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

April 25, 2019

CERTIFIED MAIL

Mr. William Silkes, President
American Mussel Harvesters, Inc.
165 Tidal Drive
North Kingstown, RI 02852

RE: American Mussel Harvesters, Inc.; Final Permit No. RI0110094

Dear Mr. Silkes:

Enclosed is the final Rhode Island Pollutant Discharge Elimination System (RIPDES) Permit issued for the American Mussel Harvesters, Inc. site located at 165 Tidal Drive, North Kingstown, RI. State regulations, promulgated under Chapter 46-12 of the Rhode Island General Laws of 1956, as amended, require this permit to become effective on the date specified in the permit.

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

We appreciate your cooperation throughout the development of this permit. Should American Mussel Harvesters have any questions concerning this permit, feel free to contact Aaron Mello of the State Permits Staff at (401) 222-4700, extension 7405.

Sincerely,

Joseph B. Haberek, P.E.
Supervising Sanitary Engineer
Office of Water Resources

JBH:am

Enclosures

cc: David Turin, EPA Region 1 (Electronic Copy)
Jeffrey Willis, CRMC (Electronic Copy)
Greg Silkes, AMH, Inc. (Electronic Copy)
Robert F. Ferrari, P.E., Northeast Water Solutions, Inc. (Electronic Copy)
Crystal Charbonneau, DEM/OWR (Electronic Copy)

RESPONSE TO COMMENTS

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

HEARING REQUESTS

If you wish to contest any of the provisions of this permit, you must 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:

Mary Dalton, Clerk
Department of Environmental Management
Office of Administrative Adjudication
235 Promenade Street
3rd Floor, Rm 350
Providence, RI 02908

Any request for a formal hearing must conform to the requirements of §1.50 of the Regulations for the Rhode Island Pollutant Discharge Elimination System (RI Code of Regulations; 250-RICR-150-10-1.50).

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 §1.51 of the Regulations for the Rhode Island Pollutant Discharge Elimination System (RI Code of Regulations; 250-RICR-150-10-1.51), 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 §1.50 of the Regulations for the Rhode Island Pollutant Discharge Elimination System (RI Code of Regulations; 250-RICR-150-10-1.50).

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,

American Mussel Harvesters, Inc.
165 Tidal Drive
North Kingstown, RI 02852

is authorized to discharge from a facility located at

165 Tidal Drive
North Kingstown, RI

to receiving waters named

Narragansett Bay

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

This permit shall become effective on April 25, 2019.

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

This permit supersedes the permit issued on May 5, 2015.

This permit consists of ten (10) pages in Part I including effluent limitations and monitoring requirements and 10 pages in Part II including General Conditions.

Signed this **25th** day of **April** **,2019**.

Angelo S. Liberti, P.E., Administrator 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 of this permit and lasting through the date that the flow through tank system's discharge is eliminated and replaced with a discharge from the process wastewater treatment system, the permittee is authorized to discharge from outfall serial number 001A (Final Discharge from the Flow-through System for Wet Storage of Shellfish). Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity - lbs./day		Concentration - specify units				
	Average Monthly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Flow[1]		300 gpm				1/Quarter	Estimate
Turbidity (Influent and Effluent)[1]			--- NTU		--- NTU	1/Quarter	Grab
Fecal Coliform[1]			--- MPN/100ml		---MPN/100ml	1/Quarter	Grab

[1] Limits shall be in effect from the effective date of the permit until the date that the flow through tank system's discharge is eliminated and replaced with a discharge from the process wastewater treatment system.

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

Sampling for Fecal Coliform shall be performed Monday – Friday. The Geometric Mean shall be used to calculate the "monthly average".

Sampling for Turbidity shall be performed Monday-Friday on the influent (sea water prior to being added to the flow through tanks) and effluent (final discharge from the facility).

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: Outfall 001A (Final Discharge from the Flow-through System for Wet Storage of Shellfish).

A. **EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

2. During the period beginning on the date that the flow through tank system's discharge is eliminated and replaced with a discharge from the process wastewater treatment system and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number 001B (Final Discharge from the Process Water Treatment System into Narragansett Bay). Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations					Monitoring Requirement	
	Quantity - lbs./day		Concentration - specify units				
	Average Monthly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Flow[1]	36,000 gpd[2]	--- gpd				Continuous	Recorder
Production Rate[1]	--- lbs/day					Monthly	Inventory Control
BOD (5-Day)[1]	122	321	--- mg/L		--- mg/L	2/Month	Composite[3]
Oil & Grease[1]	2.0	8.6	--- mg/L		--- mg/L	2/Month	Composite[3]
Total Suspended Solids[1]	94	557	--- mg/L		--- mg/L	2/Month	Composite[3]

[1] Limits shall be in effect from the date that the flow through tank system's discharge is eliminated and replaced with a discharge from the process wastewater treatment system through permit expiration.

[2]The average monthly flow shall be equal to the average of the daily flows where there was a discharge. Zero flow days shall not be used when calculating the average.

[3]Samples for BOD, Oil & Grease, and TSS shall consist of a minimum of four (4) grab samples taken over the course of a typical operating day.

---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 at the following location: at Outfall 001B (Final Discharge from the Process Water Treatment System into Narragansett Bay).

3. a. The pH of the effluent shall not be less than 6.5 nor greater than 8.5 standard units at any time, unless these values are exceeded due to natural causes or as a result of the approved treatment processes.

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

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

d. All accumulated solids shall be periodically removed and disposed of off-site.

e. The discharge of any cleaning wastewater to waters of the state are not authorized under this permit.

f. From the effective date of the permit until the date that the flow through tank system's discharge is eliminated and replaced with a discharge from the process wastewater treatment system, this permit authorizes the discharge of water from the flow-through shellfish holding tanks only. However, water from the shellfish tanks may be passed through the proposed shellfish grow-out tanks, providing no chemicals or feed are added. All other discharges are prohibited.

g. From the date that the flow through tank system's discharge is eliminated and replaced with a discharge from the process wastewater treatment system until permit expiration, all spent process wastewater from the shellfish processing operations shall be treated using a treatment system consisting of a sedimentation and screening trench followed by an automatic bar screen, followed by two (2), parallel simplex bag filter trains, each with the ability to utilize filters ranging from 100 to 50-micron ratings. Any modifications to the treatment system require prior approval by the DEM's Office of Water Resources.

h. Within thirty (30) days of the date that the flow through tank system's discharge is eliminated and replaced with a discharge from the process wastewater treatment system, the permittee shall provide a written notification to DEM indicating that the flow through tank's discharge has been replaced with the process wastewater treatment system's discharge.

4. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) One hundred micrograms per liter (100 ug/l);

(2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitro-phenol; and one milligram per liter (1 mg/l) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. s122.21 (g)(7); or

(4) Any other notification level established by the Director in accordance with 40 C.F.R. s122.44(f) and Rhode Island Regulations.

b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) Five hundred micrograms per liter (500 ug/l);

(2) One milligram per liter (1 mg/l) for antimony;

(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. s122.21(g)(7);or

(4) Any other notification level established by the Director in accordance with 40 C.F.R. s122.44(f) and Rhode Island Regulations.

c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or by-product any toxic pollutant which was not reported in the permit application.

5. The permittee shall analyze its effluent at outfall 001B for the EPA Priority Pollutants as listed in 40 CFR 122, Appendix D, Tables II and III and submit the results to the Department of Environmental Management with the permit reapplication at least 180 days prior to the expiration date of this permit. 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.

6. The permittee shall record the production of each type of product (e.g., mussel, clam, oyster) the facility processes daily through inventory control calculations. This data shall be summarized and reported to the RIPDES program annually on January 15th for the previous calendar year.

7. This permit serves as the State's Water Quality Certificate for the discharges described herein.

B. **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. 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 documented and maintained onsite. 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 maintained onsite. 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.

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 reported as zero in accordance with the DEM's DMR Instructions, provided that all appropriate EPA approved methods were followed.

Therefore, all sample results shall be reported as: an actual value, "could not be analyzed", or zero. 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.

LIST OF TOXIC POLLUTANTS

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

Volatiles - EPA Method 624		MDL ug/l (ppb)
1V	acrolein	10.0
2V	acrylonitrile	5.0
3V	benzene	1.0
5V	bromoform	1.0
6V	carbon tetrachloride	1.0
7V	chlorobenzene	1.0
8V	chlorodibromomethane	1.0
9V	chloroethane	1.0
10V	2-chloroethylvinyl ether	5.0
11V	chloroform	1.0
12V	dichlorobromomethane	1.0
14V	1,1-dichloroethane	1.0
15V	1,2-dichloroethane	1.0
16V	1,1-dichloroethylene	1.0
17V	1,2-dichloropropane	1.0
18V	1,3-dichloropropylene	1.0
19V	ethylbenzene	1.0
20V	methyl bromide	1.0
21V	methyl chloride	1.0
22V	methylene chloride	1.0
23V	1,1,2,2-tetrachloroethane	1.0
24V	tetrachloroethylene	1.0
25V	toluene	1.0
26V	1,2-trans-dichloroethylene	1.0
27V	1,1,1-trichloroethane	1.0
28V	1,1,2-trichloroethane	1.0
29V	trichloroethylene	1.0
31V	vinyl chloride	1.0

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

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

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

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

OTHER TOXIC POLLUTANTS

	MDL ug/l (ppb)
Antimony, Total	3.0
Arsenic, Total	1.0
Beryllium, Total	0.2
Cadmium, Total	0.1
Chromium, Total	1.0
Chromium, Hexavalent	20.0
Copper, Total	1.0
Lead, Total	1.0
Mercury, Total	0.2
Nickel, Total	1.0
Selenium, Total	2.0
Silver, Total	0.5
Thallium, Total	1.0
Zinc, Total	5.0
Asbestos	**
Cyanide, Total	10.0
Phenols, Total	50.0
TCDD	**
MTBE (Methyl Tertiary Butyl Ether)	1.0
Turbidity	0.2 NTU
Fecal Coliform	2.0 MPN/100 ml

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

NOTE:

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

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

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

C. MONITORING AND REPORTING

1. Monitoring

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

2. Submittal of DMRs Using NetDMR

Monitoring results obtained during the previous three (3) months shall be summarized and reported to DEM in discharge monitoring reports (DMRs) submitted electronically using the NetDMR reporting tool (https://netdmr.epa.gov). When the permittee submits DMRs using NetDMR, it is not required to submit hard copies of DMRs to DEM.

The first report is due for the calendar quarter during which the facility obtained coverage under this permit. Testing shall be reported as follows:

Quarter Testing to be Performed	Report Due No Later Than	Results Submitted with 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

3. Submittal of Reports as NetDMR Attachments

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

- DMR Cover Letters
- Below Detection Limit summary tables

All other reports should be submitted to DEM as a hard copy via regular US mail (see Part I.C.4 below).

4. Submittal of Requests and Reports to DEM

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

A. Transfer of Permit notice
B. Request for changes in sampling location
C. Request for reduction in testing frequency
D. Written notifications required under Part II
E. Notice of unauthorized discharges
F. Notice of change in discharges per Part I.A.3.h
G. Priority pollutant scan results per Part I.A.5
H. Annual Production Report per Part I.A.6

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

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

5. Verbal Reports and Verbal Notifications

Any verbal reports or verbal notifications, if required in Parts I and/or II of this permit, shall be made to the DEM. This includes verbal reports and notifications required under Part II.(I)(5) General Requirements. 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

STATEMENT OF BASIS

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

RIPDES PERMIT NO. **RI0110094**

NAME AND ADDRESS OF APPLICANT:

American Mussel Harvesters, Inc.
165 Tidal Drive
North Kingstown, RI 02852

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

American Mussel Harvesters, Inc.
165 Tidal Drive
North Kingstown, RI

RECEIVING WATER:

Narragansett Bay – West Passage (Water Body ID No. RI0007027E-03A)

CLASSIFICATION:

SA

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

The above-named applicant has applied to the Rhode Island Department of Environmental Management (DEM) for modification of its RIPDES Permit to discharge into the designated receiving water.

