.92
ZINC (limits are total recoverable)	7440666	NA	90	1902.748414	81	26000	3082.452431
VOLATILE ORGANIC COMPOUNDS							
ACROLEIN	107028			No Criteria		290	10440
ACRYLONITRILE	107131			No Criteria		2.5	90
BENZENE	71432			No Criteria		510	18360
BROMOFORM	75252			No Criteria		1400	50400
CARBON TETRACHLORIDE	56235			No Criteria		16	576
CHLOROBENZENE	108907			No Criteria		1600	57600
CHLORODIBROMOMETHANE	124481			No Criteria		130	4680
CHLOROFORM	67663			No Criteria		4700	169200
DICHLOROBROMOMETHANE	75274			No Criteria		170	6120
1,2DICHLOROETHANE	107062			No Criteria		370	13320
1,1DICHLOROETHYLENE	75354			No Criteria		7100	255600
1,2DICHLOROPROPANE	78875			No Criteria		150	5400
1,3DICHLOROPROPYLENE	542756			No Criteria		21	756
ETHYLBENZENE	100414			No Criteria		2100	75600
BROMOMETHANE (methyl bromide)	74839			No Criteria		1500	54000
CHLOROMETHANE (methyl chloride)	74873			No Criteria			No Criteria
METHYLENE CHLORIDE	75092			No Criteria		5900	212400

CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS

FACILITY NAME: SCARBOROUGH WWTF RIPDES PERMIT #: RI0100188

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	1440
TETRACHLOROETHYLENE	127184			No Criteria		33	1188
TOLUENE	108883			No Criteria		15000	540000
1,2TRANSDICHLOROETHYLENE	156605			No Criteria		10000	360000
1,1,1TRICHLOROETHANE	71556			No Criteria			No Criteria
1,1,2TRICHLOROETHANE	79005			No Criteria		160	5760
TRICHLOROETHYLENE	79016			No Criteria		300	10800
VINYL CHLORIDE	75014			No Criteria		2.4	86.4
ACID ORGANIC COMPOUNDS							
2CHLOROPHENOL	95578			No Criteria		150	5400
2,4DICHLOROPHENOL	120832			No Criteria		290	10440
2,4DIMETHYLPHENOL	105679			No Criteria		850	30600
4,6DINITRO2METHYL PHENOL	534521			No Criteria		280	10080
2,4DINITROPHENOL	51285			No Criteria		5300	190800
4NITROPHENOL	88755			No Criteria			No Criteria
PENTACHLOROPHENOL	87865		13	260	7.9	30	284.4
PHENOL	108952			No Criteria		1700000	61200000
2,4,6TRICHLOROPHENOL	88062			No Criteria		24	864
BASE NEUTRAL COMPUNDS							
ACENAPHTHENE	83329			No Criteria		990	35640
ANTHRACENE	120127			No Criteria		40000	1440000
BENZIDINE	92875			No Criteria		0.002	0.072
POLYCYCLIC AROMATIC HYDROCARBONS				No Criteria		0.18	6.48
BIS(2CHLOROETHYL)ETHER	111444			No Criteria		5.3	190.8
BIS(2CHLOROISOPROPYL)ETHER	108601			No Criteria		65000	2340000
BIS(2ETHYLHEXYL)PHTHALATE	117817			No Criteria		22	792
BUTYL BENZYL PHTHALATE	85687			No Criteria		1900	68400
2CHLORONAPHTHALENE	91587			No Criteria		1600	57600
1,2DICHLOROBENZENE	95501			No Criteria		1300	46800
1,3DICHLOROBENZENE	541731			No Criteria		960	34560
1,4DICHLOROBENZENE	106467			No Criteria		190	6840
3,3DICHLOROBENZIDENE	91941			No Criteria		0.28	10.08
DIETHYL PHTHALATE	84662			No Criteria		44000	1584000
DIMETHYL PHTHALATE	131113			No Criteria		1100000	39600000
DInBUTYL PHTHALATE	84742			No Criteria		4500	162000
2,4DINITROTOLUENE	121142			No Criteria		34	1224

CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS

FACILITY NAME: SCARBOROUGH WWTF RIPDES PERMIT #: RI0100188

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	72
FLUORANTHENE	206440			No Criteria		140	5040
FLUORENE	86737			No Criteria		5300	190800
HEXACHLOROBENZENE	118741			No Criteria		0.0029	0.1044
HEXACHLOROBUTADIENE	87683			No Criteria		180	6480
HEXACHLOROCYCLOPENTADIENE	77474			No Criteria		1100	39600
HEXACHLOROETHANE	67721			No Criteria		33	1188
ISOPHORONE	78591			No Criteria		9600	345600
NAPHTHALENE	91203			No Criteria			No Criteria
NITROBENZENE	98953			No Criteria		690	24840
NNITROSODIMETHYLAMINE	62759			No Criteria		30	1080
NNITROSODINPROPYLAMINE	621647			No Criteria		5.1	183.6
NNITROSODIPHENYLAMINE	86306			No Criteria		60	2160
PYRENE	129000			No Criteria		4000	144000
1,2,4trichlorobenzene	120821			No Criteria		70	2520
PESTICIDES/PCBs							
ALDRIN	309002		1.3	26		0.0005	0.018
Alpha BHC	319846			No Criteria		0.049	1.764
Beta BHC	319857			No Criteria		0.17	6.12
Gamma BHC (Lindane)	58899		0.16	3.2		1.8	64.8
CHLORDANE	57749		0.09	1.8	0.004	0.0081	0.144
4,4DDT	50293		0.13	2.6	0.001	0.0022	0.036
4,4DDE	72559			No Criteria		0.0022	0.0792
4,4DDD	72548			No Criteria		0.0031	0.1116
DIELDRIN	60571		0.71	14.2	0.0019	0.00054	0.01944
ENDOSULFAN (alpha)	959988		0.034	0.68	0.0087	89	0.3132
ENDOSULFAN (beta)	33213659		0.034	0.68	0.0087	89	0.3132
ENDOSULFAN (sulfate)	1031078			No Criteria		89	3204
ENDRIN	72208		0.037	0.74	0.0023	0.06	0.0828
ENDRIN ALDEHYDE	7421934			No Criteria		0.3	10.8
HEPTACHLOR	76448		0.053	1.06	0.0036	0.00079	0.02844
HEPTACHLOR EPOXIDE	1024573		0.053	1.06	0.0036	0.00039	0.01404
POLYCHLORINATED BIPHENYLS3	1336363			No Criteria	0.03	0.00064	0.02304
2,3,7,8TCDD (Dioxin)	1746016			No Criteria		0.000000051	0.000001836
TOXAPHENE	8001352		0.21	4.2	0.0002	0.0028	0.0072
TRIBUTYLTIN			0.42	8.4	0.0074		0.2664

CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS

FACILITY NAME: SCARBOROUGH WWTF RIPDES PERMIT #: RI0100188

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	345240 120012	2548 | 904.2		91735.2 | 32551.2
4BROMOPHENYL PHENYL ETHER				No Criteria			No Criteria
CHLORIDE	16887006			No Criteria			No Criteria
CHLORINE	7782505		13	325	7.5		337.5
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: SCARBOROUGH WWTF RIPDES PERMIT #: RI0100188

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
PRIORITY POLLUTANTS:			
TOXIC METALS AND CYANIDE			
ANTIMONY	7440360	No Criteria	23040.00
ARSENIC, TOTAL	7440382	1380.00	50.40
ASBESTOS	1332214	No Criteria	No Criteria
BERYLLIUM	7440417	No Criteria	No Criteria
CADMIUM, TOTAL	7440439	804.83	318.71
CHROMIUM III, TOTAL	16065831	No Criteria	No Criteria
CHROMIUM VI, TOTAL	18540299	22155.09	1812.69
COPPER, TOTAL	7440508	115.66	115.66
CYANIDE	57125	20.00	20.00
LEAD, TOTAL	7439921	4416.40	306.62
MERCURY, TOTAL	7439976	42.35	5.40
NICKEL, TOTAL	7440020	1494.95	298.18
SELENIUM, TOTAL	7782492	5811.62	2561.12
SILVER, TOTAL	7440224	44.71	No Criteria
THALLIUM	7440280	No Criteria	16.92
ZINC, TOTAL	7440666	1902.75	1902.75
VOLATILE ORGANIC COMPOUNDS			
ACROLEIN	107028	No Criteria	10440.00
ACRYLONITRILE	107131	No Criteria	90.00
BENZENE	71432	No Criteria	18360.00
BROMOFORM	75252	No Criteria	50400.00
CARBON TETRACHLORIDE	56235	No Criteria	576.00
CHLOROBENZENE	108907	No Criteria	57600.00
CHLORODIBROMOMETHANE	124481	No Criteria	4680.00
CHLOROFORM	67663	No Criteria	169200.00
DICHLOROBROMOMETHANE	75274	No Criteria	6120.00
1,2DICHLOROETHANE	107062	No Criteria	13320.00
1,1DICHLOROETHYLENE	75354	No Criteria	255600.00
1,2DICHLOROPROPANE	78875	No Criteria	5400.00
1,3DICHLOROPROPYLENE	542756	No Criteria	756.00
ETHYLBENZENE	100414	No Criteria	75600.00
BROMOMETHANE (methyl bromide)	74839	No Criteria	54000.00
CHLOROMETHANE (methyl chloride)	74873	No Criteria	No Criteria
METHYLENE CHLORIDE	75092	No Criteria	212400.00
1,1,2,2TETRACHLOROETHANE	79345	No Criteria	1440.00
TETRACHLOROETHYLENE	127184	No Criteria	1188.00
TOLUENE	108883	No Criteria	540000.00
1,2TRANSDICHLOROETHYLENE	156605	No Criteria	360000.00
1,1,1TRICHLOROETHANE	71556	No Criteria	No Criteria
1,1,2TRICHLOROETHANE	79005	No Criteria	5760.00
TRICHLOROETHYLENE	79016	No Criteria	10800.00
VINYL CHLORIDE	75014	No Criteria	86.4
ACID ORGANIC COMPOUNDS			
2CHLOROPHENOL	95578	No Criteria	5400.00
2,4DICHLOROPHENOL	120832	No Criteria	10440.00
2,4DIMETHYLPHENOL	105679	No Criteria	30600.00
4,6DINITRO2METHYL PHENOL	534521	No Criteria	10080.00
2,4DINITROPHENOL	51285	No Criteria	190800.00
4NITROPHENOL	88755	No Criteria	No Criteria
PENTACHLOROPHENOL	87865	260.00	260.00
PHENOL	108952	No Criteria	61200000.00
2,4,6TRICHLOROPHENOL	88062	No Criteria	864.00
BASE NEUTRAL COMPUNDS			
ACENAPHTHENE	83329	No Criteria	35640.00
ANTHRACENE	120127	No Criteria	1440000.00
BENZIDINE	92875	No Criteria	0.07
PAHs		No Criteria	6.48
BIS(2CHLOROETHYL)ETHER	111444	No Criteria	190.80
BIS(2CHLOROISOPROPYL)ETHER	108601	No Criteria	2340000.0
BIS(2ETHYLHEXYL)PHTHALATE	117817	No Criteria	792.00
BUTYL BENZYL PHTHALATE	85687	No Criteria	68400.00
2CHLORONAPHTHALENE	91587	No Criteria	57600.00
1,2DICHLOROBENZENE	95501	No Criteria	46800.00
1,3DICHLOROBENZENE	541731	No Criteria	34560.00
1,4DICHLOROBENZENE	106467	No Criteria	6840.00
3,3DICHLOROBENZIDENE	91941	No Criteria	10.08
DIETHYL PHTHALATE	84662	No Criteria	1584000.00
DIMETHYL PHTHALATE	131113	No Criteria	39600000.00
DI-n-BUTYL PHTHALATE	84742	No Criteria	162000.00
2,4DINITROTOLUENE	121142	No Criteria	1224.00
1,2DIPHENYLHYDRAZINE	122667	No Criteria	72.00
FLUORANTHENE	206440	No Criteria	5040.00