American Mussel Harvesters, Inc.'s (AMH) most recent RIPDES permit, authorizing discharges from the above-mentioned facility, was issued on May 5, 2015. The permit became effective on July 1, 2015. AMH submitted a permit modification request to the DEM on December 15, 2017 (revised on May 4, 2018 and supplemented on July 25, 2018) that proposed eliminating the 300 gpm existing flow-through system's discharge and reducing its discharge to 100 gpm of treated spent process water from the facility's shellfish processing operations. In accordance with §1.24 of the RIPDES Regulations (Modification, or Revocation and Reissuance of Permits; RI Code of Regulations; 250-RICR-150-10-1.24) the DEM has decided to revoke and reissue the RIPDES permit due to the fact the flow through system will no longer be in use and a new process discharge is proposed. Once this permit is reissued, it will supersede the May 5, 2015 permit.

Attachment A-2 includes a process flow diagram of the existing and proposed facility conditions. Attachment A-3 includes a process and instrumentation diagram of the spent process water treatment system.

The Facility

American Mussel Harvesters, Inc. (AMH) harvests, packs, markets, and ships live molluscan shellfish to major seafood markets across the United States and Canada. The facility is engaged in the wet storage of shellfish, e.g., mussels, quahogs, oysters, steamers, prior to shipment to market. The current discharge occurs from flow through storage tanks. The flow through system withdraws 300 gpm (432,000 gpd) of seawater to maintain up to 16,000 pounds of quahogs, oysters, and steamers and is then discharged from a submerged outfall located approximately 200 feet offshore.

The shellfish wet process operation presently uses fresh water supplied by the public water supply system, with all spent process water discharged to the municipal sewer system. It has been identified that AMH is one of the largest consumers of freshwater (over 30,000 gpd) and source of wastewater in the Quonset development park. To alleviate the already stressed groundwater aquifer, a process water treatment system was designed to use seawater from Narragansett Bay for the majority of shellfish process operations to reduce the hydraulic load on the Quonset potable water system by approximately 20,000 gpd, resulting in an average of 12,500 gpd of freshwater being used for process operations.

Proposed Modifications:
AMH's May 5, 2015 RIPDES permit authorizes the withdrawal of 300 gpm (432,000 gpd) of seawater from Narraganset Bay for use in the flow through system, discharging back to the bay via Outfall 001A located approximately 200 feet off-shore. AMH's revised May 2018 modification submission requested the following:

- Reduced withdrawal and discharge from 300 gpm to 100 gpm via the existing outfall. The existing flow-through system will be removed from service once the spent process water treatment system has been constructed as described below. The proposed 100 gpm withdrawal/discharge capacity includes the following:
  - Intermittent sea water demand for the Recirculation Tank, UV and Chiller Systems to provide make up water due to spill, splash and evaporative losses.
  - Intermittent sea water demand for Oyster Pad Farming operations. The average demand for this operation is 3,000 gallons per day, with any wastewater generated from this process disposed of off-site.
  - Continuous sea water demand for Shellfish Process Operations, using an average of 24,000 gallons per day of seawater. The spent process seawater, along with 12,000 gallons per day of spent process municipal water, will be treated to remove suspended solids and associated pollutants prior to discharge to Outfall 001.
  - Approximately 500 gallons per day of spent process equipment cleaning fresh water will be collected and diverted for disposal to the municipal sewer system.

Shellfish Processing Operations:
Shellfish processing operations at the AMH facility includes the use of mechanical systems for the cleaning, sorting and rinsing of shellfish. No chemicals are used in the shellfish processing operation. Final cleaning and sanitizing, utilizing chemicals is conducted at the end of each operating day and is diverted to the sewer. Total water usage for these shellfish process operations, based upon historical water meter log data, is estimated to be between 20,000 to 36,000 gpd (average of 24,000 gpd), with demand flowrates on the order of 50 to 100 gpm. The major components of the shellfish processing operations include the following:

1. Inlet Hopper: Large stainless-steel bin with sloped sides and a conveyer. Shellfish are loaded by transferring the contents of a holding tank into the hopper. A conveyer within the hopper feeds the shellfish to the Tumbler at a constant rate.
2. Tumbler: A large, rotating perforated cylinder sorts the shellfish and removes damaged shells and fragments. Flush water is sprayed into the cylinder as it rotates to remove small shell fragments, grit and sand that may be attached. Settling tanks are located directly underneath the Tumbler machine collecting spent flush water to settle out larger solids. Spent flush water from these settling tanks is then discharged

to the floor trench.

3. De-Bearder: Cleans and removes the byssal threads or "beards" that are produced by mussels attaching themselves to rocks and other objects in the environment. Bysall threads are removed from the shellfish as they move down the machine. This operation uses water as a lubricant, which is discharged to a settling tank directly underneath the machine, similar to that of the tumbler operation. The settling tank then discharges settled, spent process water to the floor trench.
4. Floor Trench: The Production department floor is sloped to direct all spent process water to a collection trench that bisects the department. The floor trench is 48 ft. long, 12.65" wide, constructed with a 1% slope resulting in a channel depth between 5.6" at the upstream end to 10.25" at the downstream end. The trench runs parallel to the entire processing operation. The floor trench is covered with grates for safety purposes, and to prevent large shell fragments from entering the trench. An angled slotted screen with 1/8" perforations collects larger solids and is shown at the downstream end of the trench. The second horizontally slotted screen covers the existing discharge opening to the sanitary sewer.

Proposed Spent Process Water Treatment System:

The collection system will be modified with a 3-way valve installed with new piping, immediately downstream of the trench drain. During normal shellfish processing operations, the valve will direct spent process water to the treatment system and ultimately the existing Outfall 001. Prior to initiation of cleaning/sanitization the 3-way valve shall be actuated to divert spent cleaning wastewater to the municipal sanitary sewer.

The spent process water is collected and conveyed in a gravity sedimentation trench provided with duplex perforated screens to capture gross suspended and settleable solids. The process water will then be conveyed through the 3-way valve to an automatic bar screen system to remove finer suspended solids, then discharging into a 700-gallon pump station wet well. A pump suction pipe with foot valve is connected to a suction manifold supplying two (2), self-priming pumps that will draw water from the wet well and pump it through the bag filter system.