CALCULATION OF WATER QUALITY BASED SALTWATER DISCHARGE LIMITS

FACILITY NAME: SCARBOROUGH WWTF

RIPDES PERMIT #: RI0100188

CHEMICAL NAME	CAS#	DAILY MAX LIMIT (ug/L)	MONTHLY AVE LIMIT (ug/L)
FLUORENE	86737	No Criteria	190800.00
HEXACHLOROBENZENE	118741	No Criteria	0.10
HEXACHLOROBUTADIENE	87683	No Criteria	6480.00
HEXACHLOROCYCLOPENTADIENE	77474	No Criteria	39600.00
HEXACHLOROETHANE	67721	No Criteria	1188.00
ISOPHORONE	78591	No Criteria	345600.00
NAPHTHALENE	91203	No Criteria	No Criteria
NITROBENZENE	98953	No Criteria	24840.00
N-NITROSODIMETHYLAMINE	62759	No Criteria	1080.00
N-NITROSODI-N-PROPYLAMINE	621647	No Criteria	183.60
N-NITROSODIPHENYLAMINE	86306	No Criteria	2160.00
PYRENE	129000	No Criteria	144000.00
1,2,4trichlorobenzene	120821	No Criteria	2520.00
PESTICIDES/PCBs			
ALDRIN	309002	26.00	0.02
Alpha BHC	319846	No Criteria	1.76
Beta BHC	319857	No Criteria	6.12
Gamma BHC (Lindane)	58899	3.20	3.20
CHLORDANE	57749	1.80	0.14
4,4DDT	50293	2.60	0.04
4,4DDE	72559	No Criteria	0.08
4,4DDD	72548	No Criteria	0.11
DIELDRIN	60571	14.20	0.02
ENDOSULFAN (alpha)	959988	0.68	0.31
ENDOSULFAN (beta)	33213659	0.68	0.31
ENDOSULFAN (sulfate)	1031078	No Criteria	3204.00
ENDRIN	72208	0.74	0.08
ENDRIN ALDEHYDE	7421934	No Criteria	10.80
HEPTACHLOR	76448	1.06	0.03
HEPTACHLOR EPOXIDE	1024573	1.06	0.01
POLYCHLORINATED BIPHENYLS3	1336363	No Criteria	0.02
2,3,7,8TCDD (Dioxin)	1746016	No Criteria	0.00
TOXAPHENE	8001352	4.20	0.01
TRIBUTYLTIN		8.40	0.27

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	345240.00	91735.20
AMMONIA (as N), SUMMER (MAY-OC	7664417	120012.00	32551.20
4BROMOPHENYL PHENYL ETHER		No Criteria	No Criteria
CHLORIDE	16887006	No Criteria	No Criteria
CHLORINE	7782505	325.00	325.00
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-8 – DISCHARGE MONITORING REPORT DATA

SCARBOROUGH WWTF

DMR Data Summary 11/21/16

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

001A

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

	MO AVG lb/d	DAILY MX lb/d
Mean	28.743	56.712
Minimum	10.4	15.
Maximum	60.	238.
Data Count	60	60

	MO AVG mg/L	WKLY AVG mg/L	DAILY MX mg/L
Mean	6.0442	7.5588	10.4167
Minimum	3.	2.	5.1
Maximum	10.	13.31	16.
Data Count	60	60	60

Chlorine, total residual Location= 1

	MO AVG ug/L	DAILY MX ug/L
Mean	7.7813	26.596
Minimum	.	.01
Maximum	70.	190.
Data Count	60	60