Two filter trains installed in parallel will maintain continuous operation with one (1) train on-line and the 2nd train off-line for cleaning and standby. The filter mesh sizes to be used initially will be 50-micron rating, based on the spent process water characterization as described below. Pressure gauges measure the differential pressure across each bag filter. A control panel with digital pressure transducers measure differential pressure across the on-line filter train. A high differential pressure alarm will notify the facility operators to switch flow from the online filter train to the standby. The high-pressure alarm setpoint across the filter train is 25 psi. However, this will be operator adjusted and the final value will be field determined.

All solids from the process operation as well as the treatment operation will be disposed of off-site.

At the end of each operating day, AMH conducts cleaning and sanitization of the process equipment using chemicals specified by Rhode Island Department of Health. The cleaning and sanitization chemicals are applied to the processing machines which are washed and rinsed with fresh water. The estimated total volume of spent cleaning water generated is 500 gallons per day. The 3-way valve installed at the downstream end of the trench drain shall be actuated to discharge all spent cleaning water to the municipal sanitary sewer.

Spent Process Water Treatability Studies:

2017 Treatability Study:

From July to October 2017 a characterization of spent process water and spent cleaning water was collected over several typical operating days from the end of the trench, downstream of the first slotted screen. A treatability study was conducted to determine the optimum treatment methodology.

From review of the characterization it was determined that the process wastewater contains highly

variable amounts of TSS, BOD, O&G principally due to the variable conditions of shellfish products received by AMH. Shellfish from various sources have different levels of quality, shell fragments and beard densities, all contributing to the overall quality of the wastewater. The principal contaminants measured were Biological Oxygen Demand (BOD), Total Suspended Solids (TSS), Oil and Grease (O&G), Ammonia (NH_3), Surfactants, and Volatile Organic Compounds (VOCs).

The treatability study involved collecting spent process water samples and filtering the water through the following series of filter meshes: 2000, 500, 250, 125, 63, 30 and 15 microns. The data suggests that effective removal of the bulk suspended solids and BOD does not occur until a separation rating of less than 65 um. This indicates that the majority of the suspended solids and the BOD is associated with solids smaller than 63 um dimensions. Other parameters such as Oil and Grease, Ammonia, MBAS surfactants and VOCs were sampled for during the treatability study, however, results demonstrated low concentrations that were not affected throughout the course of the study.

The treatability test results and analysis provide justification to support the treatment system design as described above.

2018 Treatability Study:
AMH conducted three (3) additional rounds of sampling per DEM's request to obtain more representative samples. Samples were taken during three (3) consecutive weeks during March 2018. Samples were collected at, seven (7) evenly spaced intervals throughout typical operating days.

Process wastewater for filtration treatability testing was collected and composited in the field as a bulk sample in two (2), 8-gallon totes. Process wastewater samples were then combined into a large tank and agitated to suspend solids that may have settled. The bulk process wastewater sample was then pumped through 125, 63, 30, and 15 um filters in succession and recaptured in sample bottles for analysis.

The results displayed that BOD separation was not as dramatic as demonstrated in 2017 treatability study, TSS experienced a significant reduction similar to the 2017 treatability study, and COD results also demonstrated significant reductions. Results from other parameters such as Oil and Grease and Ammonia, that were analyzed during the treatability study, demonstrated low concentrations that were not affected throughout the course of the study.

Effluent Limitations Guidelines (ELGs):
The USEPA has promulgated technology-based effluent guidelines for various seafood processes at 40 CFR Part 408. 40 CFR Part 408, Subpart X includes effluent guidelines for mechanized clam processing. The types of shellfish processed by AMH includes clams, mussels, and oysters. In lieu of specific promulgated effluent guidelines for mechanized processing of mussels and oysters, the DEM has made a best professional judgement determination to apply the guidelines for mechanized clam processing to AMH's discharge. 40 CFR Part 408.240-247 Subpart X – Mechanized Clam Processing establishes effluent limitations for BOD, TSS, Oil and Grease, and pH. Calculations of effluent loading must be provided and based on actual production data to demonstrate that process operations adhere to the ELGs. The below table demonstrates the ELGs from 40 CFR Part 408.245 Subpart X:

New Source Performance Standards		
Parameter	**Maximum for any 1 day (lbs/1000 lbs)**	**Average of Daily Values for 30 Consecutive Days (lbs/1000 lbs)**
BOD5	15	5.7
TSS	26	4.4
O&G	0.4	0.092
pH	6.0 s.u. -- 9.0 s.u.	

Historic Production Data:
Based on comments from DEM on the May 4, 2018 revised modification request, AMH provided historical production data from the years 2013 – 2016, displaying the types of shellfish species being processed. Attachment A-4 shows a summary table of AMH's Annual, Monthly Average, and Daily Average production data.

Based on a comparative analysis between the annual average production and a ±20% variation determines that all years are within the expected variation. Variation in total annual production can be explained by market fluctuations as well as environmental factors.

Production data from the sampling events on 03/16, 03/23, & 03/28/18 were compared to the daily total average for March 2018, the 2017 daily average, and the 5-year daily average. When comparing the daily production data from March 2018 to the 2017 production data, the percent variation equates to a >20% variation. However, because March 2018 data is compared to the 2017 data, percentages are inflated and not representative of the percent variation. A comparison to the 5-year average is more appropriate but still demonstrates a percent variation of >20%. Taking into context that these values are from three individual production days in one month of a given year, as well as the fact that uncontrolled environmental factors and market demands could influence the total production on any given day, daily variation of up to ±50% can be expected. Observing the production values of the 5-year average for monthly and annual production demonstrates that over an extended period, average production values do fall within the expected 20% variation.

Discharge Location

The discharge from this facility enters into the West Passage of Narragansett Bay which is designated in the RI Water Quality Regulations as Water Body ID No. RI0007027E-03A. West Passage waters south of a line extending from the shore in the vicinity of High Bank Ave, North Kingstown, running due east through buoy N"6" and terminating at the shoreline of Prudence Island; west of a line from the southernmost point on Prudence Island to the northernmost point on Jamestown, and north of a line from Cormorant Point at the mouth of Pettaquamscutt River, Narragansett to Beavertail, Jamestown, excluding all the West Passage, Allen's Harbor and Wickford Harbor waters. Warwick, East Greenwich, Portsmouth, North Kingstown, Jamestown, Narragansett as described further in the RI Water Quality Regulations. This water body is classified as Class SA which according to the RI Water Quality Regulations are waters which are designated for shellfish harvesting for direct human consumption, primary and secondary contact recreational activities, and fish and wildlife habitat. They shall be suitable for aquacultural uses, navigation and industrial cooling and shall have good aesthetic value. Currently this water body is listed as a Category 2 Water according to the DEM's 2016 Impaired Waters Report (March 2018) and meets most of its designated uses (Fish and Wildlife Habitat, Primary Contact Recreation, Secondary Contact Recreation, and Shellfish Consumption), but there is insufficient data to evaluate the designated use of Fish Consumption.

II. Permit Limitations and Conditions

The effluent limitations, monitoring requirements, and any implementation schedule (if required) may be found in the draft permit.

III. Permit Basis and Explanation of Effluent Limitation Derivation

General Requirements

Development of RIPDES permit limitations is a multi-step process consisting of the following steps: Assigning applicable technology-based limits based on federal Effluent Limitation Guidelines (ELGs); Calculating allowable water quality-based discharge levels based on water quality criteria, background data, and available dilution; Assigning necessary limits based on Best Professional Judgment (BPJ); Setting the most stringent of these three (3) limits as the new permit limits; Comparing existing permit limits to the new limits and performing an antibacksliding/antidegradation

analysis to determine the final permit limits; and evaluating the ability of the facility to meet the final permit limits.

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

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

Flow-through System

Based on the nature of the discharge and of the receiving water, the DEM determined when the permit was issued in May 2015 that there was no reasonable potential for the discharge to cause or contribute to a violation of water quality criteria, and discharge limitations were not necessary. Given the fact that the flow-through system allows for complete turnover of water every few hours, and that no food or chemicals are added, the DEM determined that temperature, pH, salinity, and suspended solid content of the discharge will not vary significantly from that of the receiving water. The DEM also anticipated that turbidity and fecal coliform content of the discharge would remain within tolerable limits as specified for class SA waters in the RI Water Quality Regulations for Water Pollution Control. Based on a review of past Discharge Monitoring Report (DMR) data submitted to the DEM since the last permit reissuance on May 5, 2015, the DEM has determined that there continues to be no reasonable potential for the discharge to cause or contribute to a violation of water quality criteria, and discharge limitations are not necessary. A summary of historical DMR data can be found in *Attachment A-1*. To date there have not been any reports of water quality impacts in Narragansett Bay associated with the flow-through storage system. Quarterly monitoring for Flow, Turbidity, and Fecal Coliform bacteria will remain in the permit until the spent process water treatment system is constructed and the flow-through system discharge eliminated in order to keep a record of the concentrations of the pollutants that could potentially be introduced to Narragansett Bay by AMH's current operation. The DEM has determined that all permit limitations are consistent with the Rhode Island Antidegradation policy.

Spent Process Wastewater System

Technology-Based Limits

Effluent guidelines for new source Seafood Processing facilities are production-based and found in 40 CFR Part 408 Subpart X. Based upon review of the proposed process modifications to the AMH facility would result in a point source discharge of spent process water that resembles those discharges regulated by Effluent Limitations Guidelines (ELGs) under 40 CFR Part 408 (Canned and Pre-Served Seafood Processing Source Category). 40 CFR Part 408 Subpart X establishes Federal ELGs for Mechanized Clam Processing that discharge or may discharge process wastewater pollutants to the waters of the United States. Federal effluent guidelines for this industry (Mechanized Clam Processing) have established new source effluent limits for BOD_5, TSS, and Oil and Grease in pounds of pollutant per thousand pounds of production.

§1.18.B.2. of the RIPDES Regulations; 250-RICR-150-10-1.18.B.2)., requires that the "calculation of any permit limitations, standards, or prohibitions which are based on production (or other measure of operation) shall be based not upon the designed production capacity but rather upon a reasonable measure of actual production of the facility..." Therefore, since the technology-based limits listed above are based on production, the technology based allowable discharge levels must be based on a

reasonable measure of actual production. It is important to note that, according to the EPA guidance document entitled Guidance Manual for the Use of Production Based Pretreatment Standards, and the Combined Wastestream Formula, the production rate should be based on the production per discharge day rather than production per production day. The Guidance Manual also states that it is generally agreed that a 10 to 20 percent fluctuation is within the range of normal variability while changes higher than this could warrant consideration of alternate limits.

The May 4, 2018 AMH modification request document provided the actual 2017 yearly production data for the facility summarized by yearly, monthly, and daily production in pounds/year and by the types of shellfish species being processed and then totaled all species. In addition, the submittal summarized actual production data by species and total for each of the days that sampling events took place for the March 2018 Treatability Study (3/16/18, 3/23/18, and 3/28/18). It was noted by DEM that variability in production on two of the dates was greater than 20% the average daily loading based on 2017 production data (18,895 pounds/day). Based upon this degree of variability and on taking into account information from the EPA guidance document entitled Guidance Manual for the Use of Production-Based Pretreatment Standards, and the Combined Wastestream Formula, the DEM requested that AMH provide to DEM a summary of AMH's historic production data (in pounds) for the years 2013 – 2016. Section 2.7.2 (Determining an Appropriate Production Rate for Use in Developing Equivalent Limits; Use of Historical Data) of the EPA guidance document notes that to determine a long-term average production rate, several years of productions data should be examined, if possible. The July 25, 2018 supplement of historic production data provided the 2013 – 2016 production data for the facility and noted that a comparison between the annual average production and a ±20% variation determines that all years are within the expected variation.