Coliform, fecal general Location= 1

	MO AVG MPN/100mL	MO GEO MPN/100mL	WKLY GEO MPN/100mL	DAILY MX MPN/100mL
Mean	3.1266	4.335	13.9525	20.7417
Minimum	1.56	3.52	10.93	1.8
Maximum	15.	5.51	18.77	280.
Data Count	56	4	4	60

Enterococci Location= 1

	MO AVG CFU/100mL	DAILY MX CFU/100mL
Mean	2.9908	50.3643
Minimum	.1	.1
Maximum	22.06	1700.
Data Count	56	56

Flow, in conduit or thru treatment plant I

	MO AVG MGD	DAILY MX MGD
Mean	.5887	1.1323
Minimum	.279	.365
Maximum	1.008	3.61
Data Count	60	60

Nitrogen, Kjeldahl, total [as N] Location:

	DAILY MX mg/L
Mean	9.3828
Minimum	.
Maximum	26.
Data Count	29

Nitrogen, nitrate total [as N] Location= 1

	DAILY MX mg/L
Mean	10.0893
Minimum	.01
Maximum	27.
Data Count	29

Nitrogen, nitrite total [as N] Location= 1

	DAILY MX mg/L
Mean	1.613
Minimum	.
Maximum	18.
Data Count	28

Nitrogen, total [as N] Location= 1

	DAILY MX mg/L
Mean	18.5038
Minimum	1.6
Maximum	32.
Data Count	29

Oil & Grease Location= 1

	DAILY MX mg/L
Mean	3.3188
Minimum	.
Maximum	10.
Data Count	48

pH Location= 1

	MINIMUM SU	MAXIMUM SU
Mean	6.5325	7.5888
Minimum	6.03	6.95
Maximum	7.35	8.8
Data Count	60	60

Solids, settleable Location= 1

	WKLY AVG mL/L	DAILY MX mL/L
Mean	.3827	.466
Minimum	.01	.01
Maximum	10.	10.
Data Count	60	60

Solids, total suspended Location= 1

	MO AVG lb/d	DAILY MX lb/d
Mean	38.4857	75.5667
Minimum	3.	14.
Maximum	83.	444.
Data Count	60	60

	MO AVG mg/L	WKLY AVG mg/L	DAILY MX mg/L
Mean	8.0438	9.9537	13.76
Minimum	1.03	2.4	3.2
Maximum	18.92	23.67	34.
Data Count	60	60	60

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

	MO AVG lb/d	DAILY MX lb/d
Mean	644.8052	1094.945
Minimum	349.	567.
Maximum	1278.	2137.
Data Count	60	60

	MO AVG mg/L	WKLY AVG mg/L	DAILY MX mg/L
Mean	144.245	176.9612	236.3
Minimum	56.	67.	92.
Maximum	256.15	286.67	420.
Data Count	60	60	60

Solids, total suspended Location= G

	MO AVG lb/d	DAILY MX lb/d
Mean	650.0983	1103.2737
Minimum	63.9	22.71
Maximum	1328.18	1969.
Data Count	60	60

	MO AVG mg/L	WKLY AVG mg/L	DAILY MX mg/L
Mean	145.42	194.7535	231.2
Minimum	79.	94.	111.
Maximum	279.23	1261.	480.
Data Count	60	60	60

BOD, 5-day, percent removal Location=

	MO AV MN %
Mean	95.12
Minimum	90.
Maximum	98.
Data Count	60

Solids, suspended percent removal Loc

	MO AV MN %
Mean	93.675
Minimum	88.
Maximum	100.
Data Count	60

001Q

Aluminum, total [as Al] Location= 1

	MO AVG ug/L	DAILY MX ug/L
Mean	17.3643	17.3643
Minimum	.	.
Maximum	50.	50.
Data Count	14	14

Cadmium, total [as Cd] Location= 1

	MO AVG ug/L	DAILY MX ug/L
Mean	1.0857	1.0971
Minimum	.	.
Maximum	5.	5.
Data Count	14	14

Chromium, total [as Cr] Location= 1

	MO AVG ug/L	DAILY MX ug/L
Mean	1.9857	1.9857
Minimum	.	.
Maximum	7.	7.
Data Count	14	14

Copper, total [as Cu] Location= 1

	MO AVG ug/L	DAILY MX ug/L
Mean	11.1297	11.1297
Minimum	.	.
Maximum	120.	120.
Data Count	18	18

Cyanide, total [as CN] Location= 1

	MO AVG ug/L	DAILY MX ug/L
Mean	4.3593	4.3593
Minimum	.	.
Maximum	10.	10.
Data Count	14	14

Lead, total [as Pb] Location= 1

	MO AVG ug/L	DAILY MX ug/L
Mean	4.6357	4.6357
Minimum	.	.
Maximum	50.	50.
Data Count	14	14

Nickel, total [as Ni] Location= 1

	MO AVG ug/L	DAILY MX ug/L
Mean	1.9406	1.9394
Minimum	.	.
Maximum	5.1	5.1
Data Count	18	18

Zinc, total [as Zn] Location= 1

	MO AVG ug/L	DAILY MX ug/L
Mean	32.0148	32.0148
Minimum	.	.
Maximum	120.	120.
Data Count	18	18

001T

LC50 Static 48Hr Acute Mysid. Bahia L(

	MINIMUM %
Mean	100.
Minimum	100.
Maximum	100.
Data Count	19

ATTACHMENT A-9 – USER FEE PROGRAM AND PRIORITY POLLUTANT SCAN DATA

Attachment A-9 - Scarborough UFP data and PPS data

test source	test date or collection date	parameter	conc.	units	sum	num	ave.	max.
UFP	9/28/2011	4,4'- DDE	0.06	ug/L			0.06	0.06
UFP	9/28/2011	4,4'- DDT	0.06	ug/L			0.06	0.06
PPS	8/26/2014	Arsenic	1	ug/L				
UFP	9/28/2011	Arsenic	3	ug/L			2	3
PPS	7/30/2013	Barium	6.8	ug/L				
PPS	7/30/2015	Barium	9.6	ug/L				
PPS	9/10/2012	Barium	10	ug/L			8.8	10
UFP	9/28/2011	Bromoform	19	ug/L			19	19
UFP	9/28/2011	Chromium, Total	2	ug/L			2	2
PPS	8/26/2014	Copper	4	ug/L				
PPS	9/10/2012	Copper	5.5	ug/L				
PPS	7/30/2015	Copper	6	ug/L				
UFP	9/28/2011	Copper	9	ug/L				
PPS	7/30/2013	Copper	10	ug/L				
PPS	7/26/2016	Copper	12	ug/L			7.75	12
UFP	9/28/2011	Dibromochloromethane	4.3	ug/L			4.3	4.3
PPS	9/10/2012	Nickel	1	ug/L				
PPS	7/30/2015	Nickel	1.3	ug/L				
PPS	8/26/2014	Nickel	2	ug/L				
UFP	9/28/2011	Nickel	22	ug/L			6.58	22
PPS	9/10/2012	Phenol	38	ug/L			38	38
UFP	9/28/2011	Selenium, Total	8	ug/L			8	8
UFP	9/28/2011	Toluene	4.8	ug/L			4.8	4.8
UFP	9/28/2011	Zinc	37	ug/L				
PPS	7/30/2013	Zinc	45	ug/L				
PPS	7/26/2016	Zinc	48	ug/L				
PPS	7/30/2015	Zinc	50	ug/L				
PPS	9/10/2012	Zinc	52	ug/L				
PPS	8/26/2014	Zinc	57	ug/L			48.2	57

ATTACHMENT A-10 – COMPARISON OF ALLOWABLE LIMITS

Comparison of Allowable Limits

Facility Name: *Scarborough WWTF*

RIPDES Permit #: *RI0023868*

Outfall #: *001A*

NOTE: METALS LIMITS ARE TOTAL METALS

Parameter	CAS #	Conc. Limits (ug/L) Based on WQ Criteria		Antideg. Limits (ug/L)	Ave UFP Data (ug/l) 9/11 - 7/16		Ave. DMR Data (ug/L) 7/11-6/16		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	23040.00	---	---	---	---	---	---	23040		
ARSENIC (limits are total recoverable)	7440382	1380.00	50.40	---	3	2	---	---	1380	50.4	N	N
ASBESTOS	1332214	No Criteria	No Criteria	---	---	---	---	---	---	---		
BERYLLIUM	7440417	No Criteria	No Criteria	---	---	---	---	---	---	---		
CADMIUM (limits are total recoverable)	7440439	804.83	318.71	---	---	---	1.097	1.086	804.8289738	318.7122736	N	N
CHROMIUM III (limits are total recoverable	16065831	No Criteria	No Criteria	---	---	---	---	---	---	---		
CHROMIUM VI (limits are total recoverable	18540299	22155.09	1812.69	---	2	2	1.986	1.986	22155.0856	1812.688822	N	N
COPPER (limits are total recoverable)	7440508	115.66	115.66	---	12	7.75	11.13	11.13	115.6626506	115.6626506	N	N
CYANIDE	57125	20.00	20.00	---	---	---	4.359	4.359	20	20	N	N
LEAD (limits are total recoverable)	7439921	4416.40	306.62	---	---	---	4.6357	4.6357	4416.403785	306.6246057	N	N
MERCURY (limits are total recoverable)	7439976	42.35	5.40	---	---	---	---	---	42.35294118	5.4		
NICKEL (limits are total recoverable)	7440020	1494.95	298.18	---	22	6.58	1.94	1.94	1494.949495	298.1818182	N	N
SELENIUM (limits are total recoverable)	7782492	5811.62	2561.12	---	8	8	---	---	5811.623246	2561.122244		
SILVER (limits are total recoverable)	7440224	44.71	No Criteria	---	---	---	---	---	44.70588235	44.70588235		
THALLIUM	7440280	No Criteria	16.92	---	---	---	---	---	---	16.92		
ZINC (limits are total recoverable)	7440666	1902.75	1902.75	---	57	48.2	32.01	32.01	1902.748414	1902.748414	N	N
VOLATILE ORGANIC COMPOUNDS												
ACROLEIN	107028	No Criteria	10440.00	---	---	---	---	---	---	10440		
ACRYLONITRILE	107131	No Criteria	90.00	---	---	---	---	---	---	90		
BENZENE	71432	No Criteria	18360.00	---	---	---	---	---	---	18360		
BROMOFORM	75252	No Criteria	50400.00	---	19	19	---	---	---	50400		N
CARBON TETRACHLORIDE	56235	No Criteria	576.00	---	---	---	---	---	---	576		
CHLOROBENZENE	108907	No Criteria	57600.00	---	---	---	---	---	---	57600		
CHLORODIBROMOMETHANE	124481	No Criteria	4680.00	---	4.3	4.3	---	---	---	4680		
CHLOROFORM	67663	No Criteria	169200.00	---	---	---	---	---	---	169200		
DICHLOROBROMOMETHANE	75274	No Criteria	6120.00	---	---	---	---	---	---	6120		
1,2DICHLOROETHANE	107062	No Criteria	13320.00	---	---	---	---	---	---	13320		
1,1DICHLOROETHYLENE	75354	No Criteria	255600.00	---	---	---	---	---	---	255600		
1,2DICHLOROPROPANE	78875	No Criteria	5400.00	---	---	---	---	---	---	5400		