Best Professional Judgment (BPJ)-Based Limits

BOD, TSS, Oil and Grease

From review of the 2013 – 2017 historic production data it was determined that tiered limits were not appropriate, and that using the average daily average value derived from 2013 thru 2017 historical production data would be most appropriate. The average of the daily average values is 21,419 pounds per day (lbs/day) based on operations being conducted 12 months per year, 20 production days per month. Since the types of shellfish processed by AMH includes clams, mussels, and oysters, in lieu of specific promulgated effluent guidelines for mechanized processing of mussels and oysters, the DEM made a Best Professional Judgement (BPJ) determination to apply the guidelines for mechanized clam processing to AMH's discharge. The proposed monthly average and daily maximum limits for BOD, TSS, and Oil and Grease were then determined by using the 21,419 lbs/day production rate and multiplying by the ELG standard for BOD, TSS, and Oil and Grease. Attachment A-5 includes AMH's production-based limits. Upon review of the BOD, TSS, and Oil and Grease average loadings (following treatment by the 15-micron filter) from the March 2018 Treatability Study, the DEM has determined that AMH will be able to easily comply with the calculated ELGs, taking into account any fluctuations due to market conditions or other factors. Since the effluent data from the Treatability Study has demonstrated that the treated effluent is well below the ELG standards, which were based on clam processing wastewater that contained much more concentrated wastewaters than AMH (e.g., shucking), the DEM has elected to include a requirement to treat the wastewater using the treatment system proposed in AMH's May 2018 report as a state performance standard. This will ensure that the effluent is treated to the level presented in AMH's application. The system consists of: a 7,000-gallon concrete settling/equalization tank followed by two parallel triplex bag filter trains each with three successive filters containing 250, 100 and 50-micron ratings.

Flow

A monthly average flow rate limitation of 36,000 gallons per day (gpd) has been applied to the spent process water treatment system discharge to Outfall 001A. The monthly average flow rate limitation for Outfall 001B is based on the continuous sea water demand for the shellfish processing operations using an average of 24,000 gallons per day of seawater along with 12,000 gallons per day of municipal water. These volumes are based on a typical 8-hour operating day at the facility. This permit prohibits the discharge of any cleaning wastewater to surface waters.

Water Quality-Based Limits

The narrative conditions for pH have been established in accordance with the Rhode Island Water Quality Regulations (RI Code of Regulations; 250-RICR-150-05-1.10.E.1) Class Specific Criteria –Class SA Sea Waters. This table of Class Specific Criteria – Class SA Sea Waters specifies that the pH must be in the range of 6.5 - 8.5 standard units (s.u.), unless these values are exceeded due to natural causes.

In accordance with 40 CFR Part 122.4(d)(1)(iii), it is only necessary to establish permit limits for those pollutants in the discharge which have the reasonable potential to cause or contribute to the exceedance of instream criteria. In order to evaluate the need for permit limits, the DEM reviewed the effluent data from the May 4, 2018 modification request's 2017 and 2018 treatability studies and amended permit application. The permit application listed all pollutants, except Fecal Coliform, as "believed absent" and also summarized the BOD, COD, TOC, TSS, Ammonia, and pH data collected during the treatability studies noted above. Based on the nature of the spent process water treatment system discharge and of the receiving water, the DEM determined that there is no reasonable potential for the discharge to cause or contribute to a violation of water quality criteria, and discharge limitations nor monitoring were not necessary for TOC and COD. Given the fact that the spent process water treatment system provides adequate equalization/settling and screening and continuously treats 36,000 gpd of seawater and municipal water, and that no chemicals are added, the DEM determined that temperature, pH, and salinity of the discharge will not vary significantly from that of the receiving water. The DEM also anticipated that the fecal coliform content of the discharge would remain within tolerable limits as specified for class SA waters in the RI Water Quality Regulations for Water Pollution Control. Based on a review of past Discharge Monitoring Report (DMR) data for the flow through system submitted to the DEM since the permit was reissued in May 2015, the DEM has determined that there continues to be no reasonable potential for the discharge to cause or contribute to a violation of water quality criteria of fecal coliform, and discharge limitations and monitoring are not necessary.

For Ammonia potential limitations were derived from acute and chronic water quality criteria for saltwater from the Rhode Island Water Quality Regulations, which are based upon salinity, pH, and temperature. A salinity equal to 30 ppt., pH equal to 8.0 standard units, and average temperatures equal to 20°C and 5°C during Summer and Winter seasons, respectively, were used to calculate the allowable water quality-based discharge levels for Ammonia. The salinity, pH, and temperature values were taken from the Quonset WWTF's calculation of water quality-based saltwater discharge limits and considered to be representative of the West Passage of Narragansett Bay in the vicinity of Outfall 001 from AMH. The most stringent calculated acute and chronic Ammonia criteria utilizing no dilution were compared to the average Ammonia data collected during the March 2018 Treatability Study. The average Ammonia data for the three sampling events of 0.33 mg/L was well below the summer water quality criteria, not taking into account any dilution. Therefore, water quality-based limits are not necessary because Ammonia does not have "reasonable potential". No monitoring will be required for Ammonia in the effluent limitations section of the permit.

The DEM has also included a requirement that the permittee conduct a priority pollutant scan and submit the results of the scan with the permit reapplication, at least 180 days prior to permit expiration.

Selection of Final Permit Limits

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

Antidegradation/Antibacksliding

The DEM has determined that since no permit limits are less stringent than those contained in the previous permit the permit limitations are consistent with the Rhode Island Antidegradation/Antibacksliding Policy.

General Requirements

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.

Storm Water Requirements

This permit does not authorize the discharge of storm water from the facility. If it is determined that this facility is required to obtain storm water permit coverage, the permittee must modify this permit to include stormwater or seek coverage under the RIPDES Stormwater Multi-Sector Industrial General Permit or an alternative RIPDES permit.

IV. 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 close of the public comment period, to the Rhode Island Department of Environmental Management, Office of Water Resources, 235 Promenade Street, Providence, Rhode Island, 02908-5767. Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to the Rhode Island Department of Environmental Management. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty (30) days public notice whenever the Director finds that the response to this notice indicates significant public interest. In reaching a final decision on the draft permit the Director will respond to all significant comments and make these responses available to the public at DEM's Providence Office.

Following the close of the comment period, and after a public hearing, if such hearing is held, the Director will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within thirty (30) days following the notice of the final permit decision any interested person may submit a request for a formal hearing to reconsider or contest the final decision. Requests for formal hearings must satisfy the requirements of §1.50 of the Regulations for the Rhode Island Pollutant Discharge Elimination System (RI Code of Regulations; 250-RICR-150-10-1.50).