1,3DICHLOROPROPYLENE	542756	No Criteria	756.00	---	---	---	---	---	---	756		
ETHYLBENZENE	100414	No Criteria	75600.00	---	---	---	---	---	---	75600		
BROMOMETHANE (methyl bromide)	74839	No Criteria	54000.00	---	---	---	---	---	---	54000		
CHLOROMETHANE (methyl chloride)	74873	No Criteria	No Criteria	---	---	---	---	---	---	---		
METHYLENE CHLORIDE	75092	No Criteria	212400.00	---	---	---	---	---	---	212400		
1,1,2,2TETRACHLOROETHANE	79345	No Criteria	1440.00	---	---	---	---	---	---	1440		
TETRACHLOROETHYLENE	127184	No Criteria	1188.00	---	---	---	---	---	---	1188		
TOLUENE	108883	No Criteria	540000.00	---	4.8	4.8	---	---	---	540000		N
1,2TRANSDICHLOROETHYLENE	156605	No Criteria	360000.00	---	---	---	---	---	---	360000		
1,1,1TRICHLOROETHANE	71556	No Criteria	No Criteria	---	---	---	---	---	---	---		
1,1,2TRICHLOROETHANE	79005	No Criteria	5760.00	---	---	---	---	---	---	5760		
TRICHLOROETHYLENE	79016	No Criteria	10800.00	---	---	---	---	---	---	10800		
VINYL CHLORIDE	75014	No Criteria	86.40	---	---	---	---	---	---	86.4		
ACID ORGANIC COMPOUNDS												
2CHLOROPHENOL	95578	No Criteria	5400.00	---	---	---	---	---	---	5400		
2,4DICHLOROPHENOL	120832	No Criteria	10440.00	---	---	---	---	---	---	10440		
2,4DIMETHYLPHENOL	105679	No Criteria	30600.00	---	---	---	---	---	---	30600		
4,6DINITRO2METHYL PHENOL	534521	No Criteria	10080.00	---	---	---	---	---	---	10080		
2,4DINITROPHENOL	51285	No Criteria	190800.00	---	---	---	---	---	---	190800		
4NITROPHENOL	88755	No Criteria	No Criteria	---	---	---	---	---	---	---		
PENTACHLOROPHENOL	87865	260.00	260.00	---	---	---	---	---	260	260		
PHENOL	108952	No Criteria	61200000.00	---	38	38	---	---	---	61200000		N
2,4,6TRICHLOROPHENOL	88062	No Criteria	864.00	---	---	---	---	---	---	864		
BASE NEUTRAL COMPOUNDS												
ACENAPHTHENE	83329	No Criteria	35640.00	---	---	---	---	---	---	35640		
ANTHRACENE	120127	No Criteria	1440000.00	---	---	---	---	---	---	1440000		
BENZIDINE	92875	No Criteria	0.07	---	---	---	---	---	---	0.072		
POLYCYCLIC AROMATIC HYDROCARBONS		No Criteria	6.48	---	---	---	---	---	---	6.48		
BIS(2CHLOROETHYL)ETHER	111444	No Criteria	190.80	---	---	---	---	---	---	190.8		
BIS(2CHLOROISOPROPYL)ETHER	108601	No Criteria	2340000.00	---	---	---	---	---	---	2340000		
BIS(2ETHYLHEXYL)PHTHALATE	117817	No Criteria	792.00	---	---	---	---	---	---	792		
BUTYL BENZYL PHTHALATE	85687	No Criteria	68400.00	---	---	---	---	---	---	68400		
2CHLORONAPHTHALENE	91587	No Criteria	57600.00	---	---	---	---	---	---	57600		
1,2DICHLOROBENZENE	95501	No Criteria	46800.00	---	---	---	---	---	---	46800		
1,3DICHLOROBENZENE	541731	No Criteria	34560.00	---	---	---	---	---	---	34560		
1,4DICHLOROBENZENE	106467	No Criteria	6840.00	---	---	---	---	---	---	6840		
3,3DICHLOROBENZIDENE	91941	No Criteria	10.08	---	---	---	---	---	---	10.08		
DIETHYL PHTHALATE	84662	No Criteria	1584000.00	---	---	---	---	---	---	1584000		
DIMETHYL PHTHALATE	131113	No Criteria	39600000.00	---	---	---	---	---	---	39600000		
DInBUTYL PHTHALATE	84742	No Criteria	162000.00	---	---	---	---	---	---	162000		

Comparison of Allowable Limits

2,4DINITROTOLUENE	121142	No Criteria	1224.00	---	---	---	---	---	---	1224		
1,2DIPHENYLHYDRAZINE	122667	No Criteria	72.00	---	---	---	---	---	---	72		
FLUORANTHENE	206440	No Criteria	5040.00	---	---	---	---	---	---	5040		
FLUORENE	86737	No Criteria	190800.00	---	---	---	---	---	---	190800		
HEXACHLOROBENZENE	118741	No Criteria	0.10	---	---	---	---	---	---	0.1044		
HEXACHLOROBUTADIENE	87683	No Criteria	6480.00	---	---	---	---	---	---	6480		
HEXACHLOROCYCLOPENTADIENE	77474	No Criteria	39600.00	---	---	---	---	---	---	39600		
HEXACHLOROETHANE	67721	No Criteria	1188.00	---	---	---	---	---	---	1188		
ISOPHORONE	78591	No Criteria	345600.00	---	---	---	---	---	---	345600		
NAPHTHALENE	91203	No Criteria	No Criteria	---	---	---	---	---	---	---		
NITROBENZENE	98953	No Criteria	24840.00	---	---	---	---	---	---	24840		
NNITROSODIMETHYLAMINE	62759	No Criteria	1080.00	---	---	---	---	---	---	1080		
NNITROSODINPROPYLAMINE	621647	No Criteria	183.60	---	---	---	---	---	---	183.6		
NNITROSODIPHENYLAMINE	86306	No Criteria	2160.00	---	---	---	---	---	---	2160		
PYRENE	129000	No Criteria	144000.00	---	---	---	---	---	---	144000		
1,2,4trichlorobenzene	120821	No Criteria	2520.00	---	---	---	---	---	---	2520		
PESTICIDES/PCBs												
ALDRIN	309002	26.00	0.02	---	---	---	---	---	26	0.018		
Alpha BHC	319846	No Criteria	1.76	---	---	---	---	---	---	1.764		
Beta BHC	319857	No Criteria	6.12	---	---	---	---	---	---	6.12		
Gamma BHC (Lindane)	58899	3.20	3.20	---	---	---	---	---	3.2	3.2		
CHLORDANE	57749	1.80	0.14	---	---	---	---	---	1.8	0.144		
4,4DDT	50293	2.60	0.04	---	0.06	0.06	---	---	2.6	0.036	N	N
4,4DDE	72559	No Criteria	0.08	---	0.06	0.06	---	---	---	0.0792		N
4,4DDD	72548	No Criteria	0.11	---	---	---	---	---	---	0.1116		
DIELDRIN	60571	14.20	0.02	---	---	---	---	---	14.2	0.01944		
ENDOSULFAN (alpha)	959988	0.68	0.31	---	---	---	---	---	0.68	0.3132		
ENDOSULFAN (beta)	33213659	0.68	0.31	---	---	---	---	---	0.68	0.3132		
ENDOSULFAN (sulfate)	1031078	No Criteria	3204.00	---	---	---	---	---	---	3204		
ENDRIN	72208	0.74	0.08	---	---	---	---	---	0.74	0.0828		
ENDRIN ALDEHYDE	7421934	No Criteria	10.80	---	---	---	---	---	---	10.8		
HEPTACHLOR	76448	1.06	0.03	---	---	---	---	---	1.06	0.02844		
HEPTACHLOR EPOXIDE	1024573	1.06	0.01	---	---	---	---	---	1.06	0.01404		
POLYCHLORINATED BIPHENYLS3	1336363	No Criteria	0.02	---	---	---	---	---	---	0.02304		
2,3,7,8TCDD (Dioxin)	1746016	No Criteria	0.00	---	---	---	---	---	---	0.000001836		
TOXAPHENE	8001352	4.20	0.01	---	---	---	---	---	4.2	0.0072		
TRIBUTYLTIN		8.40	0.27						8.4	0.2664		
NON PRIORITY POLLUTANTS:												
OTHER SUBSTANCES												
ALUMINUM (limits are total recoverable)	7429905	No Criteria	No Criteria	---	---	---	17.364	17.364	---	---	NA	NA

Comparison of Allowable Limits

AMMONIA (winter)	7664417	345240.00	91735.20	---	---	---	---	---	345240	91735.2		
AMMONIA (summer)		120012.00	32551.20	---	---	---	---	---	120012	32551.2		
4BROMOPHENYL PHENYL ETHER	16887006	No Criteria	No Criteria	---	---	---	---	---	---	---		
CHLORIDE	7782505	No Criteria	No Criteria						---	---		
CHLORINE		325.00	325.00	---	---	---	26.596	7.781	325	325	N-WQ	N-WQ
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						---	---		

PART II
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GENERAL REQUIREMENTS

DEFINITIONS

GENERAL REQUIREMENTS

(a) Duty to Comply

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

(1) The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

(2) The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA is subject to a civil penalty not to exceed $10,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307 or 308 of the Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment of not more than 1 year, or both.

(3) Chapter 46-12 of the Rhode Island General Laws provides that any person who violates a permit condition is subject to a civil penalty of not more than $5,000 per day of such violation. Any person who willfully or negligently violates a permit condition is subject to a criminal penalty of not more than $10,000 per day of such violation and imprisonment for not more than 30 days, or both. Any person who knowingly makes any false statement in connection with the permit is subject to a criminal penalty of not more than $5,000 for each instance of violation or by imprisonment for not more than 30 days, or both.