V. **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:

Aaron Mello
RIPDES Program
Office of Water Resources
Department of Environmental Management
235 Promenade Street
Providence, Rhode Island 02908
Telephone: (401) 222-4700, ext. 7405

3/13/19
Date

Joseph B. Haberek, P.E.
Supervising Sanitary Engineer
Office of Water Resources

ATTACHMENT A-1

DESCRIPTION OF DISCHARGE: Shellfish Flow Through Storage System
DISCHARGE: 001A

INFLUENT DATA:

PARAMETER	MONTHLY AVERAGE	DAILY MAXIMUM
Turbidity	1.83 NTU	4.12 NTU

EFFLUENT DATA:

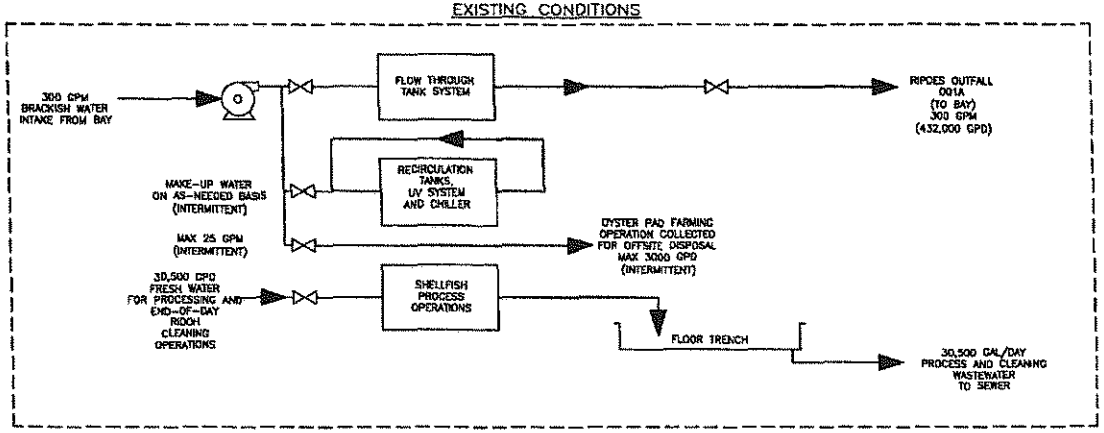
PARAMETER	MONTHLY AVERAGE	DAILY MAXIMUM
FLOW	---	300 gal/min.
Fecal Coliform	5 MPN/100mL	5 MPN/100mL
Turbidity	2.26 NTU	2.31 NTU

All data represents the mean of the monthly average and daily maximum data submitted by the permittee for the period beginning July 1, 2015 and ending September 30, 2018.

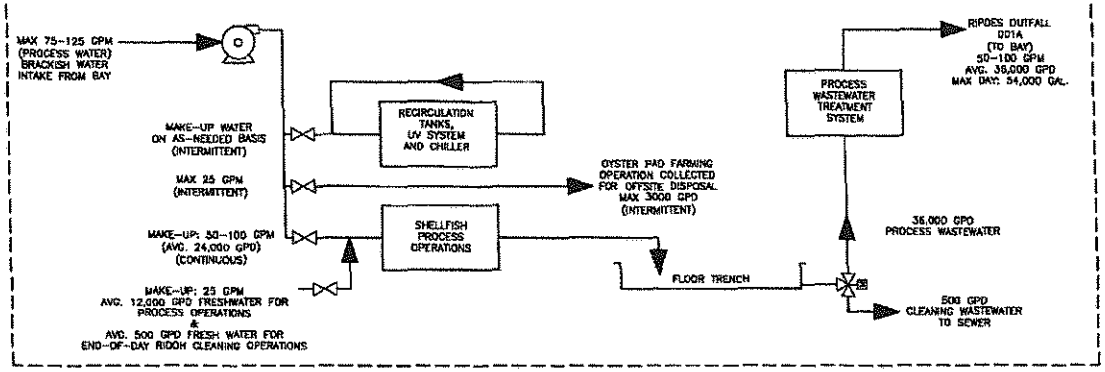
ATTACHMENT A-2

Flow Trough Tank System Process Flow Diagram
And
Spent Process Wastewater Treatment System Process Flow Diagram

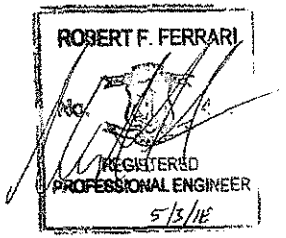
EXISTING CONDITIONS



PROPOSED CONDITIONS



NOTE: PROCESS WATER/WASTEWATER VOLUMES ARE BASED UPON AN 8-HOUR OPERATING DAY.
MAXIMUM DAY ASSUMES A 12-HOUR OPERATING DAY.