(b) Duty to Reapply

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

(c) Need to Halt or Reduce Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(d) Duty to Mitigate

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

(e) Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures, and, where applicable, compliance with DEM "Rules and Regulations Pertaining to the Operation and Maintenance of Wastewater Treatment Facilities" and "Rules and Regulations Pertaining to the Disposal and Utilization of Wastewater Treatment Facility Sludge." This provision requires the operation of back-up or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of the permit.

(f) Permit Actions

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

(g) Property Rights

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

(h) Duty to Provide Information

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

(i) Inspection and Entry

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

(1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

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

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

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

(j) Monitoring and Records

(1) Samples and measurements taken for the purpose of monitoring shall be representative of the volume and nature of the discharge over the sampling and reporting period.

(2) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings from continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 5 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

(3) Records of monitoring information shall include:

(i) The date, exact place, and time of sampling or measurements;

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

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

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

(v) The analytical techniques or methods used; and

(vi) The results of such analyses.

(4) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 and applicable Rhode Island regulations, unless other test procedures have been specified in this permit.

(5) The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall upon conviction, be punished by a fine of not more than $10,000 per violation or by imprisonment for not more than 6 months per violation or by both. Chapter 46-12 of the Rhode Island General Laws also provides that such acts are subject to a fine of not more than $5,000 per violation, or by imprisonment for not more than 30 days per violation, or by both.

(6) Monitoring results must be reported on a Discharge Monitoring Report (DMR).

(7) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136, applicable State regulations, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

(k) Signatory Requirement

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

(l) Reporting Requirements

(1) Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility.

(2) Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with the permit requirements.

(3) Transfers. This permit is not transferable to any person except after written notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under State and Federal law.

(4) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(5) Twenty-four hour reporting. The permittee shall immediately report any noncompliance which may endanger health or the environment by calling DEM at (401) 222-4700 or (401) 222-3070 at night.

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

The following information must be reported immediately:

(i) Any unanticipated bypass which causes a violation of any effluent limitation in the permit; or

(ii) Any upset which causes a violation of any effluent limitation in the permit; or

(iii) Any violation of a maximum daily discharge limitation for any of the pollutants specifically listed by the Director in the permit.

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

(6) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (1), (2), and (5), of this section, at the time monitoring reports are submitted. The reports shall contain the information required in paragraph (l)(5) of the section.

(7) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, they shall promptly submit such facts or information.

(m) Bypass

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

(1) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (2) and (3) of this section.

(2) Notice.

(i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of the bypass.

(ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Rule 14.18 of the RIPDES Regulations.

(3) Prohibition of bypass.

(i) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

(A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage, where "severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production;

(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(C) The permittee submitted notices as required under paragraph (2) of this section.

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

(n) Upset

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

(1) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph (2) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(2) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(a) An upset occurred and that the permittee can identify the cause(s) of the upset;

(b) The permitted facility was at the time being properly operated;

(c) The permittee submitted notice of the upset as required in Rule 14.18 of the RIPDES Regulations; and

(d) The permittee complied with any remedial measures required under Rule 14.05 of the RIPDES Regulations.

(3) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

(o) Change in Discharge

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

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

(p) Removed Substances

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

(q) Power Failures

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

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

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

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

(r) Availability of Reports

Except for data determined to be confidential under paragraph (w) below, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the DEM, 291 Promenade Street, Providence, Rhode Island. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA and under Section 46-12-14 of the Rhode Island General Laws.

(s) State Laws

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

(t) Other Laws

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

(u) Severability

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

(v) Reopener Clause

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

(w) Confidentiality of Information

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

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

(i) The name and address of any permit applicant or permittee;

(ii) Permit applications, permits and any attachments thereto; and

(iii) NPDES effluent data.

(x) Best Management Practices

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

(y) Right of Appeal

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

DEFINITIONS

1. For purposes of this permit, those definitions contained in the RIPDES Regulations and the Rhode Island Pretreatment Regulations shall apply.

2. The following abbreviations, when used, are defined below.

cu. M/day or M^3/day	cubic meters per day
mg/l	milligrams per liter
ug/l	micrograms per liter
lbs/day	pounds per day
kg/day	kilograms per day
Temp. ^oC	temperature in degrees Centigrade
Temp. ^oF	temperature in degrees Fahrenheit
Turb.	turbidity measured by the Nephelometric Method (NTU)
TNFR or TSS	total nonfilterable residue or total suspended solids
DO	dissolved oxygen
BOD	five-day biochemical oxygen demand unless otherwise specified
TKN	total Kjeldahl nitrogen as nitrogen
Total N	total nitrogen
NH_3-N	ammonia nitrogen as nitrogen
Total P	total phosphorus
COD	chemical oxygen demand
TOC	total organic carbon
Surfactant	surface-active agent
pH	a measure of the hydrogen ion concentration
PCB	polychlorinated biphenyl
CFS	cubic feet per second
MGD	million gallons per day
Oil & Grease	Freon extractable material
Total Coliform	total coliform bacteria
Fecal Coliform	total fecal coliform bacteria
ml/l	milliliter(s) per liter
NO_3-N	nitrate nitrogen as nitrogen
NO_2-N	nitrite nitrogen as nitrogen
NO_3-NO_2	combined nitrate and nitrite nitrogen as nitrogen
$C1_2$	total residual chlorine