AMERICAN MUSSEL HARVESTERS

NORTH KINGSTOWN, RHODE ISLAND

PROPOSED PROCESS WATER TREATMENT SYSTEM

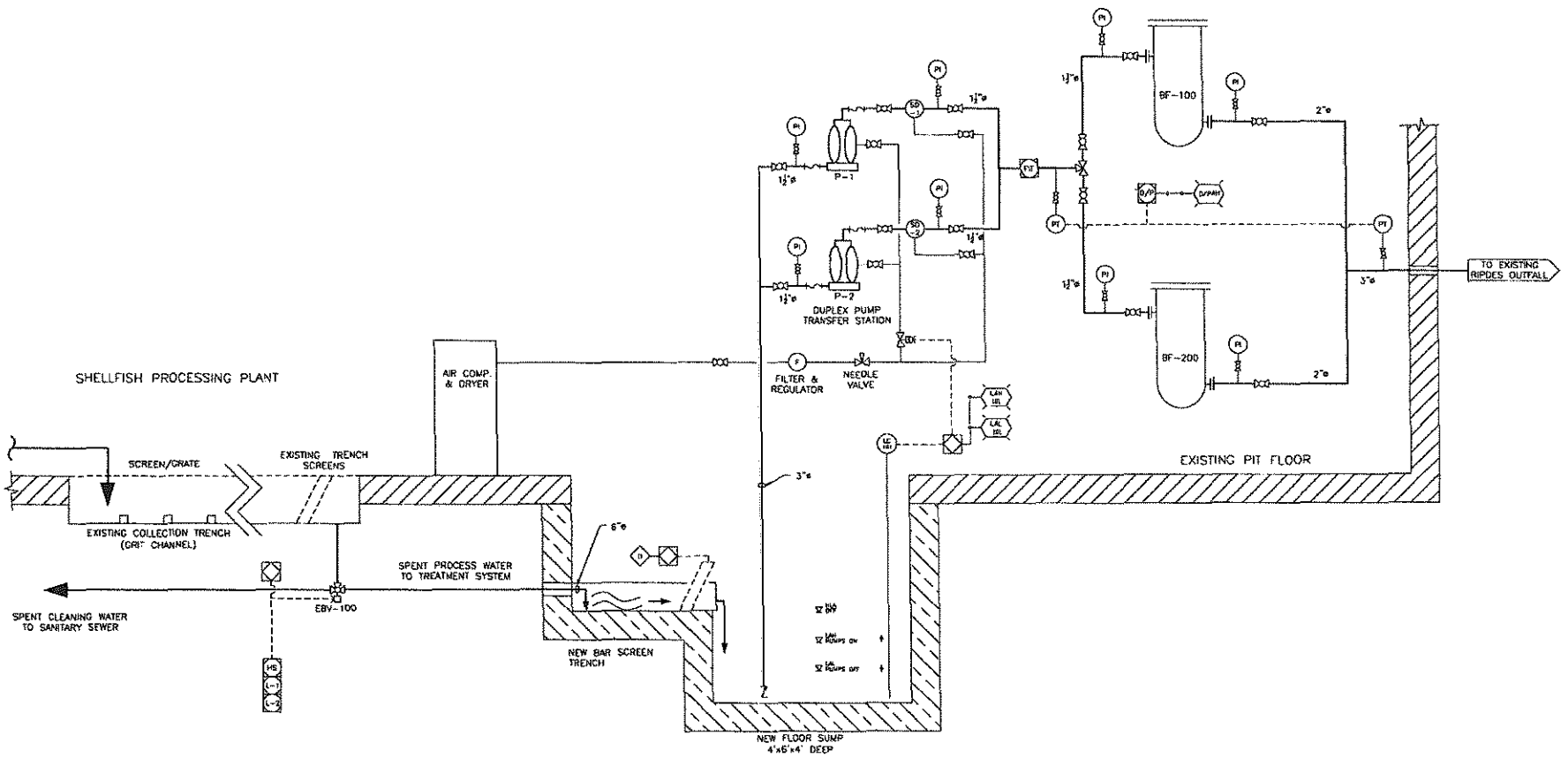
PROCESS FLOW DIAGRAM

06/24/2010

P-1

ATTACHMENT A-3

Spent Process Water Treatment System Process & Instrumentation Diagram



AUTOMATIC BAR SCREEN (BS-100)

MFRG:	ENVIROQUIP
MODEL:	FS-600S
DIMENSIONS:	9" X 22½" X 17" HT.
SLOPE:	50°
FRAME MATL:	304SS

BAG FILTERS (BF-100)

MFRG:	HAYWARD
MODEL:	SIMPLEX BAG FILTER
DIMENSIONS:	20.93"ø X 47.83" HT.
BAG SIZE:	7"ø X 32" HT.
FILTER PORE SIZE:	50µ

AMERICAN MUSSEL HARVESTERS

NORTH KINGSTOWN, RHODE ISLAND

PROPOSED PROCESS WASTEWATER TREATMENT SYSTEM

PROCESS & INSTRUMENTATION DIAGRAM

DATE: 3/22/2019

PROJECT NUMBER: 305

DRAWING NUMBER: P-3

ATTACHMENT A-4

AMH 2013 – 2017 Annual, Monthly Average, and Daily Average Production Data

Annual / Monthly Average / Daily Average Production Data:

Year	Annual, lbs/year	Monthly Average, lbs/month	Daily Average, lbs/day
2013	5180209	431684	21584
2014	6124749	510396	25520
2015	5378639	448220	22411
2016	4487238	373937	18697
2017	4531651	377638	18882
Average	5140497	428375	21419

ATTACHMENT A-5

AMH Production-Based Limits

		BOD Standard (lbs/1000 lbs)		**TSS** Standard (lbs/1000 lbs)		**Oil and Grease** Standard (lbs/1000 lbs)	
		Monthly Ave	Daily Max	Monthly Ave	Daily Max	Monthly Ave	Daily Max
		5.7	15	4.4	26	0.092	0.4
Production Value	Proposed ELGs	Limit (lbs/d) Monthly Ave	Daily Max	Limit (lbs/d) Monthly Ave	Daily Max	Limit (lbs/d) Monthly Ave	Daily Max
21419	Proposed	122	321	94	557	2.0	8.6

Note: The production value listed is the Average daily average value derived from 2013 thru 2017 historical production data.

PART II
TABLE OF CONTENTS

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. °C	temperature in degrees Centigrade
Temp. °F	temperature in degrees Fahrenheit
Turb.	turbidity measured by the Nephelometric Method (NTU)
TNFR or TSS	total nonfilterable residue or total suspended solids
DO	dissolved oxygen
BOD	five-day biochemical oxygen demand unless otherwise specified
TKN	total Kjeldahl nitrogen as nitrogen
Total N	total nitrogen
NH_3-N	ammonia nitrogen as nitrogen
Total P	total phosphorus
COD	chemical oxygen demand
TOC	total organic carbon
Surfactant	surface-active agent
pH	a measure of the hydrogen ion concentration
PCB	polychlorinated biphenyl
CFS	cubic feet per second
MGD	million gallons per day
Oil & Grease	Freon extractable material
Total Coliform	total coliform bacteria
Fecal Coliform	total fecal coliform bacteria
ml/l	milliliter(s) per liter
NO_3-N	nitrate nitrogen as nitrogen
NO_2-N	nitrite nitrogen as nitrogen
NO_3-NO_2	combined nitrate and nitrite nitrogen as nitrogen
Cl_2	total residual chlorine